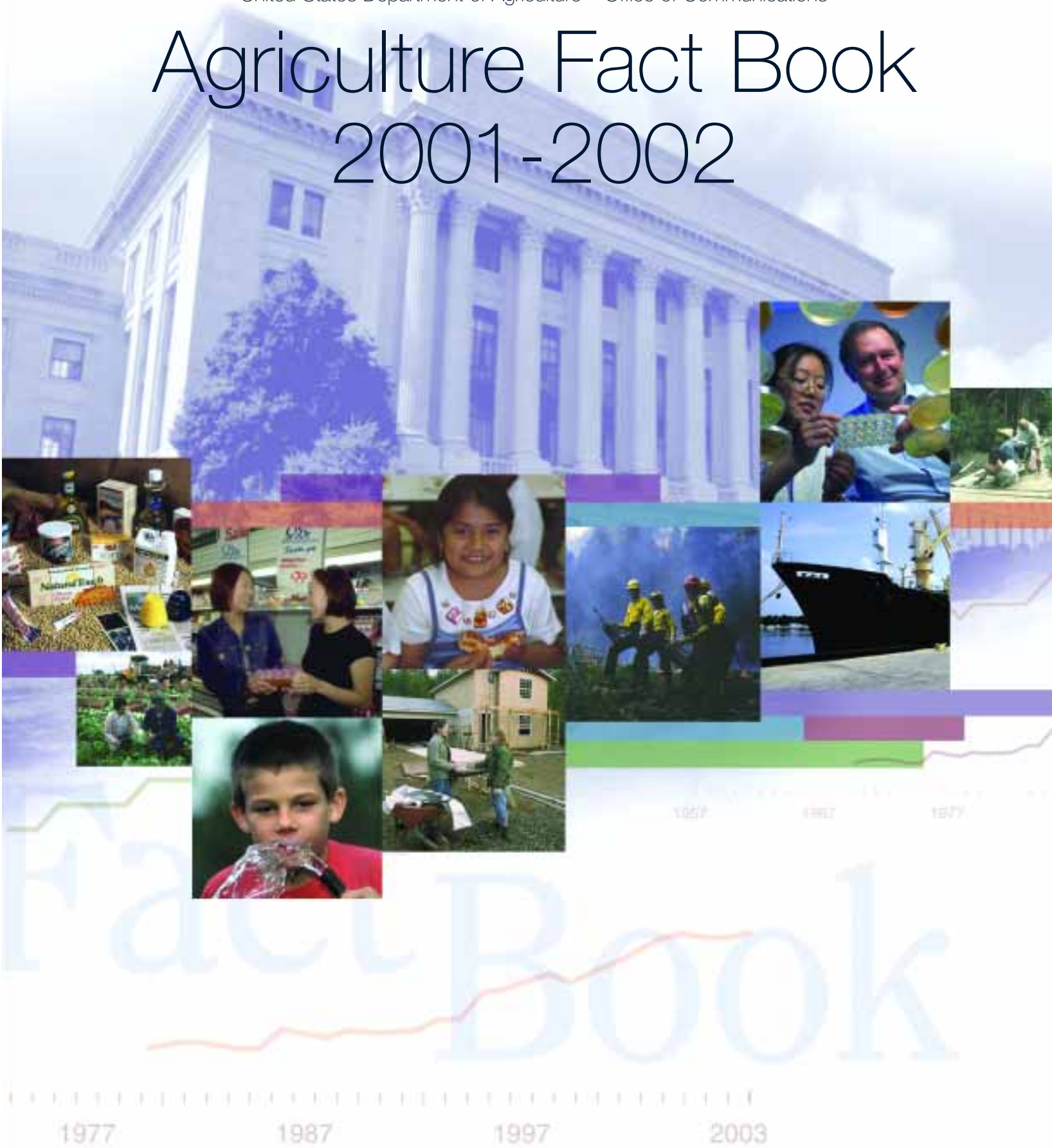




United States Department of Agriculture • Office of Communications

Agriculture Fact Book 2001-2002



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Preface

In this *Agriculture Fact Book*, you will find facts about American food consumption, the agricultural sector, and rural America. You will also find descriptions of the U.S. Department of Agriculture's wide-ranging programs and services in such areas as farm programs; exports; food safety; nutrition; management of land, water, and forests; protecting our borders from pests and diseases; and research on all of these topics.

This *Agriculture Fact Book* is also a gateway to further information from USDA. USDA is a good source for useful factual information across a variety of subjects—for example, what people eat, how to grow a garden, how to apply for a farm loan, how to maintain the soil and water resources on your farm or in your town, how to keep your family's food safe.

Not only are the USDA programs and missions wide-ranging, but USDA works every day to meet the needs of very diverse constituents. The information we provide is intended to be useful to diverse groups, including reporters, editors, researchers, students, teachers, businesses, Government employees, and members of the general public who are curious about the U.S. agricultural sector, food consumption, rural America, or any of the wide-ranging programs that USDA offers.

You will notice “**Agricultural Policy Notes**” featured in italics throughout this book. Most of them are from the book *Food and Agricultural Policy: Taking Stock for the New Century*, which USDA published in September 2001 to lay out the Bush Administration's point of view on agricultural policy.

You can find *Food and Agricultural Policy: Taking Stock for the New Century*, along with this *Agriculture Fact Book 2001–2002* in USDA's Web site (www.usda.gov). I encourage you to use this Web site, its links, and other media to reach information from USDA—because whether you are a farmer or a gardener, a professor or a child; whether you live in a city or a rural area; whether you grow, cook, or only eat food—USDA has useful information just for you.

ANN M. VENEMAN, SECRETARY

CHAPTER 1

Current Topics: Selected Issues in American Agriculture Today





This section gives a brief overview of a few current issues facing American agriculture—and therefore the U.S. Department of Agriculture (USDA). Further information on these current topics can be found on the Web sites indicated.

Homeland Security

What is USDA doing to ensure the well-being of America's agriculture and food supply? The Department has in place an overall biosecurity system designed to prevent the harmful introduction of plant and animal pathogens into America's system of agriculture and food production. From the farm to the table, USDA enforces biosecurity measures designed to protect against all animal and plant pathogens.

Following September 11, 2001, USDA took immediate steps to secure sensitive facilities and examine vulnerabilities throughout the food chain, and it conducted assessments to identify the critical needs to fill security gaps. USDA continues to take the necessary steps to ensure that its programs and services are responsive to potential biosecurity threats. USDA programs aim to meet two very important objectives: first, to prevent the entry of plant or animal diseases, and second, to contain and eradicate the problem if we do face an emergency.

USDA is looking at short- and long-term needs to ensure that the Department continues to protect America's food supply and agriculture against pests and diseases of any kind. In 2001 and 2002, USDA took steps to strengthen USDA's agricultural infrastructure—the programs, the research, the coordination, and the resources—to ensure that the Department has the ability to prevent pests and diseases from harming agriculture and our food system.

The Department's efforts on homeland security are based on a longstanding commitment to food safety and to securing the food supply and agriculture from threats. For example, in 2001, the Department dealt with the threat of foot-and-mouth disease as a widespread outbreak occurred in the United Kingdom and other parts of Europe. USDA strengthened surveillance and response systems as it dealt with the threat of this disease that we had not seen in this country for over 70 years.

However, since September 11, 2001, USDA is also examining threats to our food supply as homeland security issues. The Department is now concerned about intentional as well as unintentional threats.

“The best way to deal with threats to the Nation’s food supply and agricultural infrastructure is to prevent and deter intentional or unintentional introduction of plant and animal diseases into the United States. I have said many times that pests and animal disease prevention and eradication programs are central to USDA’s ability to protect the Nation’s food supply and agricultural infrastructure. Simply put, the best offense is a good defense.”

Secretary Ann M. Veneman, May 9, 2001

USDA has stepped up its ongoing efforts to protect American agriculture against potential threats. Key homeland security activities include protecting the food supply and agricultural production, as well as protecting USDA staff and facilities and ensuring emergency preparedness. Some of the key biosecurity enhancements being implemented include the following:

- Security has been increased at appropriate USDA facilities.
- At ports of entry, personnel are conducting intensified product and cargo inspections of travelers and baggage to prevent the entry of animal or plant pests and diseases. The Agricultural Quarantine Inspection program has been strengthened, and an automated system of inspections is being developed in coordination with the U.S. Customs Service. USDA is purchasing 100 rapid pathogen identification devices and hiring additional inspection personnel. USDA also has doubled its inspection dog teams. Port inspection responsibilities will be transferred to the Department of Homeland Security during 2003.
- Food safety inspectors have been given additional guidance to be alert to any irregularity at food processing facilities. USDA constantly reviews and updates its biosecurity procedures as laboratory methods and science improve. FSIS has increased monitoring, provided training to inspectors, hired additional inspectors for imported meat and poultry, and expanded technical capabilities.

Modern information technologies allow for improved responses to plant and animal pest and disease outbreaks. For example, USDA is also developing a system that relies on geographic information system technologies to provide capabilities for real-time mapping to predict spread and consequences of outbreaks. And the Agricultural Research Service is improving rapid detection technologies for foot-and-mouth disease as well as other animal diseases. The Department is also addressing the possible disruption to its computer systems.

Training exercises, as well as more communications and technical assistance, have been conducted and improved to ensure readiness should we face an animal, pest, or food emergency.

Federal and State Coordination

USDA works with the Congress, States, other Federal agencies, academia, and the private sector to make sure that the Nation has a strong line of defense. USDA is coordinating with other Federal agencies—such as the Food and Drug Administration, the Centers for Disease Control, the U.S. Customs Service, and law enforcement agencies—on biosecurity issues, and with appropriate State and local agriculture offices and industry organizations on emergency preparedness, in order to provide training and strengthen resources where appropriate.

State grants and cooperative agreements help bolster food and agricultural homeland security protections. These grants are an important component of U.S. efforts to strengthen homeland security protections as they relate to food and agriculture. States and local communities, along with academia and the private sector, are critical partners in making sure the Nation is prepared in the event of an emergency.

USDA conducts regular training, meetings, and conferences to discuss planning and preparedness issues as they relate to pest and animal diseases and food safety issues. USDA communicates with producers, farmers, and food manufacturers via industry associations, industry media, and cooperators on State and local levels regarding ongoing agricultural issues such as biosecurity. USDA officials in every State continue to meet and discuss with producers and farmers the importance of heightened awareness as a protection measure against biosecurity threats, urging responsible and cautious monitoring of the Nation's food and agriculture system.

Protecting Meat and Poultry

USDA's Food Safety and Inspection Service (FSIS) has a team of more than 6,000 food safety inspectors working throughout the United States at meat processing facilities. These are specialists who are trained to look for and prevent adulteration and foodborne contamination of meat and poultry products that could threaten the safety of our food supply.





FSIS continues to strengthen meat, poultry, and egg food safety systems that protect consumers, and it has taken actions that continually improve food safety protections.

USDA has a responsibility to protect public health, and it incorporates proven scientific principles throughout the food safety system to enhance our food safety infrastructure. The agency has the most advanced food safety system in the world and it continually works to enhance it.

This food safety system has achieved some measurable successes. For example, *Salmonella* testing data show that the prevalence of this pathogen has significantly decreased in all product categories, including turkey. Also, data from the Centers for Disease Control show significant reductions in foodborne illness.

In the wake of September 11, 2001, and potential threats to the Nation's food supply, FSIS has strengthened food protection programs and is spending an additional \$15 million to bolster food safety protections. Additional resources will be provided to strengthen USDA's foreign meat inspection program and to enhance laboratory systems and research. USDA has formed several homeland security teams to specifically examine new ways to strengthen protections against intentional threats to the food supply.

In November 2001, USDA released a landmark study conducted by Harvard University that showed the risk of BSE (bovine spongiform encephalopathy, or mad cow disease) entering the United States is very low. Even so, USDA announced several actions to strengthen protection systems, including:

- Doubling the number of BSE tests,
- Publishing a policy options paper outlining additional regulatory actions that may be taken to reduce potential risks,
- Developing a proposed rule to prohibit the use of certain stunning devices used to immobilize cattle during slaughter, and

- Publishing an Advance Notice of Proposed Rulemaking to consider additional regulatory options for the disposal of dead stock on farms and ranches.

The FY 2002 budget included \$13 million for additional BSE surveillance, research, and laboratory activities.

Furthermore, new inspection positions have been added to improve FSIS' capacity to detect and prevent food safety problems. In addition, supplementary education and specialized training will be provided for existing FSIS inspection personnel. FSIS has hired 17 District Veterinary Medical Specialists. These new positions will ensure that all plants, regardless of size, appropriately address their humane handling responsibilities and other slaughter issues. Additionally, FSIS is training 75 Consumer Safety Officers to conduct on-site food safety and other consumer protection assessments in meat and poultry establishments, and make determinations about the scientific efficacy of a plant's Hazard Analysis and Critical Control Point operating plan.

FOR MORE INFORMATION:

For more information on USDA's homeland security efforts, visit: www.usda.gov/homelandsecurity

For more information on food safety issues, visit <http://www.fsis.usda.gov>

Consumers concerned about their meat or poultry products should contact USDA's Meat and Poultry Hotline at: 1-800-535-4555. A USDA compliance officer will follow up on reports of product tampering and adulteration.

Consumers who believe they have eaten suspect product should contact a physician immediately.

Conservation Measures in the 2002 Farm Bill

The Farm Security and Rural Investment Act of 2002 (called the Farm Bill), which governs Federal farm programs for 6 years, was signed into law on May 13, 2002. It contains record levels of support for environmental stewardship and conservation of soil and water quality on working lands. Following are highlights of the conservation measures in this legislation.

Conservation Funding Increased

The 2002 Farm Act increases funding for almost every existing agri-environmental program. Overall spending for conservation and environmental programs will rise by 80 percent to a projected 10-year total of \$38.6 billion, according to Congressional Budget Office (CBO) estimates (based on the April 2002 baseline). It continues and expands the programs that support conservation on land in production, including livestock operations. New programs, including the Conservation Security Program and the Grassland Reserve Program, further expand the objectives and role of agri-environmental policy.

This legislation responds to a broad range of emerging natural resource challenges faced by farmers and ranchers, including soil erosion, wetlands and wildlife habitat enhancement, and farmland protection.

Conservation Provisions in the 2002 Farm Bill

Under the 2002 Farm Act, producers can choose from a wide range of voluntary conservation and environmental programs—including cost share, land rental, incentive payments, and technical assistance—designed to protect a wide range of resources. Like the three previous Farm Acts, the 2002 Act continues the trend of increasing the size and scope of agri-environmental programs. While programs that support better conservation and environmental management on working land have accounted for less than 15 percent of Federal conservation expenditures over the past 15 years, they receive more than 60 percent of the \$17.1-billion increase in conservation spending.

Here is a summary of existing conservation programs covered in the 2002 Farm Bill. Most of the following programs get acreage or funding increases:

The **Conservation Reserve Program (CRP)** offers annual payments and cost sharing to establish long-term, resource-conserving cover on environmentally sensitive land. It provides technical and financial assistance to reduce soil erosion, protect the Nation's ability to produce food and fiber, reduce sedimentation in streams and lakes, improve water quality, establish

Environmental quality matters a great deal to Americans today, whether preserving wetlands, improving wildlife habitat, or maintaining water quality in rivers, streams, and lakes. Agriculture, vast as it is, holds a special responsibility for resource stewardship. How farmers address this environmental responsibility...has shown steady improvement, but remains a matter of both public and private concern.





wildlife habitat, and enhance forest and wetland resources. CRP encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover. The acreage cap is increased from 36.4 million acres to 39.2 million acres. Funding is through the Commodity Credit Corporation (CCC). CBO estimates increased spending of \$1.5 billion over 10 years.

The **Conservation Reserve Enhancement Program (CREP)** is part of the CRP. It is a voluntary program designed to address specific grassroots environmental issues related to agriculture. The CREP combines the CRP with State programs to provide a framework allowing USDA to work in partnership with State government and local interests. Because the Farm Bill increases acreage caps for the

CRP, it will provide more opportunities to create partnership agreements. More information on the CRP and the CREP can be found at <http://www.fsa.usda.gov/dafp/cepd/default.htm>

The **Wetlands Reserve Program (WRP)** is USDA's premier wetland restoration program. It provides cost sharing and/or long-term or permanent easements for restoring wetland on agricultural land. The acreage cap is increased from 1.075 million acres to 2.275 million acres. The Secretary of Agriculture is required (to the greatest extent practicable) to enroll 250,000 acres per year. Funding is through the CCC. CBO estimates increased spending of \$1.5 billion over 10 years. The WRP is offered on a continuous signup basis. Applications are available at local USDA Service Centers, NRCS field offices and conservation districts, or on the Web at <http://www.sc.gov.usda.gov>

The **Environmental Quality Incentives Program (EQIP)** provides technical assistance, cost sharing, and incentive payments to assist livestock and crop producers with conservation and environmental improvements. The Farm Bill reauthorizes EQIP through 2007. EQIP is slated to receive \$5.8 billion in CCC funding for FY 2002-07 and a total of \$9 billion over 10 years. Funding is phased up to \$1.3 billion annually by FY 2007, compared with annual funding of roughly \$200 million per year under the 1996 Farm Act. Additional CCC funding of \$250 million over FY 2002-07 is provided for ground and surface water conservation. An additional \$50 million is allocated to water conservation activities in the Klamath Basin.

The Farm Bill reauthorizes the popular **Wildlife Habitat Incentives Program (WHIP)** to improve fish and wildlife habitat on private lands. Through WHIP, landowners can receive financial and technical assistance to help reverse the trend in the decline of available wildlife habitat and contribute to the recovery of many of the Nation's species that are currently at risk. Total CCC funding of \$360 million is mandated over FY 2002-07, ranging from \$15 million in FY 2002 to \$85 million in FY 2005-07, and a total of \$700 million over 10 years. WHIP is offered on a con-

tinuous signup basis. Applications are available at local USDA Service Centers, at NRCS field offices and conservation districts, or on the Web at <http://www.sc.egov.usda.gov>

The **Farmland Protection Program** (FPP) provides funds to State, tribal, or local governments and private organizations to help purchase development rights and keep productive farmland in agricultural use. The Farm Bill reauthorizes this program and extends it to nongovernmental organizations to purchase conservation easements. It also expands the program to protecting farms and ranches that contain historical and archaeological sites.

Total CCC funding of \$597 million is mandated over FY 2002–7, ranging from \$50 million in FY 2002 to \$125 million in FY 2004–05, and totaling \$985 million over 10 years.

The Farm Bill permanently reauthorizes the **Resource Conservation and Development Program** (RC&D). This program provides tools and technical support to help local people improve their quality of life; address social, economic, and environmental concerns; and use natural resources wisely. The focus on local direction and control has made RC&D one of the most successful rural development programs of the Federal Government.

The following new programs will also receive significant funding while expanding the overall scope of USDA conservation programs:

The Farm Bill creates a new **Conservation Security Program** to financially recognize ongoing stewardship efforts and to help producers address additional resource concerns on agricultural working lands. The Conservation Security Program will provide payments to producers for maintaining or adopting a wide range of structural and/or land management practices that address a variety of local and/or national resource concerns. The Farm Bill establishes the program for FY 2003 through 2007. CSP will be funded through the CCC. CBO estimates spending of \$369 million for FY 2003–07 and \$2 billion over 10 years.

The **Grassland Reserve Program** will protect up to 2 million acres of grassland. CCC funding of up to \$254 million is available.

Also included in the Farm Bill are new initiatives that address challenges in water quality and quantity. A new ground and surface water conservation initiative will help farmers improve irrigation, grow less water-intensive crops, or convert to dryland farming. A new grassroots source-water protection initiative will provide for wellhead and groundwater protection by working with State programs.

FOR MORE INFORMATION

The day after President Bush signed the Farm Security and Rural Investment Act of 2002 into law, USDA launched a new Web site aimed at helping farmers, ranchers, and the general public learn the latest information about the new Farm Act. The Farm Act is very broad and contains many new programs. The new Web site helps users find information at one site that includes Farm Bill program details, questions and answers, program applications and signup forms, as well as other important materials from USDA agencies on Farm Bill implementation. The Web site will also contain advanced electronic applications to help program applicants receive program benefits faster and more efficiently.

The Web site can be directly accessed at <http://www.usda.gov/farbill>, or by simply clicking on the 2002 Farm Bill icon on USDA's main Web site at <http://www.usda.gov>

The Farm Service Agency administers the Conservation Reserve Program, the Conservation Reserve Enhancement Program, and other conservation programs. Its Web site is <http://www.fsa.usda.gov/pas/default.asp>

The Natural Resources Conservation Service administers the Environmental Quality Improvement Program, Wetland Reserve Program, Wildlife Habitat Improvement Program, Farmland Protection Program, and other conservation programs. Its Web site is <http://www.nrcs.usda.gov/>

Conservation programs can help reduce the gap between the level of environmental quality the public demands and the level of environmental quality that farmers and forest landowners would otherwise provide.

Biotechnology in Brief

USDA is one of three Federal agencies—along with the Environmental Protection Agency and the U.S. Food and Drug Administration—that have primary responsibility for regulating biotechnology in the United States. Products are regulated according to their intended use, with some products being regulated under more than one agency.

Biotechnology is another tool that promises to help meet consumers' demand for services, illustrating how demand and technology interact to create new markets.

Agricultural biotechnology has been advancing rapidly; and for all the promises it offers, it poses as many questions. Agricultural biotechnology is rewriting the rules in several key areas—agricultural research policy, industry structure, production and marketing, consumer preference, and world food demand—and public policy is struggling to keep up. Much of the current interest in biotechnology stems from the rapid diffusion in North America and other exporting countries, such as Argentina, of genetically engineered crops such as cotton, soybeans, corn, and canola, and from the uneasy consumer response in Europe as compared with the United States.

Biotechnology is a collection of powerful tools that can be used to increase production or cut costs, develop product attributes desired by consumers, or enhance environmental quality.... Additionally, the tools of biotechnology can address environmental challenges. Prospects include pollution remediation, increased bioenergy availability, enhanced carbon sequestration, and reduced fertilizer runoff.

The emergence of agricultural biotechnology is occurring at a time when the whole world is the marketplace. With rapid economic growth in much of the world, consumers are more affluent and demand more variety and higher quality in the food they eat. Agricultural biotechnology provides a means to meet these demands. But at the same time, international consumer preferences can steer the development of technology and heighten the uncertainty surrounding the use of agricultural biotechnology.

The array of issues surrounding biotechnology includes the legal, ethical, environmental, and economic—including the rate of and reasons for adoption of biotechnology by farmers. Other issues include marketing, labeling, and trade in biotechnology products. Variety approval processes here, labeling requirements, and expressed market demand for crops that have not been genetically engineered could contribute to the transformation of the global food marketing system.

Intellectual property rights and market concentration in the agricultural input industries are intertwined areas that are shaped by public policy. Large biotech firms have merged with seed companies to obtain sources of germplasm to spin off genetically modified seed varieties and to secure outlets for delivering the new products. Concentration in the input industry raises questions about the direction for future agricultural research. Critical to the efficient and equitable advance of agricultural biotechnology is determining the unique role of public research and when and how the public sector should interact with the private sector.

For more information, see USDA's Agricultural Biotechnology Web site: <http://www.usda.gov/agencies/biotech/index.html>

Certified Organic: Update

Organic farming became one of the fastest growing segments of U.S. agriculture during the 1990s. State and private institutions also began emerging during this period to set organic farming standards and provide third-party verification of label claims, and legislation requiring national standards was passed in the 1990s. Although farmers have been developing organic farming systems in the United States for decades, more U.S. producers are now considering organic farming systems in order to lower input costs, conserve nonrenewable resources, capture high-value markets, and boost farm income.

Organic farming systems rely on ecologically based practices such as cultural and biological pest management, and they virtually prohibit the use of synthetic chemicals in crop production and antibiotics or hormones in livestock production. Many producers, manufacturers, distributors, and retailers specialize in growing, processing, and marketing an ever-widening array of organic food and fiber products.

Organic Food Standards and Labels: The Facts

The U.S. Department of Agriculture has put in place a set of national standards that food labeled “organic” must meet, whether it is grown in the United States or imported from other countries. After October 21, 2002, when consumers buy food labeled “organic,” they can be sure that it was produced using the highest organic production and handling standards in the world.

What is organic food? Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides, petroleum-based fertilizers or sewage sludge-based fertilizers, bio-engineering, or ionizing radiation. Before a product can be labeled “organic,” a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too.

USDA makes no claims that organically produced food is safer or more nutritious than conventionally produced food. Organic food differs from conventionally produced food in the way it is grown, handled, and processed. At the supermarket, in order to distinguish organically produced food from conventionally produced food, consumers must look at package labels and watch for display signs. Along with the national organic standards, USDA developed strict labeling rules to help consumers know the exact organic content of the food they buy. The USDA Organic seal also tells you that a product is at least 95 percent organic.

The word “organic” and a small sticker version of the USDA Organic seal will be on organic vegetables or pieces of fruit, or they may appear on the sign above the organic produce display. The word “organic” and the seal may also appear on packages of meat, cartons of milk or eggs, cheese, and other single-ingredient foods.

The use of the Organic seal is voluntary. People who sell or label a product “organic” when they know it does not meet USDA standards can be fined up to \$10,000 for each violation.

“Natural” foods are not necessarily organic foods. Truthful claims, such as free-range, hormone-free, and natural, can still appear on food labels. However, this does not mean that they are “organic.” Only food labeled “organic” has been certified as meeting USDA organic standards.

FOR MORE INFORMATION ABOUT ORGANIC FOODS

For more detailed information on the USDA organic standards, visit the Agricultural Marketing Service’s National Organic Program Web site at <http://www.ams.usda.gov/nop>. The site contains a complete list of applicants for accreditation, application information, and more information on the National Organic Program. You may also call the National Organic Program at 202-720-3252, or write USDA-AMS-TM-NOP, Room 4008 S. Bldg., Ag Stop 0268, 1400 Independence Ave., SW, Washington, DC 20250.

Energy and Agriculture

Implementing the National Energy Policy at USDA

In May of 2001, President Bush unveiled his national energy policy, which included a greater reliance on alternative and renewable energy sources, including the use of biofuels and biomass energy sources. The U.S. Department of Agriculture has made important efforts to implement these recommendations.

One major effort at USDA is to develop renewable energy and bioproducts. USDA ordered increased use of biofuels in its motor vehicles and improved energy conservation at its facilities around the country. USDA is also evaluating the potential to convert USDA fuel tanks to biodiesel and ethanol use. The Commodity Credit Corporation (CCC) Bioenergy Program signed up increases of 141.3 million gallons in ethanol production and 6.4 million gallons in biodiesel production in FY 2001. The program is extended through FY 2002, with \$150 million in funding for production incentives fully subscribed. Also, USDA’s rural business program area has increased loan guarantees and grants to support new ethanol and bioproduct plants. And USDA has an increased research budget for renewable energy.

A second key effort involves the management of public lands. For example, the USDA Forest Service is working with other Federal Departments on an Inter-agency Hydropower Committee to implement agreements from the old Hydropower Task Force to improve the hydropower licensing process, and has participated in a national energy industry review group in discussing changes to improve hydropower licensing. The Forest Service is also increasing research and development for renewable energy, including biomass heat and energy distribution projects and development of well-designed combined heat and power units, and is cooperating with DOE to purchase 6 turbines to place in small communities to produce electricity as a demonstration project.

In a third key area, USDA’s Rural Utilities Service is actively seeking to make loans and loan guarantees to rural electric cooperatives interested in developing electric power generation fueled partially or totally by renewable feedstocks.

Here are some further specific efforts that USDA has undertaken in support of the national energy policy:

Iowa State and USDA Cooperative Agreement. In September 2002, Secretary Ann M. Veneman announced a cooperative agreement between the U.S. Department of Agriculture and Iowa State University to help implement provisions of the 2002 Farm Bill Energy Title that provides for preferred procurement of biobased products by Federal agencies. This initiative will help expand markets for farmers and foresters through the use of value-added bioenergy agricultural products. Under the cooperative agreement, USDA will provide \$1 million annually for testing biobased products which will help enable USDA to move more quickly to get the biobased product procurement program in operation.

USDA, DOE Team Up To Produce Bioenergy.

USDA and the Department of Energy are evaluating whether a microturbine generator that runs on methane biogas from animal manure can be a good source of electricity and heat for a research dairy farm. This cooperative project involves USDA's Agricultural Research Service, the U.S. Department of Energy's Office of Bio-Power, and the National Energy Technology Laboratory. The microturbine system could generate as much as 26 kilowatts of electricity and approximately 400,000 British thermal units per hour of heat for small dairy operations of less than 250 cows. The project will be conducted at the Henry A. Wallace Beltsville Agricultural Research Center (BARC) at Beltsville, MD.

This technology provides an alternate use of dairy cow manure. Tons of manure are produced by the 1,400-pound dairy cows and pumped from the barn into an anaerobic digester, where the liquid and solids are separated. The solids go to composting and the liquids are further processed in the digester to produce a biogas that contains methane. The methane gas is captured and used in the microturbine generator, and the remaining liquid—with odor significantly reduced—is used for fertilizing the crops at BARC.

The ARS research team will also evaluate the technology's environmental and economic impact. If this type of system proves to be efficient and cost-effective, it could provide an alternative energy source for dairy farmers. Energy costs are a large portion of dairy operating costs. The system also could help reduce methane emissions that contribute to greenhouse gas concentrations in the atmosphere.

Rural Development Funds to Help Support Rural Energy and Business Efforts. In December 2001, USDA announced over \$260 million in loan and grant funds for 24 States to boost bioenergy production, expand rural business ventures, and improve economic and community development.

These loan and grant funds are being provided through USDA's Rural Development programs. Over 90 percent of the funds announced will provide guaranteed loans to electric cooperatives in 14 States to increase access for nearly 19,000 rural consumers to rural electric service. The guaranteed loans are provided in cooperation with the Federal Financing Bank (FFB).

Office of Energy Policy and New Uses

USDA established an Office of Energy Policy and New Uses (OEPNU) to assist the Secretary of Agriculture in developing Departmental energy policy and coordinating Departmental energy programs and strategies. The Office provides economic analysis on energy policy issues, coordinates USDA energy-related activities within and outside the Department, and studies the feasibility of new uses of agricultural products.

Research is currently underway on biodiesel fuels, ethanol fuels, and other sources of biomass energy. Measurement of atmospheric emissions associated with renewable energy also is under study. The potential effects of deregulation of electric utilities on rural communities are being studied in cooperation with the Department's Rural Utilities Service.

In August 2002, the OEPNU released a report that confirmed the energy efficiency of ethanol and its positive role in reducing U.S. dependence on imported oil. The report, *The Energy Balance of Corn Ethanol: An Update*, concludes that ethanol production is energy efficient because it yields 34 percent more energy than is used in growing and harvesting the corn and distilling it into ethanol.

The report says that the net energy value of corn ethanol has become positive in recent years due to technological advances in ethanol conversion and increased efficiency in farm production. Ethanol produces much more energy than it consumes when compared to other products such as petroleum. Moreover, ethanol production uses abundant domestic supplies of energy to convert corn into a premium liquid fuel that can displace petroleum imports.

Ethanol production has grown in the United States from a few million gallons in the late 1970s to about 1.8 billion gallons in 2001, spurred by national energy security concerns, new Federal gasoline standards, and government incentives. The increase in ethanol production has stimulated the U.S. agricultural economy because most ethanol is made from corn. The boost in ethanol demand has created a significant new market for corn.

According to the report, today's higher corn yields, lower energy use per unit of output in the fertilizer industry, and advances in fuel conversion technologies have greatly enhanced the economic and technical feasibility of producing ethanol. Studies using older data tend to overestimate energy use because the efficiency of growing corn and converting it to ethanol has improved significantly over the past 20 years. The report is available on the Web at <http://www.usda.gov/oc>.

Energy Policy in the 2002 Farm Bill

The 2002 Farm Bill was the first in history to contain a separate energy title, reflecting a fundamental policy linking of agriculture to energy. Title IX of the Farm Bill establishes new programs and grants for procurement of biobased products to support development of biorefineries; to educate the public about benefits of biodiesel fuel use; and to assist eligible farmers, ranchers, and rural small businesses in purchasing renewable energy systems. Here are some of the key new provisions of this legislation:

- **Federal procurement of biobased products** establishes a new program for purchase of biobased products by Federal agencies, modeled on the existing program for purchase of recycled materials. A voluntary biobased labeling program is included. It mandates funding of \$1 million annually through the CCC for FY 2002–07 for testing biobased products.

- A competitive **Biorefinery Grants Program** supports development of biorefineries to convert biomass into multiple products such as fuels, chemicals, and electricity. For FY 2002–07, appropriations are authorized as necessary to implement this provision.

- The **Biodiesel Fuel Education Program** establishes a competitive grant program to educate government and private entities with vehicle fleets, as well as the public, about the benefits of biodiesel fuel use. The program is funded at \$1 million annually through the CCC for FY 2003–07.

- The **Energy Audit and Renewable Energy Development Program** authorizes a competitive grant program for entities to administer energy audits and renewable energy development assessments for farmers, ranchers, and rural small businesses. For FY 2002–07, appropriations are authorized as necessary to implement this provision

- The **renewable energy systems and energy efficiency improvements** establish a loan, loan guarantee, and grant program to assist eligible farmers, ranchers, and rural small businesses in purchasing renewable energy systems and making energy efficiency improvements. This effort provides CCC funding of \$23 million annually for FY 2003–07.

- Under a provision concerning **hydrogen and fuel cell technologies**, the Secretaries of Agriculture and Energy are directed to enter into a Memorandum of Understanding regarding hydrogen and fuel cell technology applications for agricultural producers and rural communities. The Secretary of Agriculture is required to disseminate information on these technologies to agricultural producers and rural communities.

In addition, previously existing programs were expanded under provisions of the 2002 Farm Bill:

- The Biomass Research and Development Act of 2000 had directed the Secretaries of Agriculture and Energy to cooperate and to coordinate policies and procedures that promote research and development leading to the production of biobased industrial products. The 2002 Farm Bill extends the termination date to September 30, 2006, and provides \$5 million of CCC funds for FY 2002 and \$14 million annually for FY 2003–07.

- Under the Bioenergy Program, the Secretary of Agriculture makes payments through the CCC to eligible producers to encourage increased purchases of eligible commodities (energy feedstocks) for the purpose of expanding production of bioenergy and supporting new production capacity. Payments to eligible producers are based on the increase in quantity of bioenergy they produce during a fiscal year over the quantity they produced during the preceding fiscal year. The new Farm Bill reauthorizes the program and broadens the list of eligible feedstocks to include animal byproducts and fat, oils, and greases (including recycled fats, oils, and greases). The Secretary is required to use up to \$150 million annually for FY 2003–06.

- Under the Renewable Energy Development Loan and Grant Program, USDA business loan programs provided financial assistance to various kinds of businesses, including value-added agricultural enterprises. Under the new legislation, business and industry loans and guarantees will be allowed for more types of renewable energy systems, such as wind energy systems and anaerobic digesters.

The Biobased Products and Bioenergy Coordination Council

The Biobased Products and Bioenergy Coordination Council was established by the Secretary of Agriculture to provide a forum through which USDA agencies will coordinate, facilitate, and promote research, development, transfer of technology, commercialization, and marketing of biobased products and bioenergy using renewable domestic agricultural and forestry materials.

CHAPTER 2

Profiling Food Consumption in America



American consumers today have come to expect a great deal more of the food system.... There is no doubt that it delivers—more nutritious food with wider variety; improved safety, with less environmental impacts; and greater convenience than at any time in the Nation's history.

Americans at the beginning of the 21st century are consuming more food and several hundred more calories per person per day than did their counterparts in the late 1950s (when per capita calorie consumption was at the lowest level in the last century), or even in the 1970s. The aggregate food supply in 2000 provided 3,800 calories per person per day, 500 calories above the 1970 level and 800 calories above the record low in 1957 and 1958 (fig. 2-1).

Of that 3,800 calories, USDA's Economic Research Service (ERS) estimates that roughly 1,100 calories were lost to spoilage, plate waste, and cooking and other losses, putting dietary intake of calories in 2000 at just under 2,700 calories per person per day. ERS data suggest that average daily calorie intake increased by 24.5 percent, or about 530 calories, between 1970 and 2000. Of that 24.5-percent increase, grains (mainly refined grain products) contributed 9.5 percentage points; added fats and oils, 9.0 percentage points; added sugars, 4.7 percentage points; fruits and vegetables together, 1.5 percentage points; meats and nuts together, 1 percentage point; and dairy products and eggs together, -1.5 percentage point.

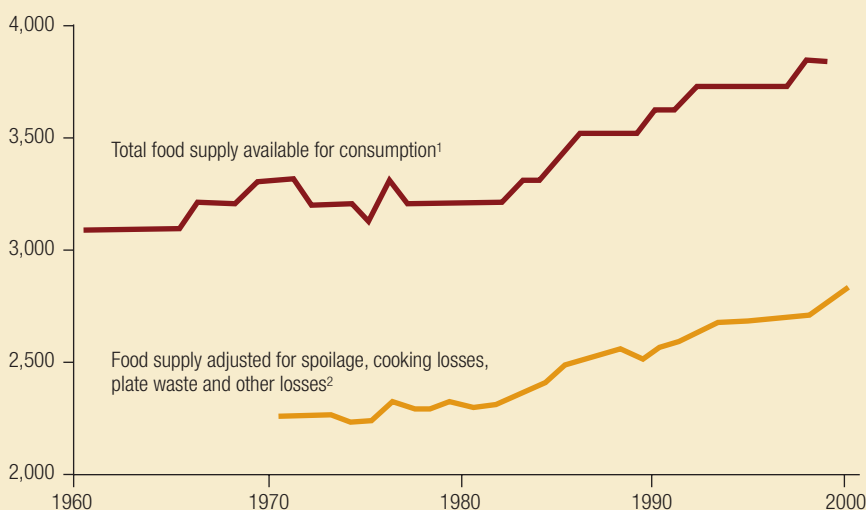
Some of the observed increase in caloric intake may be associated with the increase in eating out. Data from USDA's food intake surveys show that the food-away-from-home sector provided 32 percent of total food energy consumption in 1994-96, up from 18 percent in 1977-78. The data also suggest that, when eating out, people either eat more or eat higher calorie foods—or both—and that this tendency appears to be increasing.

According to the National Center for Health Statistics, an astounding 62 percent of adult Americans were overweight in 2000, up from 46 percent in 1980. Twenty-seven percent of adults were so far overweight that they were classified as obese (at least 30 pounds above their healthy weight)—twice the percentage classified as such in 1960. Alarming, an upward trend in obesity is also occurring for U.S. children.

Although multiple factors can account for weight gain, the basic cause is an excess of energy intake over energy expenditure. In general, Americans' activity levels have not kept pace with their increase in calorie consumption. Many people apparently are oblivious to the number of calories they consume. Calories consistently rank toward the bottom of consumer nutrition concerns, according to the annual national probability surveys "Trends—Consumer Attitudes and the Supermarket" conducted by the Food Marketing Institute. Of respondents in the 2002 survey who said they were either "very concerned" or "somewhat concerned" about the nutritional content of what they eat, only 13 percent cited calories as one of their concerns. That compared with fat (49 percent), sugar (18 percent), salt (17 percent), and cholesterol (16 percent).

A variety of factors are responsible for the changes in U.S. consumption patterns in the last 50 years, including changes in relative prices, increases in real (adjusted for inflation) disposable income, and more food assistance for the poor. New products, particularly more convenient ones, also contribute to shifts in consumption, along with more imports, growth in the away-from-home

Figure 2-1
Calories from the U.S. Per Capita Food Supply, Adjusted for Losses, Increased 19 Percent Between 1983 and 2000



¹ Rounded to the nearest hundred.

² Not calculated for years before 1970.

Source: USDA's Center for Nutrition Policy and Promotion; USDA's Economic Research Service.

food market, expanded advertising programs, and increases in nutrient-enrichment standards and food fortification. Sociodemographic trends also driving changes in food choices include smaller households, more two-earner households, more single-parent households, a taller population, an aging population, and increased ethnic diversity.

ERS estimates per capita food and nutrient supplies based on food disappearance data. These data are used as a proxy to estimate human consumption. The data reported in tables 2-1 through 2-6 are unadjusted for spoilage and waste, so they may overstate what is actually eaten. The data are used more appropriately as indicators of trends in consumption over time.

Meat Consumption at Record High

Now more than ever, America is a Nation of meat eaters. In 2000, total meat consumption (red meat, poultry, and fish) reached 195 pounds (boneless, trimmed-weight equivalent) per person, 57 pounds above average annual consumption in

the 1950s (table 2-1). Each American consumed an average of 7 pounds more red meat than in the 1950s, 46 pounds more poultry, and 4 pounds more fish and shellfish. Rising consumer incomes, especially with the increase in two-income households, and meat prices in the 1990s that were often at 50-year lows, when adjusted for inflation, explain much of the increase in meat consumption. In addition, the meat industry has provided scores of new brand-name, value-added products processed for consumers' convenience, as well as a host of products for foodservice operators.

Nutritional concern about fat and cholesterol has encouraged the production of leaner animals (beginning in the late 1950s), the closer trimming of outside fat on retail cuts of meat (beginning in 1986), the marketing of a host of lower fat ground and processed meat products, and consumer substitution of poultry for red meats since the late 1970s—significantly lowering the meat, poultry, and fish group's contribution to total fat and saturated fat in the food supply. Despite near record-high per capita consumption of total meat in 2000, the proportion

The food system has entered a consumer-driven era and diversity within our farm sector is enormous.

Table 2-1

In 2000, Americans consumed an average 57 pounds more meat than they did annually in the 1950s, and a third fewer eggs

| <i>Annual averages</i> | | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|-------------|
| Item | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000 |
| <i>Pounds per capita, boneless-trimmed weight</i> | | | | | | |
| Total meats | 138.2 | 161.7 | 177.2 | 182.2 | 189.0 | 195.2 |
| Red meats | 106.7 | 122.34 | 129.5 | 121.8 | 112.4 | 113.5 |
| Beef | 52.8 | 69.2 | 80.9 | 71.7 | 63.2 | 64.4 |
| Pork | 45.4 | 46.9 | 45.0 | 47.7 | 47.6 | 47.7 |
| Veal and lamb | 8.5 | 6.2 | 3.5 | 2.4 | 1.7 | 1.4 |
| Poultry | 20.5 | 28.7 | 35.2 | 46.2 | 61.9 | 66.5 |
| Chicken | 16.4 | 22.7 | 28.4 | 36.3 | 47.9 | 52.9 |
| Turkey | 4.1 | 6.0 | 6.8 | 9.9 | 13.9 | 13.6 |
| Fish and shellfish | 10.9 | 10.7 | 12.5 | 14.2 | 14.7 | 15.2 |
| <i>Number per capita</i> | | | | | | |
| Eggs | 374 | 320 | 285 | 257 | 236 | 250 |

Note: Totals may not add due to rounding.
Source: USDA's Economic Research Service.

Table 2-2**Americans are drinking less milk, eating more cheese**

| Item | Unit | Per capita annual averages | | | | | |
|---------------------------------|--------|----------------------------|---------|---------|---------|---------|------|
| | | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000 |
| All dairy products ¹ | lb | 703 | 619 | 548 | 573 | 571 | 593 |
| Cheese ² | lb | 7.7 | 9.5 | 14.4 | 21.5 | 26.7 | 29.8 |
| Cottage cheese | lb | 3.9 | 4.6 | 4.9 | 4.1 | 2.9 | 2.6 |
| Frozen dairy products | lb | 23.0 | 27.5 | 27.8 | 27.4 | 28.8 | 27.8 |
| Ice cream | lb | 18.1 | 18.3 | 17.7 | 17.7 | 16.0 | 16.5 |
| Lowfat ice cream | lb | 2.7 | 6.2 | 7.6 | 7.2 | 7.5 | 7.3 |
| Sherbet | lb | 1.3 | 1.5 | 1.5 | 1.3 | 1.3 | 1.2 |
| Other (including frozen yogurt) | lb | 1.0 | 1.5 | 1.0 | 1.2 | 4.0 | 3.1 |
| Nonfat dry milk | lb | 4.9 | 5.9 | 4.1 | 2.4 | 3.1 | 3.4 |
| Dry whey | lb | .2 | .6 | 2.1 | 3.2 | 3.5 | 3.4 |
| Condensed and evaporated milks | lb | 21.6 | 15.7 | 9.4 | 7.5 | 7.3 | 5.8 |
| Cream products | 1/2 pt | 18.1 | 13.3 | 10.1 | 12.8 | 15.7 | 18.6 |
| Yogurt | 1/2 pt | 0.2 | 0.7 | 3.2 | 6.5 | 8.5 | 9.9 |
| Beverage milk | gal | 36.4 | 32.6 | 29.8 | 26.5 | 24.3 | 22.6 |
| Whole | gal | 33.5 | 28.8 | 21.7 | 14.3 | 9.1 | 8.1 |
| Lower fat | gal | 2.9 | 3.7 | 8.1 | 12.2 | 15.3 | 14.5 |

Note: Totals may not add due to rounding.

¹Milk-equivalent, milkfat basis; includes butter. Individual items are on a product-weight basis.

²Natural equivalent of cheese and cheese products; excludes full-skim American, cottage, pot, and baker's cheese. Source: USDA's Economic Research Service.



of fat in the U.S. food supply from meat, poultry, and fish declined from 33 percent in the 1950s to 24 percent in 2000. Similarly, the proportion of saturated fat contributed by meat, poultry, and fish fell from 33 percent in the 1950s to 26 percent in 2000.

Eating Out Cuts Milk, Boosts Cheese Consumption...

In 2000, Americans drank an average of 38 percent less milk and ate nearly four times as much cheese (excluding cottage, pot, and baker's cheese) as in the 1950s (table 2-2).

Consumption of beverage milk declined from an annual average of 36 gallons per person in the 1950s to less than 23 gallons in 2000. Consumption of soft drinks, fruit drinks and ades, and flavored teas may be displacing beverage milk in the diet. Big increases in eating away from home, especially at fast-food places, and

in consumption of salty snack foods favored soft drink consumption.

The beverage milk trend is toward lower fat milk. Whole milk represented 92 percent of all beverage milk (plain, flavored, and buttermilk) in the 1950s, but its share dropped to 36 percent in 2000.

Average annual consumption of cheese (excluding full-skim American and cottage, pot, and baker's cheeses) increased 287 percent between the 1950s and 2000, from 7.7 pounds per person to 29.8 pounds. Lifestyles that emphasize convenience foods were probably major forces behind the higher consumption. In fact, more than half of our cheese now comes in commercially manufactured and prepared foods (including food service), such as pizza, tacos, nachos, salad bars, fast-food sandwiches, bagel spreads, sauces for baked potatoes and other vegetables, and packaged snack foods. Advertising and new products—such as reduced-fat cheeses and resealable bags of shredded

cheeses, including cheese blends tailored for use in Italian and Mexican recipes—also boosted consumption.

...and Swells Use of Salad and Cooking Oils and Shortening

Americans' mid-1990s push to cut dietary fat is apparent in the recent per capita food supply data, which show a modest (8 percent) decline in the use of added fats and oils between 1993 and 1997, from 69 pounds (fat-content basis) per person to just under 64 pounds. As a result of consumer concerns about fat and mandatory nutrition labeling beginning in July 1994, food processors introduced over 5,400 lower fat versions of foods in U.S. supermarkets in 1995–97, according to *New Product News*, a trade magazine based in Albuquerque, NM.

But the decline in average consumption of added fats was short lived. Between 1997 and 2000, per capita consumption of added fats jumped 17 percent, from 64 pounds per person to 74.5 pounds. Fat plays an important role in enhancing the flavor of foods. Many consumers found the taste of the new low fat (3 grams of fat or less per serving) and fat-free versions of foods unacceptable. Accordingly,

many companies reformulated their low-fat and fat-free products in the late 1990s, adding some fat to improve taste. Some consumers, who rejected the low-fat and fat-free versions, have accepted reduced-fat products (1/3 less fat than full-fat versions). Many other consumers have resumed eating full-fat versions. According to a 2000 Roper Reports survey of a nationally representative sample of 2,000 Americans 18 or older, the percentage of Americans who say they are eating “pretty much whatever they want” was at an all-time high of 70 percent in 2000, up from 58 percent in 1997.

Although Americans apparently have relaxed their efforts to curb consumption of added fats, they are choosing to eat healthier fats. Olive oil and canola oil—high in heart-healthy monounsaturated fats that lower blood levels of bad cholesterol but not good cholesterol—captured 23 percent of the salad and cooking oil market in 2000, up from less than 4 percent in 1985.

Average use of added fats and oils in 2000 was 67 percent above annual average use in the 1950s (table 2-3). Added fats include those used directly by consumers, such as butter on bread, as well as shortenings and oils used in commer-

cially prepared cookies, pastries, and fried foods. All fats naturally present in foods, such as in milk and meat, are excluded.

Americans in 2000 consumed, on average, three-and-three-fifths times more salad and cooking oil than they did annually in the 1950s, and more than twice as much shortening. Average use of table spreads declined by 25 percent during the same period.

In the 1950s, the fats and oils group (composed of added fats and oils) contributed the most fat to the food supply (41 percent), followed by the meat, poultry, and fish group (32 percent). By 1999, the fats and oils group's contribution to total fat had jumped 12 percentage points to 53 percent, probably due to the higher consumption of fried foods in foodservice outlets, the increase in consumption of high-fat snack foods, and the increased use of salad dressings. Margarine, salad dressings and mayonnaise, cakes and other sweet baked goods, and oils continue to appear in the top 10 foods for fat contribution, according to recent USDA food intake surveys, which indicates the ongoing prevalence of discretionary fats in Americans' diets.

Table 2-3

Average consumption of added fats increased by two-thirds between 1950-59 and 2000

| Item | Annual averages | | | | | |
|-------------------------------------|--------------------------------------|---------|---------|---------|---------|------|
| | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000 |
| | <i>Pounds per capita¹</i> | | | | | |
| Total added fats and oils | 44.6 | 47.8 | 53.4 | 60.8 | 65.5 | 74.5 |
| Salad and cooking oils ² | 9.8 | 13.9 | 20.2 | 25.0 | 28.2 | 35.2 |
| Baking and frying fats ³ | 21.4 | 20.7 | 20.5 | 23.6 | 26.2 | 29.0 |
| Shortening | 10.9 | 14.6 | 17.4 | 20.5 | 22.7 | 23.1 |
| Lard and beef tallow ⁴ | 10.5 | 6.1 | 3.5 | 3.1 | 4.0 | 6.0 |
| Table spreads | 17.0 | 16.5 | 15.9 | 15.3 | 14.0 | 12.8 |
| Butter | 9.0 | 6.6 | 4.7 | 4.6 | 4.4 | 4.6 |
| Margarine | 8.0 | 9.9 | 11.2 | 10.7 | 9.6 | 8.2 |

¹Total added fats and oils is on a fat-content basis. Individual items are on a product-weight basis.

²Includes a small amount of specialty fats used mainly in confectionery products and nondairy creamers.

³Total may not add due to rounding.

⁴Direct use; excludes use in margarine or shortening.

Source: USDA's Economic Research Service.

Table 2-4

Per capita consumption of fruit and vegetables increased by one-fifth between 1970–79 and 2000

| Item | Annual averages | | | |
|---------------------------------|---|---------|---------|-------|
| | 1970–79 | 1980–89 | 1990–99 | 2000 |
| | <i>Pounds per capita, fresh-weight equivalent</i> | | | |
| Total fruit and vegetables | 587.5 | 622.1 | 688.3 | 707.7 |
| Total fruit | 248.7 | 269.0 | 280.1 | 279.4 |
| Fresh fruit | 99.4 | 113.1 | 123.7 | 126.8 |
| Citrus | 27.2 | 24.2 | 23.7 | 23.4 |
| Noncitrus | 72.2 | 88.9 | 100.0 | 103.3 |
| Processed fruit | 149.3 | 155.9 | 156.5 | 152.7 |
| Frozen fruit, noncitrus | 3.4 | 3.4 | 3.8 | 3.7 |
| Dried fruit, noncitrus | 9.9 | 12.2 | 11.7 | 10.5 |
| Canned fruit, noncitrus | 24.7 | 21.3 | 19.7 | 17.4 |
| Fruit juices | 110.7 | 118.6 | 120.8 | 120.6 |
| Total vegetables | 338.8 | 353.1 | 408.2 | 428.3 |
| Fresh vegetables | 147.9 | 157.2 | 181.9 | 201.7 |
| Potatoes | 52.5 | 48.5 | 48.8 | 47.2 |
| Other | 95.4 | 108.7 | 133.1 | 154.5 |
| Processing vegetables | 190.9 | 195.9 | 226.3 | 226.6 |
| Vegetables for canning | 101.1 | 98.9 | 109.4 | 104.7 |
| Tomatoes | 62.9 | 63.5 | 74.4 | 69.9 |
| Other | 38.2 | 35.4 | 35.0 | 34.8 |
| Vegetables for freezing | 52.1 | 61.0 | 76.8 | 79.7 |
| Potatoes | 36.1 | 42.8 | 54.9 | 57.8 |
| Other | 16.0 | 18.2 | 21.9 | 21.9 |
| Dehydrated vegetables and chips | 30.8 | 29.4 | 32.0 | 33.7 |
| Pulses | 7.0 | 6.5 | 8.1 | 8.6 |

Note: Totals may not add due to rounding.
Source: USDA's Economic Research Service.



In the last two decades, Americans have been more successful in reducing the fat density in home foods than in away-from-home foods, according to food intake surveys. In 1977–78, both home and away-from-home foods provided slightly more than 41 percent of their calories from fat. By 1987–88, the fat density of home foods had declined to 36.4 percent of total calories from fat, compared with 38.7 for away-from-home foods. Since then, the fat density of home foods declined steadily to 31.5 percent of calories from fat, but fat from away-from-home foods declined only slightly to 37.6 percent of calories.

Fruit and Vegetable Consumption Continues To Rise

Americans in 2000 consumed a fifth (20 percent) more fruit and vegetables than did their counterparts in the 1970s (table 2-4).

Total fruit consumption in 2000 was 12 percent above average annual fruit consumption in the 1970s. Fresh fruit consumption (up 28 percent during the same period) outpaced processed fruit consumption (up 2 percent). Noncitrus fruits accounted for all of the growth in fresh fruit consumption.

Total vegetable consumption in 2000 was 23 percent above average annual vegetable consumption in the 1970s. As in the case of fruit, fresh vegetable use (up 26 percent during the same period) outpaced processed vegetable use (up 21 percent). The introduction of pre-cut and packaged value-added products and increasing health consciousness among consumers boosted average fresh broccoli consumption by a third between 1995 and 1998 and average fresh carrot consumption by more than a fifth. Highly publicized medical research linking compounds in broccoli with strong anti-cancer activity in the body has added a powerful incentive to consumption.

The popularity of pizza and other ethnic foods in the 1990s boosted average consumption of canned tomato products, but consumption of other canned vegetables declined 13 percent between the 1970s and 1997. The popularity of french fries, eaten mainly in fast-food eateries, spawned a 63-percent increase in average consumption of frozen potatoes during the same period; consumption of other frozen vegetables rose 41 percent.

Consumers Eat Too Much Refined Grain, Too Little Whole Grain

Per capita use of flour and cereal products reached 200 pounds in 2000 from an annual average of 155 pounds in the 1950s and 138 pounds in the 1970s, when grain consumption was at a record low (table 2-5). The expansion in supplies reflects ample grain stocks; strong consumer demand for variety breads, other instore bakery items, and grain-based snack foods; and increasing fast-food sales of products made with buns, doughs, and tortillas.

Many consumers' diets now meet or exceed the Food Guide Pyramid serving recommendation for grain products. The Pyramid recommends 9 daily servings of grain products for a 2,200-calorie diet, 6 servings for a 1,600-calorie diet, and 11 servings for a 2,800-calorie diet. The food supply, adjusted for waste in the home and throughout the marketing system, provided an average of 10 daily servings of grain in 2000. This is an underestimate. The food supply database excludes wheat foods not manufactured directly from wheat flour or bulgur. That is, it excludes wheat bran, wheat germ, wheat berries and products manufactured directly from these items, such as Wheaties (cooked, flattened, toasted wheat berries), Shredded Wheat, Puffed Wheat, and All-Bran breakfast cereals and Triscuit crackers. Similarly, it excludes whole-grain foods made directly from field corn (for example, Tostito and Dorito brand corn tortilla chips, corn bran (used in some breakfast



cereals), and popcorn. ERS estimates that these missing items would add an additional serving of grains for an average of 11 daily servings of grain in 2000—the amount recommended for teenage boys or men who engage in heavy physical activity.

However, most people's diets fall well short of the recommended minimum three daily servings of whole grain products. The mean daily intake of foods made from whole grains was one serving in USDA's 1996 *Continuing Survey of Food Intakes by Individuals*. According to the survey, only 7 percent of Americans ate the recommended three or more servings of whole-grain foods a day.

Table 2-5

Annual average grain consumption was 45 percent higher in 2000 than in the 1970s

| Item | Annual averages | | | | | |
|-----------------------------------|--------------------------|---------|---------|---------|---------|-------|
| | 1950-59 | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000 |
| | <i>Pounds per capita</i> | | | | | |
| Total grain products ¹ | 155.4 | 142.5 | 138.2 | 157.4 | 190.6 | 199.9 |
| Wheat flour | 125.7 | 114.4 | 113.6 | 122.8 | 141.8 | 146.3 |
| Corn products | 15.4 | 13.8 | 11.0 | 17.3 | 24.5 | 28.4 |
| Rice | 5.3 | 7.1 | 7.3 | 11.3 | 17.5 | 19.7 |

¹ Includes oat products, barley products, and rye flour not shown separately.
Source: USDA's Economic Research Service.

Table 2-6**America's sweet tooth increased 39 percent between 1950–59 and 2000 as use of corn sweeteners octupled**

| Item | Annual averages | | | | | |
|--------------------------|--------------------------------------|---------|---------|---------|---------|-------|
| | 1950–59 | 1960–69 | 1970–79 | 1980–89 | 1990–99 | 2000 |
| | <i>Pounds per capita, dry weight</i> | | | | | |
| Total caloric sweeteners | 109.6 | 114.4 | 123.7 | 126.5 | 145.9 | 152.4 |
| Cane and beet sugar | 96.7 | 98.0 | 96.0 | 68.4 | 64.7 | 65.6 |
| Corn sweeteners | 11.0 | 14.9 | 26.3 | 56.8 | 79.9 | 85.3 |
| High fructose corn syrup | .0 | .0 | 5.5 | 37.3 | 56.8 | 63.8 |
| Glucose | 7.4 | 10.9 | 16.6 | 16.0 | 19.3 | 18.1 |
| Dextrose | 3.5 | 4.1 | 4.3 | 3.5 | 3.8 | 3.4 |
| Other caloric sweeteners | 2.0 | 1.5 | 1.4 | 1.3 | 1.3 | 1.5 |

Note: Totals may not add due to rounding.

1Edible syrups (sugarcane, sorgo, maple, and refiner's), edible molasses, and honey.

Source: USDA's Economic Research Service.

Consumption of Caloric Sweeteners Hits Record High in 1999

Americans have become conspicuous consumers of sugar and sweet-tasting foods and beverages. Per capita consumption of caloric sweeteners (dry-weight basis)—mainly sucrose (table sugar made from cane and beets) and corn sweeteners (notably high-fructose corn syrup, or HFCS)—increased 43 pounds, or 39 percent, between 1950–59 and 2000 (table 2-6). In 2000, each American consumed an average 152 pounds of caloric sweeteners, 3 pounds below 1999's record average 155 pounds. That amounted to more than two-fifths of a pound—or 52 teaspoonfuls—of added sugars per person per day in 2000. Of that 52 teaspoons, ERS estimates that Americans wasted or otherwise lost 20 teaspoons, resulting in an average intake of about 32 teaspoons of added sugars per person per day.

USDA recommends that the average person on a 2,000-calorie daily diet include no more than 40 grams of added sugars. That's about 10 teaspoons, or the amount of sugar in a 12-ounce soft drink. Sugar—including sucrose, corn sweeteners, honey, maple syrup, and molasses—is ubiquitous and often hidden. In a sense, sugar is the number one food additive. It turns up in some unlikely places, such as pizza, bread, hot dogs, boxed mixed rice, soup, crackers, spaghetti sauce, lunch meat, canned vegetables, fruit drinks, flavored yogurt, ketchup, salad dressing, mayonnaise, and some peanut butter. Carbonated sodas provided more than a fifth (22 percent) of the refined and added sugars in the 2000 American food supply, compared with 16 percent in 1970.

Food Expenditures and Prices

What does it cost Americans to eat what they eat? Total food expenditures, which includes imports, fishery products, and food originating on farms, were \$844.2 billion in 2001, an increase of 3.8 percent over those in 2000. Average food expenditures came to \$2,964 per capita, 2.8 percent above the 2000 average. Away-from-home meals and snacks captured 47 percent of the U.S. food dollar in 2001, up from 45 percent in 1991 and 40 percent in 1981.

While personal food expenditures rose 3.7 percent, disposable personal income increased 5.5 percent from 2000 to 2001. U.S. consumers in 2001 spent 10.0 percent of their disposable personal income (after taxes) on food. This figure compares with 11.6 percent in 1991, 13.0 percent in 1981, and 13.4 percent in 1971.

In the United States, retail food prices (including meals served in restaurants and food purchased at grocery stores) rose 27.0 percent over the last 10 years (1991-2001). Prices of food eaten away from home increased 26.1 percent, while retail food store prices increased 27.7 percent. Prices of all goods and services in the Consumer Price Index climbed 30.0 percent over the same 10 years.

How Much of the Cost of Food Services and Distribution Goes to Farmers?

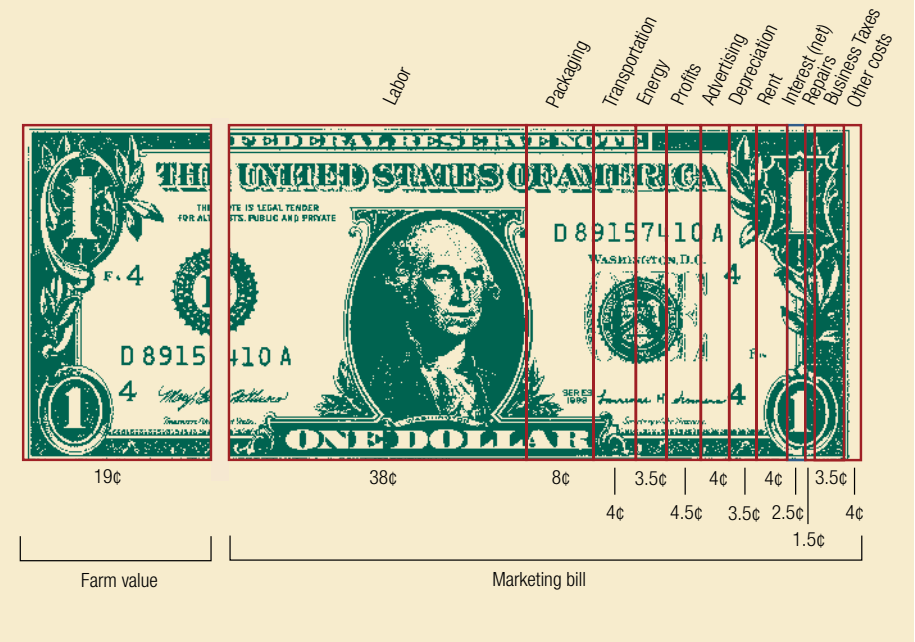
The estimated bill for marketing domestic farm foods—which does not include imported foods—was \$498 billion in 1999. This amount covered all charges for transporting, processing, and distributing foods that originated on U.S. farms. It represented 80 percent of the \$618 billion consumers spent for these foods. The remaining 20 percent, or \$121 billion, represents the gross return paid to farmers.

The cost of marketing farm foods has increased considerably over the years, mainly because of rising costs of labor, transportation, food packaging materials, and other inputs used in marketing, and also because of the growing volume of food and the increase in services provided with the food.

In 1990, the cost of marketing farm foods amounted to \$343 billion. In the decade after that, the cost of marketing rose about 57 percent. In 2000, the marketing bill rose 6.9 percent. These rising costs have been the principal factor affecting the rise in consumer food expenditures. From 1990 to 2000, consumer expenditures for farm foods rose \$211 billion. Roughly 92 percent of this increase resulted from an increase in the marketing bill.

The cost of labor is the biggest part of the total food marketing bill, accounting for nearly half of all marketing costs. Labor used by assemblers, manufacturers, wholesalers, retailers, and eating places cost \$252 billion in 2000. This was 4.7 percent higher than in 1999 and 64 percent more than in 1990. The total number of food marketing workers in 2000 was about 14.3 million, about 17 percent more than in 1990. About 80 percent of the growth in food industry employment occurred in public eating places. A wide variety of other costs comprise the balance of the marketing bill. These costs include packaging, transportation, energy, advertising, business taxes, net interest, depreciation, rent, and repairs. Their relative proportions are illustrated in the accompanying dollar chart.

Figure 2-2
What a dollar spent on food paid for in 2000



CHAPTER 3

American Farms



While the American landscape is dominated largely by agriculture, these operations vary widely to cope with different soils, water conditions, and markedly distinct weather patterns.

Farms and farm families remain powerful symbols in American culture, despite the long-term decline in their numbers. The number of farms fell dramatically after its peak of nearly 7 million in 1935, with most of the decline occurring during the 1940s, 1950s, and 1960s (fig. 3-1). The decline in farm numbers continues, but at a slower pace. By 1997, about 1.9 million farms remained. Because the amount of farmland did not decrease as much as the number of farms, the remaining farms have a larger average acreage.

The trend in the number of farms differs by acreage class. The number of farms with at least 500 acres increased steadily from 1880 through the 1960s, before stabilizing at 350,000 to 370,000 farms (fig. 3-2). Farms with 1 to 49 acres declined from their maximum of 2.7 million in 1935 to about half a million in 1974. After 1974, the count of these farms has ranged between 540,000 and 640,000. In contrast, the number of farms with 50-499 acres declined from 3.9 million in 1935 continuously to about 1 million farms in 1997. As a result of

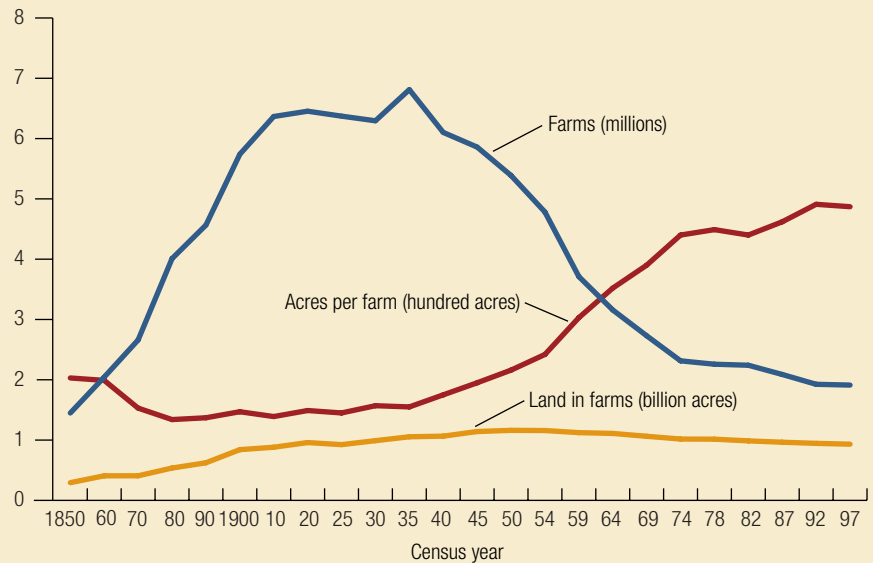
these changes, farms with fewer than 50 acres and farms with more than 500 acres have both increased their share of total farms since 1974, but midsize farms' share has declined.

Acres or Sales?

When following changes in farm size over long periods of time, acres are generally used to indicate farm size. Nevertheless, the level of sales of farm products is a better indicator of farm size, since it unambiguously measures economic activity in dollars. In contrast, farm acreage just measures an input, land, with no indication of the value of what is actually produced. The number of acres necessary to produce a given dollar amount of farm products varies with the characteristics of the land and the value of the products produced. Cattle operations, for example, may have a low volume of sales, but encompass many acres of pasture or range. Thus, not all farms that are large in acreage have high sales. In fact, most farms with more than 500 acres in 1997 were not classified as large



Figure 3-1
Farms, land in farms, and average acres per farm, 1850-1997
Most of the decline in farms occurred between 1935 and 1974

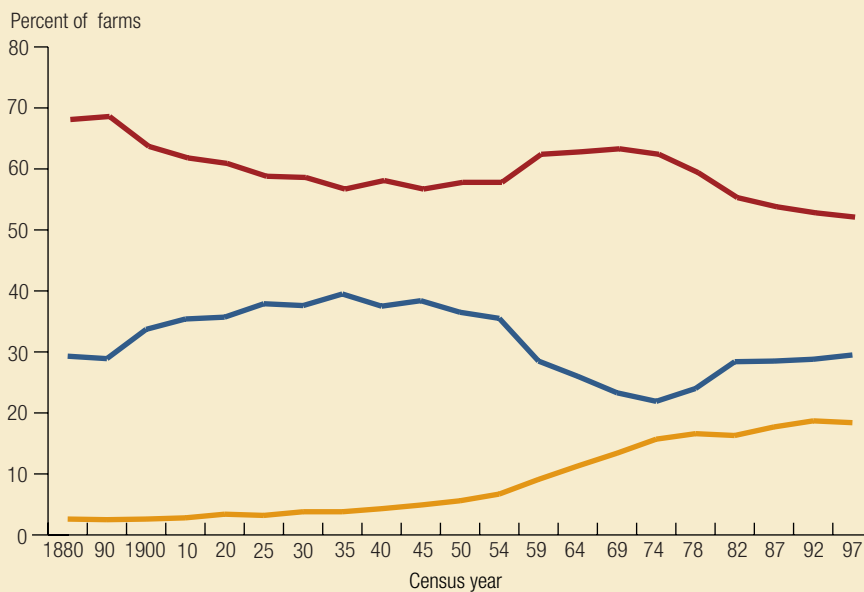
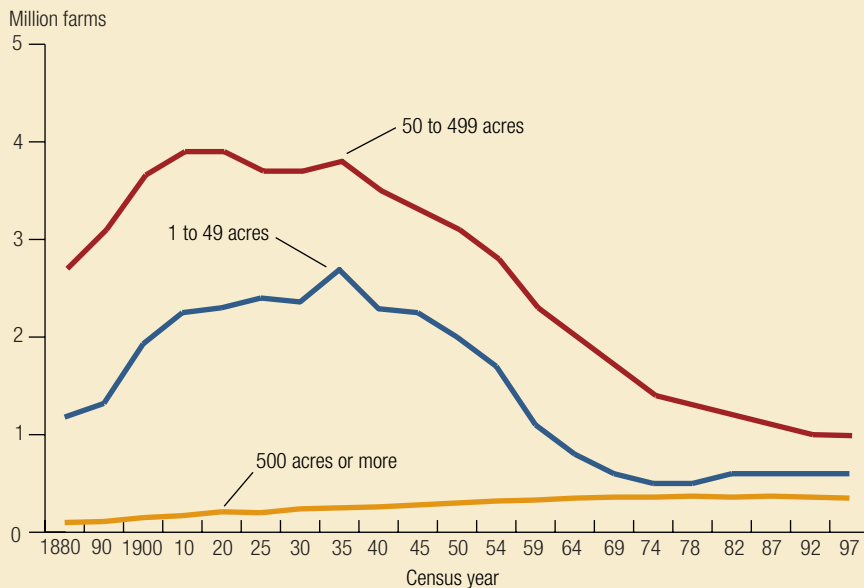


Source: Compiled by ERS from Census of Agriculture data.

Figure 3-2

Distribution of farms by acreage class, 1880-1997

The share of farms with 500 acres or more increased from 4 percent in 1935 to 18 percent in 1997



Source: Compiled by ERS from Census of Agriculture data.

Farming today consists of enormously different farms growing numerous crop and livestock products for sale in markets that range from their immediate neighbors to consumers worldwide. Farms differ in size, type and value of commodities produced, technology used, resource endowment, financial status, and many other attributes....

It is essential to recognize and understand this diversity that makes up today's agriculture if we are to adequately prepare for its future.



farms, defined by the National Commission on Small Farms (1998) as farms with sales of \$250,000 or more (fig. 3-3).

Changes in the distribution of farms by sales class in the last four censuses can be compared across time by using the producer price index for farm products to adjust for price changes. Unfortunately, constant-dollar sales classes cannot be prepared before 1982, due to incomplete census records for individual farms prior to that year.

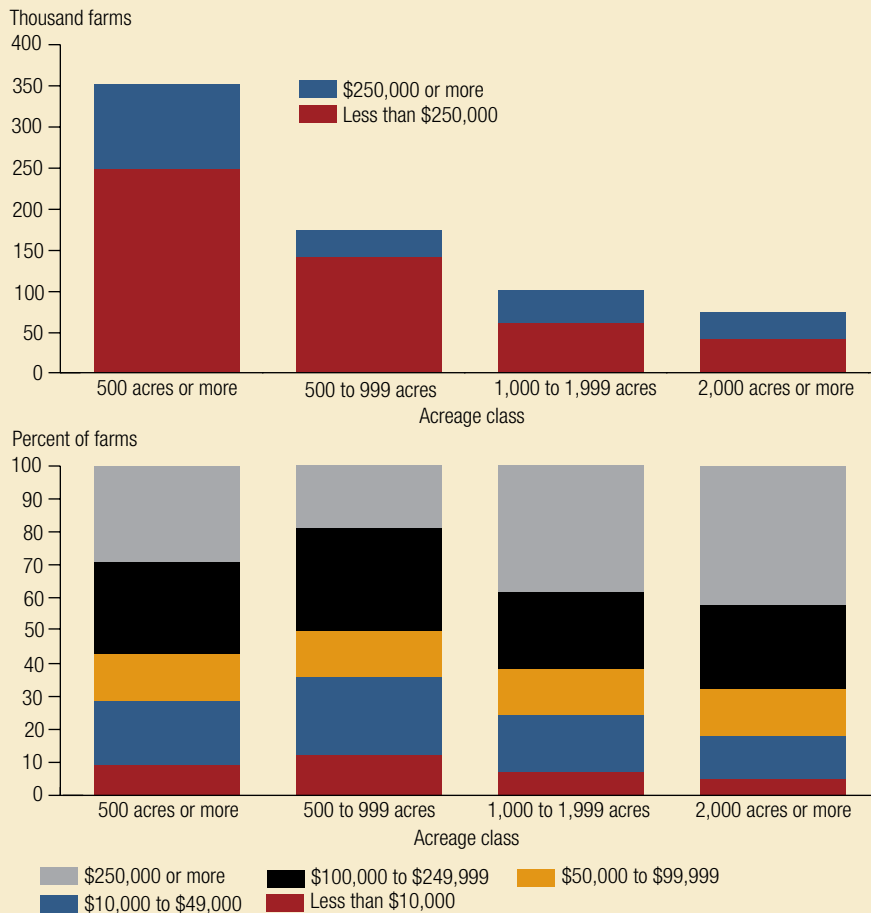
Change by Sales Class, 1982 to 1997

Changes in the counts of farms by constant-dollar sales class—from 1982 onward—are consistent with the trends in the counts by acreage class that were discussed earlier. Only one sales class grew consistently over the 16-year period (fig. 3-4). Large farms increased their numbers by 53,000, growing from 104,000 in 1982 to 157,000 by 1997. The share of all farms in this group also grew, from 5 percent to 8 percent over the same period. Most farms in the large farm group had sales between \$250,000 and \$499,999, but the number of farms with sales of at least \$500,000 grew more rapidly (table 3-1).

Figure 3-3

Distribution of farms with 500 acres or more by sales class, 1997

Farms with large acreages do not necessarily have large sales



Source: Compiled by ERS from Census of Agriculture data.

The number of farms in the other sales classes declined in each inter-census period, with the exception of farms with sales less than \$10,000 (fig. 3-4). There, the number of farms declined from 1982 to 1987 and from 1987 to 1992, but increased from 1992 to 1997. As shown in table 3-1, most of the increase from 1992 to 1997 occurred among “point farms,” or farms with sales less than \$1,000 that might normally have sales that high and satisfy the criteria necessary to be considered a farm. (See the box, Defining Point Farms.) Because of this growth, farms with sales less than \$10,000 now account for half of all U.S. farms.

Most of the increase in point farms, however, is due to a change in the classification of farms that enroll all their cropland in the Conservation Reserve or Wetlands Reserve Programs (CRP or WRP). The agricultural census did not count such operations as farms in 1992, if they did not sell at least \$1,000 worth of farm products (U.S. Bureau of the Census, 1994, p. B-1). They were counted as point farms in the 1997 Census, however, on the grounds that they normally could have sold \$1,000 worth of products (U.S. Department of Agriculture, 1999, p. A-2).

There were 66,716 of these CRP/WRP establishments in 1992. When these farms are added to the 1992 count of point farms to be consistent with the 1997 Census, the 1992-97 change in the number of point farms shifts from a gain of 30 percent (as shown in table 3-1) to a loss of 1 percent. In addition, the 9-percent increase in the number of farms with sales less than \$10,000 decreases to 2 percent.

Diversity Among American Farms

Despite the rapid growth in the number of farms with sales of \$250,000 or more, most farms have sales below that level and are classified as small. While some definitions would set a lower sales limit to classify a farm as small, farms with sales under \$250,000 are small businesses compared with other businesses in the general economy.

Defining Point Farms

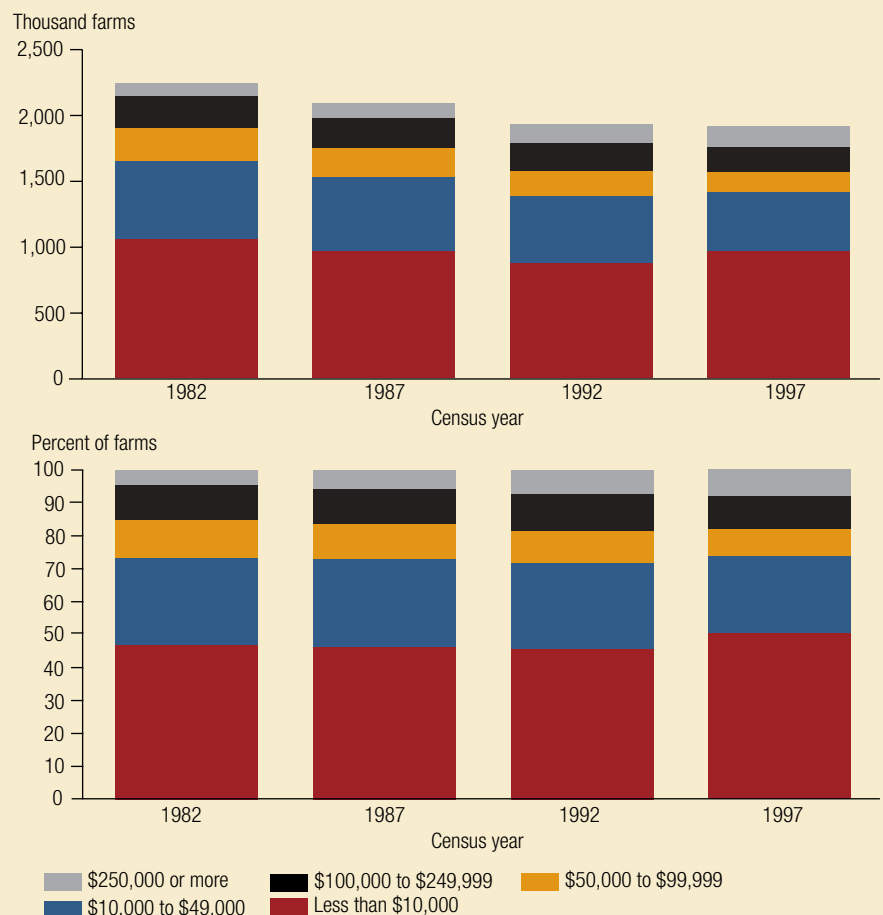
The official definition of a farm for census purposes is “any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold during the census year (U.S. Department of Agriculture, 1999, p. VII).” If a place does not have \$1,000 in sales, a “point system” assigns values for acres of various crops and head of various livestock species to estimate a normal level of sales. Point farms are farms with fewer than \$1,000 in sales but have points worth at least \$1,000. Point farms tend to be very small. Some, however, may normally have large sales, but experience low sales in a particular year due to bad weather, disease, or other factors. Both the Agricultural Resource Management Survey (ARMS) and the census of agriculture use the point system to help identify farms meeting the current definition.

Note that the farms and point farms identified in the figures and table are defined in current dollars, not constant dollars. Farms and point farms are determined for each census, based on current dollars.

Figure 3-4

Distribution of farms by constant dollar sales class, 1982-1997

Farms with sales less than \$10,000 or sales of \$250,000 or more increased their share of farms



Source: Compiled by ERS from Census of Agriculture data.

Table 3-1.**Number of farms by constant dollar sales class (1997 dollars), 1982, 1987, 1992, and 1997**

| Sales class | Census year | | | | Change | | |
|--|------------------------|-----------|-----------|-----------|----------------|--------------|--------------|
| | 1982 | 1987 | 1992 | 1997 | 1982 to 1987 | 1987 to 1992 | 1992 to 1997 |
| | <i>Number of farms</i> | | | | <i>Percent</i> | | |
| Total farms | 2,240,976 | 2,087,759 | 1,925,300 | 1,911,859 | -6.8 | -7.8 | -0.7 |
| Sales less than \$10,000 | 1,051,510 | 966,743 | 879,842 | 962,966 | -8.1 | -9.0 | 9.4 |
| Point farms ¹ | 253,147 | 235,562 | 212,580 | 277,248 | -6.9 | -9.8 | 30.4 |
| Other farms | 798,363 | 731,181 | 667,262 | 685,718 | -8.4 | -8.7 | 2.8 |
| Sales between \$10,000 and \$49,999 | 592,328 | 557,006 | 502,229 | 444,745 | -6.0 | -9.8 | -11.4 |
| \$10,000 to \$19,999 | 262,616 | 256,448 | 234,770 | 212,120 | -2.3 | -8.5 | -9.6 |
| \$20,000 to \$24,999 | 82,080 | 78,078 | 68,709 | 61,920 | -4.9 | -12.0 | -9.9 |
| \$25,000 to \$39,999 | 167,003 | 151,212 | 137,341 | 117,196 | -9.5 | -9.2 | -14.7 |
| \$40,000 to \$49,999 | 80,629 | 71,268 | 61,409 | 53,509 | -11.6 | -13.8 | -12.9 |
| Sales between \$50,000 and \$99,999 | 253,069 | 217,479 | 186,937 | 158,160 | -14.1 | -14.0 | -15.4 |
| Sales between \$100,000 and \$249,999 | 239,923 | 228,514 | 216,334 | 189,417 | -4.8 | -5.3 | -12.4 |
| Sales of \$250,000 or more | 104,146 | 118,014 | 139,958 | 156,571 | 13.3 | 18.6 | 11.9 |
| \$250,000 to \$499,999 | 70,173 | 76,764 | 86,968 | 87,777 | 9.4 | 13.3 | 0.9 |
| \$500,000 to \$999,999 | 22,914 | 27,151 | 34,911 | 42,860 | 18.5 | 28.6 | 22.8 |
| \$1,000,000 to \$2,499,999 | 8,090 | 10,250 | 13,139 | 19,069 | 26.7 | 28.2 | 45.1 |
| \$2,500,000 to \$4,999,999 | 1,724 | 2,213 | 2,919 | 4,066 | 28.4 | 31.9 | 39.3 |
| \$5,000,000 or more | 1,245 | 1,636 | 2,021 | 2,799 | 31.4 | 23.5 | 38.5 |

¹ Point farms have sales of less than \$1,000 (current dollars), but are still considered farms because they would be expected to normally sell at least \$1,000 of agricultural products. Point farms are defined in current dollars, rather than constant dollars, because they are identified in each census on the basis of current dollars.

Source: Compiled by ERS from the 1997 Census Longitudinal File.



Family farms may be organized as proprietorships, partnerships, or family corporations. Nonfamily farms include those organized as nonfamily corporations or cooperatives, as well as any proprietorships, partnerships, or family corporations with hired managers. Most farms (98 percent) are family farms. Large family farms are often organized as family corporations, and these account for growing shares of farm sales, but—contrary to popular belief—the share of farms and sales accounted for by nonfamily corporations is small and has been relatively stable since 1978 (fig. 3-5).

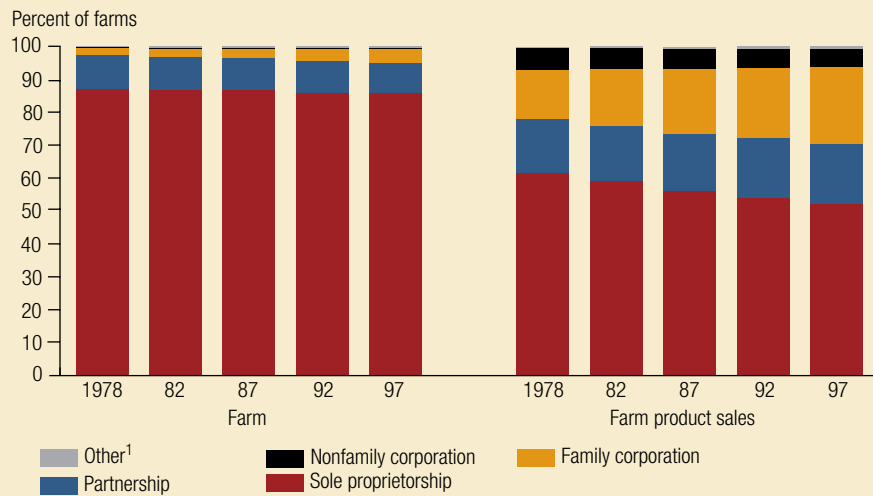
Farms vary widely in their characteristics, ranging from very small retirement and residential farms to establishments with sales in the millions. A farm typology developed by USDA’s Economic Research Service (ERS) categorizes farms into more homogeneous groups than classifications based on sales volume alone. (See the box, Defining the Farm Typology.)

The typology is based on the occupation of operators and the sales class of farms. In the case of limited-resource farmers, the asset base and total household income—as well as sales—are low. Compared with classification by sales alone, the ERS typology is much more reflective of operators’ expectations from farming, stage in the life cycle, and dependence on agriculture.

The typology identifies five groups of small family farms: (1) limited-resource farms, (2) retirement farms, (3) residential/lifestyle farms, (4) farming-occupation/low-sales farms, and (5) farming-occupation/high-sales farms. To cover the remaining farms, the typology identifies two groups of larger family farms (large and very large family farms) plus nonfamily farms.

The groups differ in their contribution to agricultural production, their product specialization, farm program participation, and dependence on farm income. Differences among farm typology groups (e.g., product specialization, program participation) are illustrated in a series of charts using 2000 data from the Agricultural Resource Management Survey

Figure 3-5
Distribution of farms and farm product sales, by business organization, 1978-97
Nonfamily corporation share of farms and sales is stable



¹Includes cooperatives, estates or trusts, and institutional farms.
 Source: Compiled by ERS from Census of Agriculture data.

Defining the Farm Typology

| Small Family Farms (sales less than \$250,000) | Other Family Farms |
|--|--|
| <ul style="list-style-type: none"> • Limited-resource farms. Small farms with sales less than \$100,000, farm assets less than \$150,000, and total operator household income less than \$20,000. Operators may report any major occupation, except hired manager. | <ul style="list-style-type: none"> • Large family farms. Sales between \$250,000 and \$499,999. • Very large family farms. Sales of \$500,000 or more. |
| <ul style="list-style-type: none"> • Retirement farms. Small farms whose operators report they are retired.* • Residential/lifestyle farms. Small farms whose operators report a major occupation other than farming.* • Farming-occupation farms. Small farms whose operators report farming as their major occupation.* <ul style="list-style-type: none"> • Low-sales. Sales less than \$100,000. • High-sales. Sales between \$100,000 and \$249,999. | <ul style="list-style-type: none"> • Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers. |

*Excludes limited-resource farms whose operators report this occupation.

(ARMS). The ARMS is an annual survey conducted by ERS and by USDA's National Agricultural Statistics Service.

Share of Farms, Assets, and Production

Most farms are small, but small farms account for a modest share of production.

farming, including 67 percent of the land owned by farmers (fig. 3-7).

■ But, large family farms, very large family farms, and nonfamily farms (8 percent of all farms) account for about 68 percent of production (fig. 3-6).

■ Ninety-two percent of U.S. farms are small (fig. 3-6), and small farms account for 71 percent of the assets involved in

Specialization and Diversification

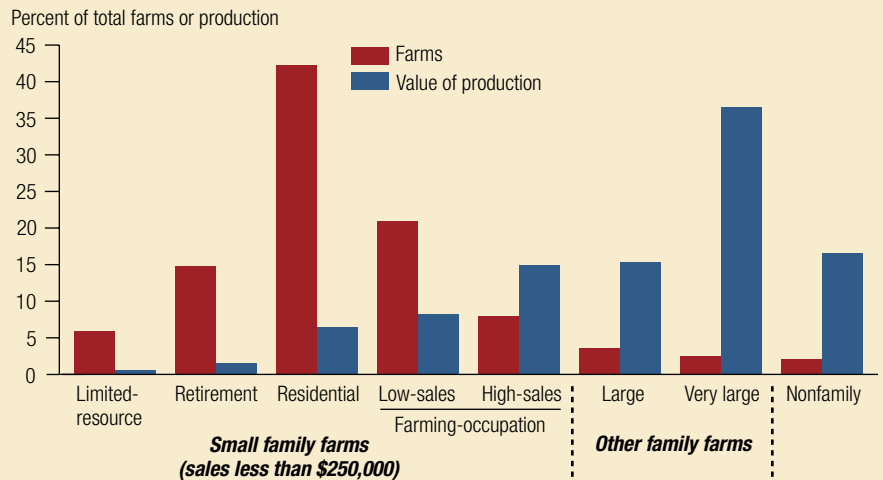
Specialization and diversification vary among the farm typology groups.



Figure 3-6

Share of total farms and value of production, 2000

Large, very large, and nonfamily farms account for 68 percent of the value of production

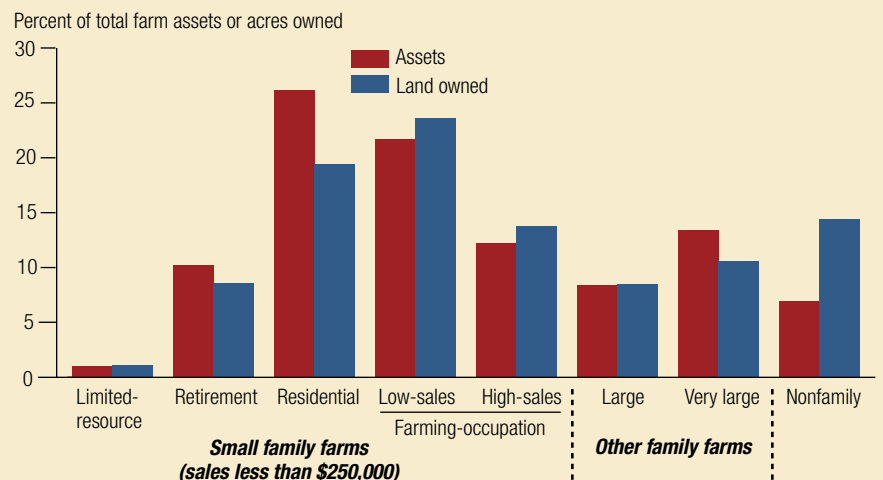


Source: 2000 Agricultural Resource Management Survey (ARMS).

Figure 3-7

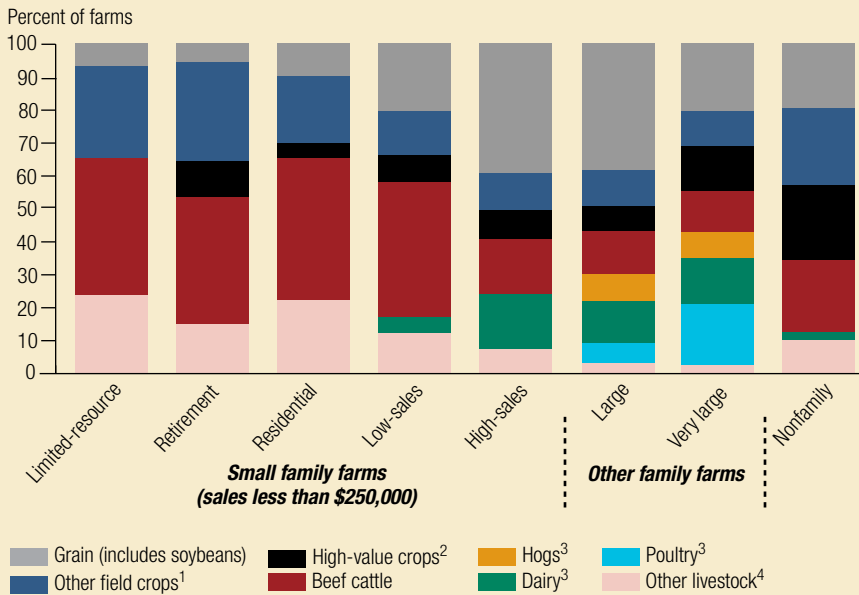
Share of farm business assets and acres owned, 2000

Small farms account for most of the assets (including land) owned by farms



Source: 2000 Agricultural Resource Management Survey (ARMS).

Figure 3-8
Share of farms by specialization, 2000
Small farms often specialize in beef



Commodity accounts for at least half of the farm's value of production. Estimates of high-value crop, hog, dairy, and poultry farms were suppressed for specific typology groups, due to insufficient observations.

¹Tobacco, cotton, peanuts, and general crops. Also includes farms with all cropland in the Conservation Reserve or Wetlands Reserve Programs (CRP & WRP).
²Vegetables, fruits & tree nuts, and nursery & greenhouse. Included in "other field crops" for limited-resource farms.
³Included in "other livestock" when not shown separately.
⁴Includes sheep, goats, horses, mules, ponies, fur-bearing animals, bees, fish, and any other livestock.

Source: 2000 Agricultural Resource Management Survey (ARMS).

■ About two-fifths of the limited-resource, retirement, residential/lifestyle and low-sales small farms specialize in beef cattle (fig 3-8). Beef cattle—particularly cow-calf operations—often have low and flexible labor requirements compatible with off-farm work and retirement.

■ In contrast, two commodity groups—cash grains and dairy—account for over half of all high-sales small farms and large family farms.



■ Many small farms specialize in a single commodity, but high-sales small farms, large family farms, and very large family farms tend to produce multiple commodities (fig. 3-9).

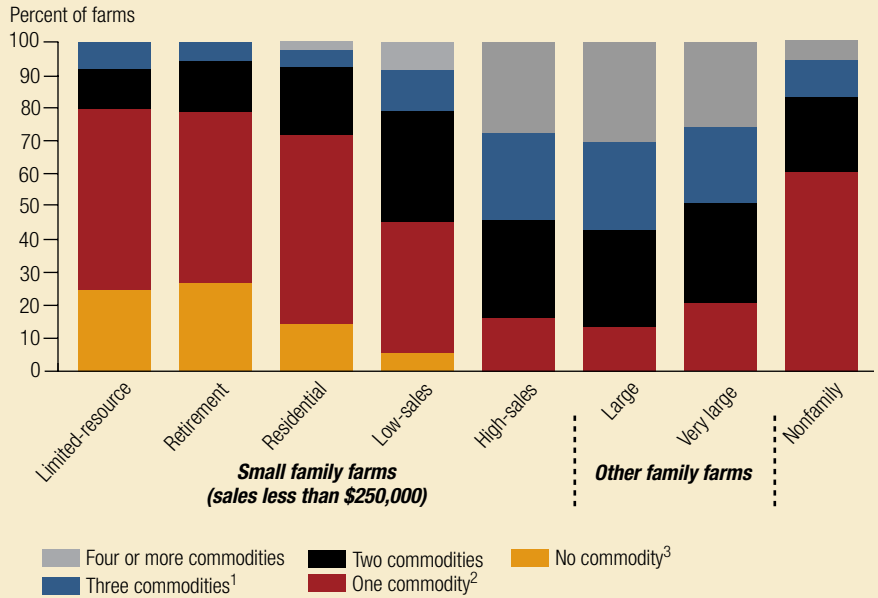
Government Program Participation

All farm typology groups participate in government farm programs to some extent, but the relative importance of the programs varies.

Figure 3-9

Share of farm by number of commodities produced, 2000

Few small farms produce more than one or two commodities



Based on 26 commodities or commodity groups

¹Includes the estimate for four or more commodities, when not shown separately.

²In the nonfamily farm group, includes farms producing no commodities.

³Largely farms with all cropland in the Conservation Reserve Wetlands reserve programs (CRP & WRP)

Source: 2000 Agricultural Resource Management Survey (ARMS).

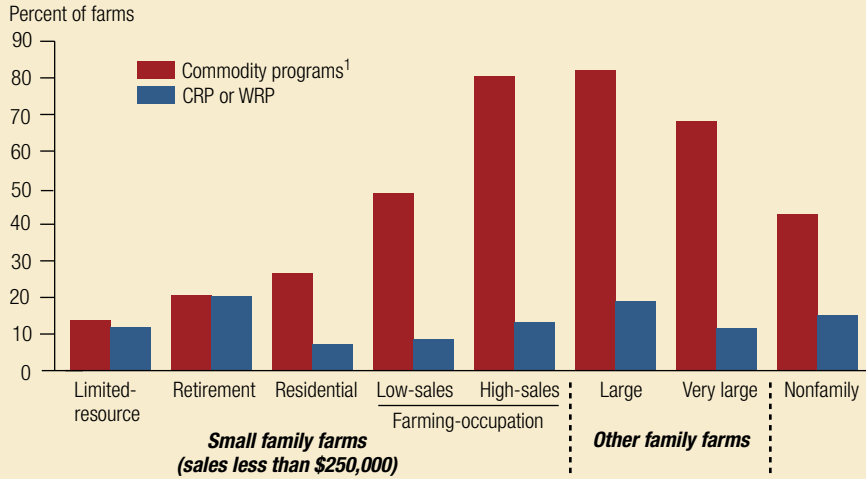


■ High-sales small farms, large family farms, and very large family farms are most likely to receive commodity program payments (fig. 3-10).

■ These three groups receive nearly three-fourths of commodity program payments, reflecting their production of program commodities (fig. 3-11).

Figure 3-10
Share of farms receiving commodity program payments and payments from the Conservation Reserve or Wetlands Reserve Programs, 2000

Most high-sales, large, and very large farms receive payments from commodity programs



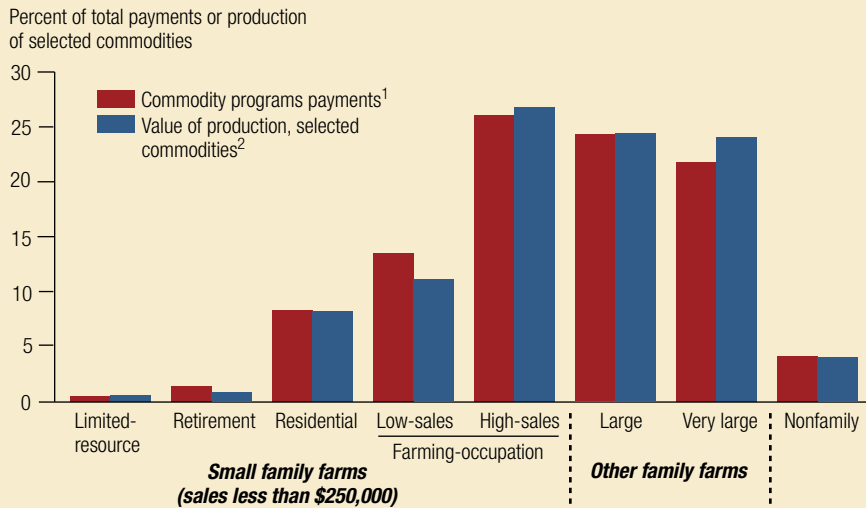
¹Agricultural disaster payments, loan deficiency payments, and transition payments.

Source: 2000 Agricultural Resource Management Survey (ARMS).



Figure 3-11
Distribution of total payments from commodity programs

Production of program commodities explains the distribution of commodity program payments



¹Agricultural disaster payments, loan deficiency payments, and transition payments.

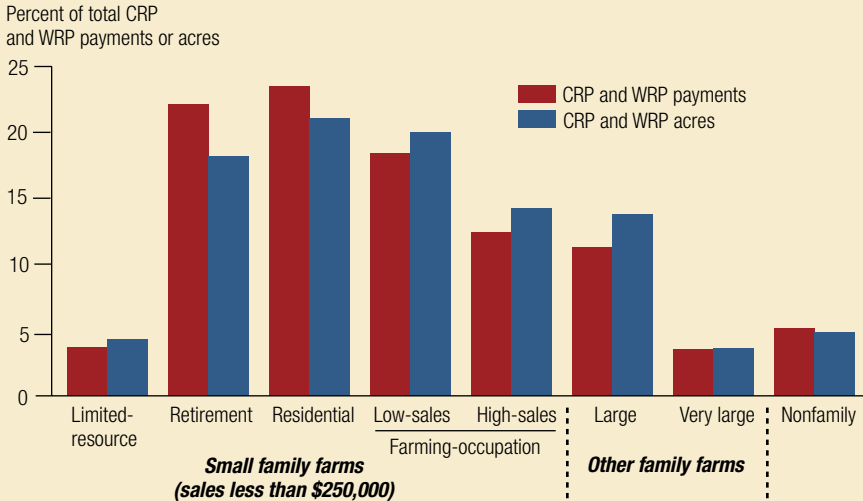
²Barley, corn, cotton, rice, sorghum, soybeans, wheat, and oats

Source: 2000 Agricultural Resource Management Survey (ARMS).

Figure 3-12

Distribution of total payments from the Conservation Reserve or Wetlands Reserve Programs and acres enrolled in the programs, 2000

Retirement, residential/lifestyle, and low-sales farms account for nearly two-thirds of CRP and WRP payments and acres



Source: 2000 Agricultural Resource Management Survey (ARMS).

■ Retirement, residential/lifestyle, and low-sales small farms, on the other hand, account for nearly two-thirds of CRP and WRP payments and the acres enrolled in the programs (fig. 3-12).

Household Income

Small-farm households rely heavily on off-farm income.

■ Most small-farm households have positive household income, even when they incur losses from farming (fig 3-13).

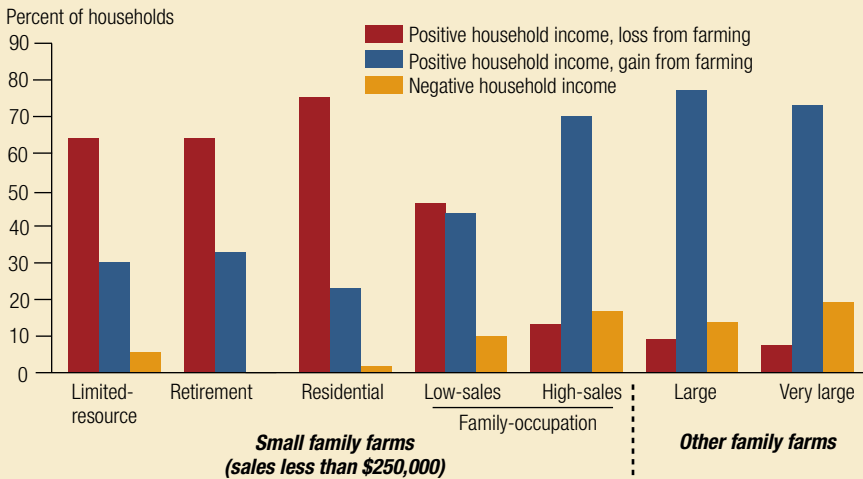
■ Households operating very large farms, large farms, and high-sales small farms receive a significant share of their income from farming (fig. 3-14).

■ For the remaining small-farm households, off-farm income makes a substantial contribution to economic well-being.

Figure 3-13

Operator households with negative income, 2000

Off-farm income supported many small-farm households



Note: The estimate of households with negative income is suppressed for retirement farms, due to insufficient observations.

Farm Policy and Family Farms

The number of farms has fallen dramatically since its peak in 1935. In the meantime, the number of large farms has grown, which means that large farms now form a larger share of the total U.S. farms. Nevertheless, most of the remaining farms are family run businesses with sales less than \$250,000. The diversity of today’s farms has some implications that are discussed below.

■ **Production is concentrated among large family farms, very large family farms, and nonfamily farms.** The Nation relies on larger farms for most of its food and fiber, despite the large number of small farms.

■ **There is unlikely to be a “one-size-fits-all” policy for family farms.** The variety of farm types—what they produce and their differences in characteristics, economic situation, and household and business arrangements—makes any one policy instrument appropriate for only a portion of the family farm population.

■ **Commodity programs are most relevant to high-sales small farms, large family farms, and very large family farms.** These farms produce most of the commodities that farm programs have traditionally supported.

■ **The nonfarm economy is critically important to households operating small family farms.** Because small-farm households rely on off-farm work for most of their income, general economic policies, such as tax or economic development policy, can be as important to them as traditional “farm” policy.

■ **Small family farms manage and operate the bulk of farm assets, including the soil, water, energy, and natural habitat resources associated with farmland use.** In this regard, policies addressing natural resource quality and conservation can play a major role in the portfolio of policy instruments addressing the American family farm.

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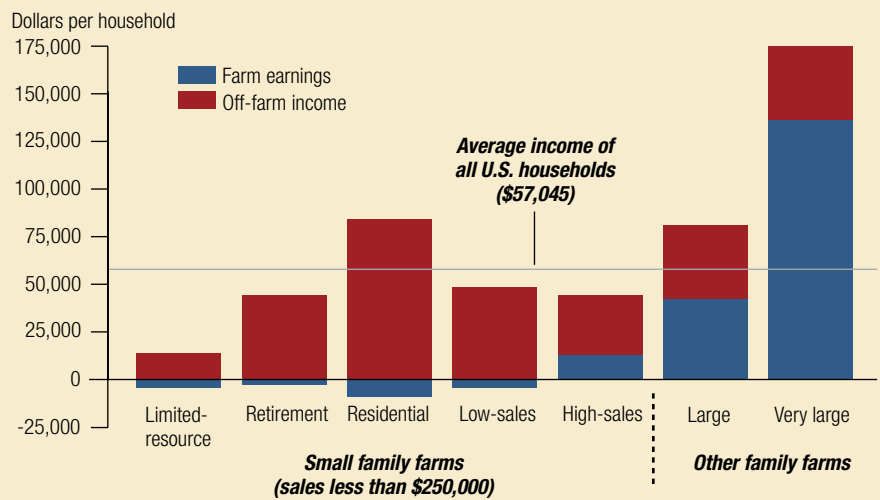
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Figure 3-14

Sources of operator household income, 2000

Households operating residential/lifestyle, large, or very large farms have household income above the U.S. average



Source: 2000 Agricultural Resource Management Survey (ARMS).

CHAPTER 4

Rural America: Entering the 21ST Century



Today, rural America comprises 2,305 counties, contains 80 percent of U.S. land, and is home to one-fifth (56 million) of its people. Rural America is diverse. At the dawn of the 21st century, no one industry dominates the rural landscape, no single pattern of population decline or growth exists for all rural areas, and no statement about improvements and gaps in well-being applies to all rural people. Some rural areas have shared in the economic progress of the Nation, while others have not. The opportunities and challenges facing rural America are as varied as rural America itself.

Farming no longer anchors most rural economies as it did in the early 20th century. Seven out of eight rural counties are now dominated by varying mixes of manufacturing, services, and other nonfarming activities, and commodity-based farm policies do not address the complexity of rural economies and populations. Rural America is diverse, and the challenges facing rural communities are wide-ranging.

Farming no longer anchors most rural communities and economies as it did through the mid-20th century. Small family farms are now more closely associated with diversified rural economies that offer off-farm income opportunities. Large farms still enhance some local economies, but developments in long-distance purchasing of inputs and marketing of products reduce their contribution. Seven out of eight rural counties are now dominated by varying concentrations of manufacturing, services, and other nonfarming activities. Today, rural regions of the country survive economically on one or more of three basic assets: natural amenities for tourism and retirement; low-cost, good quality labor and land for manufacturing; and natural resources for farming, forestry, and mining.

During the 1990s, the U.S. economy enjoyed an unprecedented period of economic growth. Rural areas generally shared in the good economic times, as earnings and income increased and unemployment and poverty fell. The rural population grew as urban residents and immigrants chose to live in rural areas; almost 8 percent of nonmetro counties, many in the West, increased in population at more than twice the national average. Still, areas of the Great Plains and western Corn Belt lost population as they wrestled with declining agricultural employment and the lack of replacement jobs in other industries. High poverty and unemployment persisted in rural pockets, particularly in Appalachia,

the Mississippi Delta, and the Rio Grande Valley.

The diversity of rural economies suggests the need for a variety of rural development strategies to enhance the economic well-being of rural Americans, including improved educational opportunities and capitalization on natural amenities to attract new growth. A recent trend in Federal development policy has been to support new development entities that assist specific regions. Some of these entities cover large regions with significant rural populations, while others cover smaller areas. At the same time, Federal funding for community resource programs, such as housing, infrastructure, business assistance programs, and other programs important for stimulating rural development, continues although at a lower per capita level in rural than urban areas.

Rural Population Growth Levels Off, but the West Continues To Grow

For most of the past decade, rural America enjoyed widespread population growth, rebounding from the wide population losses of the 1980s. The nonmetro population grew by 10.3 percent during the 1990s, below the 13.9 percent growth rate of metro areas. Net migration from metro areas and an increasing flow of immigrants accounted for most of this nonmetro population increase. The pace of nonmetro population growth slowed after mid-decade, however, falling steadily from 1.2 percent in 1994-95 to 0.6 percent in 1999-2000. Metro population growth remained steady at around 1.2 percent.

Regional trends show the continuing attraction of both the West and the South, which together accounted for over three-quarters of rural population growth during the 1990s (figure 4-1). Boosted by both high in-migration and high birth rates, the rural West grew by 20 percent, twice the national average. Moderate climates, scenic features, and other natural amenities stimulated rapid population growth, particularly retirement migration, in parts of the Rocky Mountain

West, as well as in the southern Appalachians, and the upper Great Lakes. High population growth in the rural South resulted in part from urban sprawl, especially around large metro areas of the South. As urban areas expanded, more rural residents fell within commuting zones. As a whole, the Great Plains turned around from substantial losses in the 1980s, achieving some population growth, although the majority of counties in this area continued to lose population.

Growing numbers of Hispanics are settling in rural America. Data from the 2000 Census show that Hispanics constituted 5.5 percent of the rural population but accounted for 25 percent of the population growth in these areas during the 1990s. The nonmetro Hispanic population grew by over 60 percent during the decade. Almost half of all nonmetro Hispanics now live outside traditional settlement States in the Southwest. With higher fertility and younger age struc-

ture, natural increase alone now propels the growth of rural Hispanics at a higher rate than for other major race/ethnic groups (Figure 4-2).

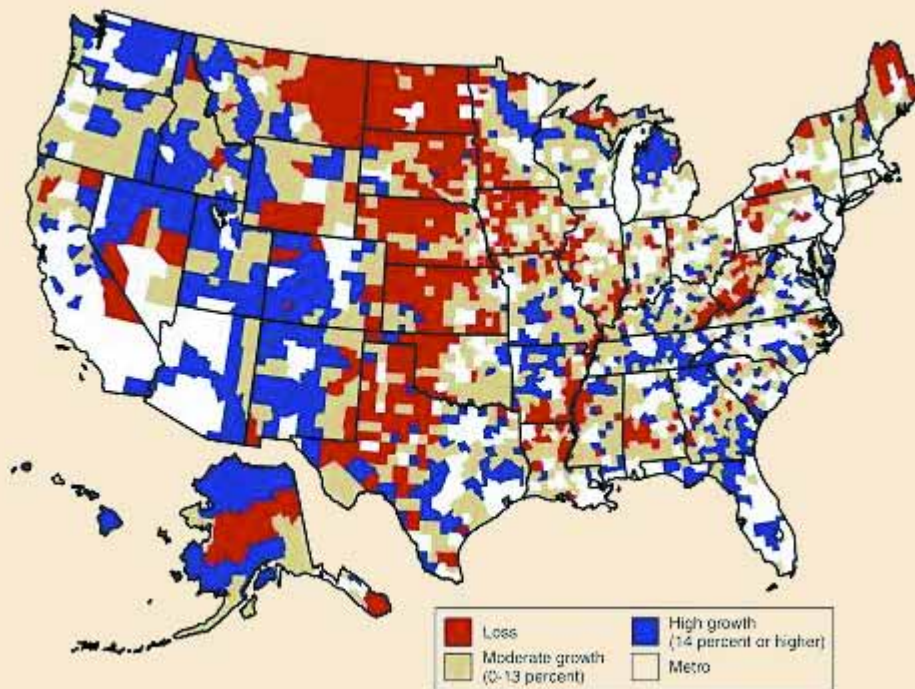
Rural Areas Benefited From the Nation's Economic Prosperity

Rural areas as a whole shared in the good economic times of the late 1990s and the longest U.S. economic expansion on record. The nonmetro unemployment rate fell to its lowest levels in 20 years. Employment continued to expand and real earnings increased, although more slowly than earlier in the decade. The share of rural workers in low-wage jobs declined. In late summer 2000, the manufacturing industry went into a downturn, as one of the first signs of oncoming recession.

Nonmetro employment declined by about 0.6 percent from 2000 to 2001, while metro employment remained

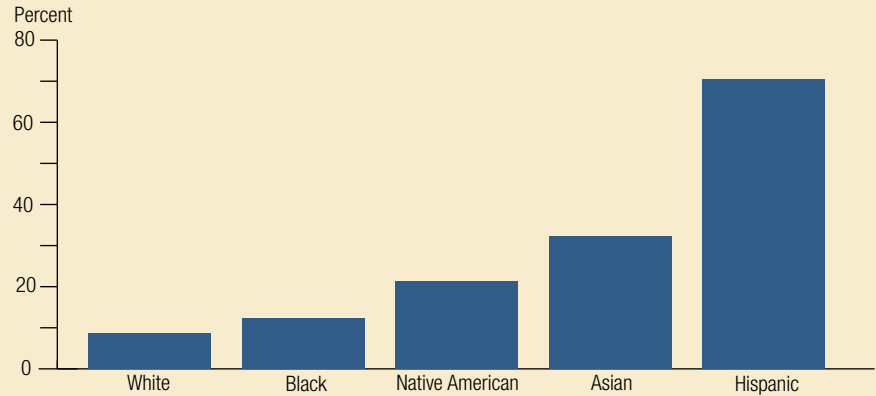
Rural America is home to one-fifth of the Nation's people, keeper of natural amenities and natural treasures, and safeguard of a unique part of American culture, tradition, and history.

Figure 4-1
Nonmetro population change, 1990–2000



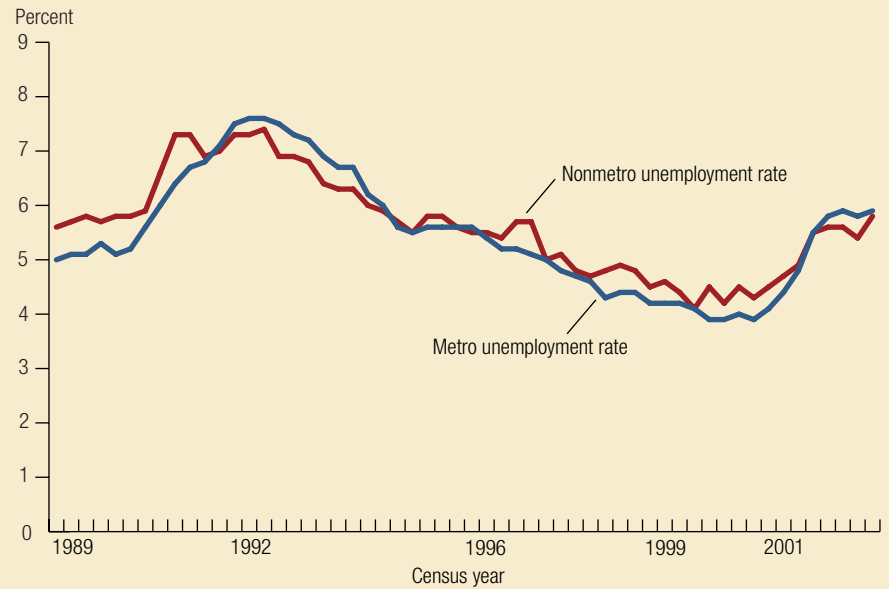
Source: Prepared by the Economic Research Service, USDA, using data from the U.S. Bureau of the Census.

Figure 4-2
Nonmetro population growth rates by race and ethnicity, 1990-2000



Source: Prepared by the Economic Research Service, USDA, based on data from the U.S. Bureau of Census

Figure 4-3
Unemployment rates rise during recession



*Changes in metro/nonmetro definitions beginning 1985.3, and 1994.1

Source: Calculated by ERS from Current Population Survey data.

steady despite the recession. Some non-metro counties, including areas of the Great Plains, had large employment gains despite the recession. Much of the nonmetro South suffered large job losses in 2000-2001, fueled in part by the recent manufacturing downturn. Employment change in the nonmetro West was mixed, with some counties reporting losses and others gains.

Nonmetro and metro unemployment rates moved together, declining during the economic expansion of the 1990s and increasing during the recession. Nonmetro unemployment rates have been higher than metro rates since 1996. The nonmetro unemployment rate was 4.9 percent in 2001, compared with 4.7 percent in metro areas (figure 4-3).

Rural areas benefited economically from the economic expansion of the 1990s, with poverty rates falling to 13.4 percent, the lowest level since the 1960s. Almost 7 million rural people lived in poverty in 2000, down half a million from 1999. Despite this improvement, poverty rates continued to be higher in rural than urban areas and almost one in five rural children under 17 years old were in poverty in 2000. In addition, rural areas lagged behind urban places in median household income, per capita income, and earnings per job.

Rural Economies Are Based on Different Assets

A century ago, rural America was the center of American life. It was home to most of the population and most rural residents were involved in producing food and fiber for the Nation. The rural economy has changed, shifting from a dependence on farming, forestry, and mining to a diversity of economic activity. This diversity means that nonmetro areas are differentially affected by global, macroeconomic, and financial events, resulting in different labor market conditions.

Rural regions of the country survive economically on one or more of three basic assets: (1) natural amenities for tourism, second homes, and retirement; (2) low-cost, good quality labor and land for manufacturing, but also services such as prisons and extended care health facilities; and (3) natural resources for farming, forestry, and mining. Most rural jobs are not directly related to these assets, but instead are in consumer services—retail trade, education, health, and other consumer services primarily for local residents. Yet, consumer services cannot thrive without agriculture, recreation, manufacturing, and/or other activities such as commuting that bring money into the community. In contrast, urban areas draw from a different asset base and tend to specialize in more knowledge-intensive activities, particularly producer services. This sector, which includes legal, financial, research, and business services, has grown rapidly in recent decades, with virtually all of the 1989-99 employment earnings growth occurring in metropolitan areas.

Jobs and incomes are decreasing in many areas that are dependent on natural resource-based industries such as agriculture, mining, and forestry, but other places, often associated with rural amenities, are thriving.

Table 4-1.

Total employment earnings by industry group, 1990-2000, for nonmetro and metro areas

| Industry sector | Nonmetro | | Metro | |
|--|----------|---------------------|-------|---------------------|
| | 2000 | Change 1990-2000 | 2000 | Change 1990-2000 |
| Agriculture, Forestry, Fishing | 5.0 | -6.6 | 1.0 | 23.3 |
| Mining | 2.0 | -16.2 | 0.7 | 30.7 |
| Recreation | 4.0 | 51.6 | 3.9 | 47.1 |
| Manufacturing | 21.3 | 14.5 | 15.1 | 14.8 |
| Producer services | 8.7 | 45.6 | 25.3 | 85.6 |
| Construction | 6.5 | 37.9 | 5.9 | 40.1 |
| Transportation, utilities, and wholesale | 9.4 | 28.8 | 11.1 | 35.8 |
| Consumer services | 22.6 | 43.3 | 22.2 | 39.9 |
| Government and related | 20.4 | 24.4 | 14.9 | 18.6 |
| Total | 100.0 | 26.4 | 100.0 | 39.8 |

Source: Prepared by the Economic Research Service, USDA, based on data from the Bureau of Economic Analysis REIS data.

Table 4-2.
Federal Funds Per Capita, FY 2000

| Federal program function | All counties | Metro counties | Nonmetro counties |
|-----------------------------------|--------------|----------------|-------------------|
| | | <i>Dollars</i> | |
| All Federal funds | 5,690 | 5,743 | 5,481 |
| Agriculture and natural resources | 116 | 39 | 427 |
| Community resources | 680 | 728 | 486 |
| Defense and space | 678 | 771 | 303 |
| Human resources | 119 | 113 | 143 |
| Income security | 3,276 | 3,182 | 3,656 |
| National functions | 822 | 910 | 467 |

Note: Details may not add due to rounding.

Source: Prepared by the Economic Research Service using data from the U.S. Bureau of the Census.

Federal Funding for Rural Area Development Smaller Than for Urban Areas

Rural areas received \$5,481, per capita, in Federal receipts in fiscal 2000 (table 4-2). This was about \$300 less than in urban areas, representing a 5.6 percent Federal funding gap. Most of the non-metro funding gap is explained by significantly lower nonmetro receipts from defense and space and other national functions. However, nonmetro areas also received significantly less Federal funds from the community resource programs, which include housing, infrastructure, and business assistance programs that are viewed as important for stimulating rural development.

Table 4-3.
Distribution of Federal funds per capita in the nonmetro regions, FY 2000

| Federal program function | South Region | Northeast Region | Midwest Region | West Region |
|-----------------------------------|----------------|------------------|----------------|-------------|
| | <i>Dollars</i> | | | |
| All Federal Funds | 5,624 | 5,258 | 5,287 | 5,588 |
| Agriculture and natural resources | 334 | 42 | 767 | 278 |
| Community resources | 463 | 463 | 434 | 666 |
| Defense and space | 321 | 467 | 171 | 401 |
| Human resources | 154 | 116 | 111 | 189 |
| Income security | 3,935 | 3,731 | 3,443 | 3,225 |
| National functions | 417 | 439 | 360 | 828 |

Note: Details may not add due to rounding.

Source: Prepared by the Economic Research Service using data from the U.S. Bureau of the Census.

The Bureau of the Census provides data on the geographic distribution of Federal funding through its Consolidated Federal Funds Reports. They include Federal grants, loans, salaries, procurement, and other Federal payments. The data focus on the 90 percent of funding that can most accurately be followed to the county level and includes the total amounts received by metro and nonmetro counties, classified by major program function (see box for definitions used in tables), and for nonmetro areas broken down by Census regions. The funding amounts are expressed in per capita terms so that meaningful comparisons can be made between more and less populated regions.

Total nonmetro Federal funding levels were highest in the South, \$5,624, and lowest in the Northeast, \$5,258 (table 4-3). Most rural and urban Federal funds come from income security programs, such as Social Security, Medicare, and Medicaid, which provide significant amounts of transfer payments directly to individuals or to service providers. These programs are allocated largely based on demographic and socioeconomic characteristics. This explains why the nonmetro South, which has the largest concentration of low-income residents, received more in total Federal funds, per capita, than nonmetro areas in other regions.

However, other regions outpaced the South when it came to nonmetro receipts from other Federal program functions. Nonmetro areas in the Northeast ranked first in defense and space funding; the nonmetro Midwest ranked first in agricultural and natural resource payments; and the nonmetro West ranked first in funding from human resources, community resources, and other national functions.

The Economic Research Service (ERS) is the main source of economic information and research from the U.S. Department of Agriculture. ERS provides comprehensive economic analysis on issues related to agriculture, food, the environment, and rural America. For more information on the conditions and trends in rural areas, visit the ERS Web site at <http://www.ers.usda.gov/Emphases/Rural>.

DEFINITIONS USED IN TABLES

Program Functions

Six broad function categories for Federal programs are as follows:

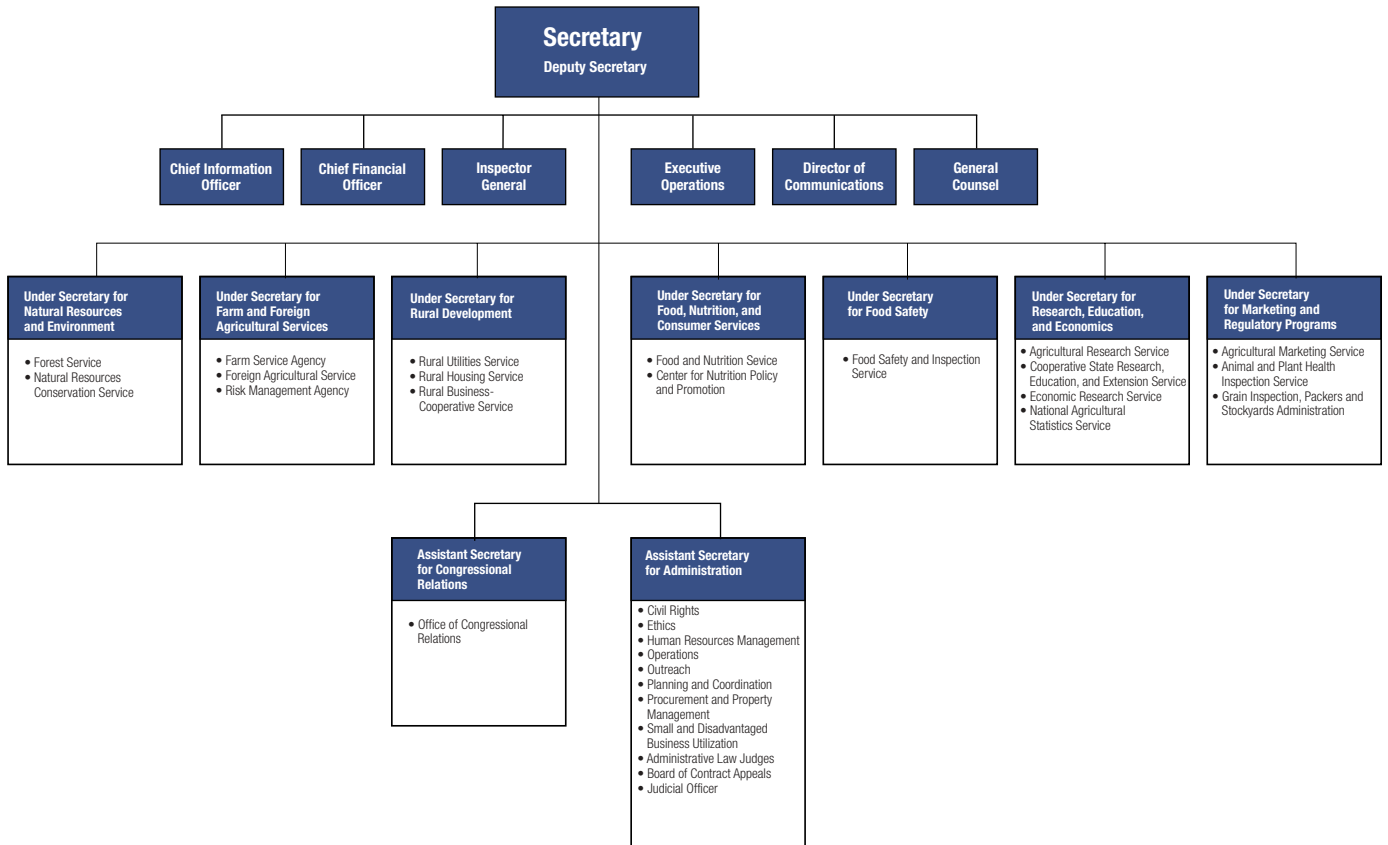
- **Agriculture and natural resources** (agricultural assistance, agricultural research and services, forest and land management, water and recreation resources);
- **Community resources** (business assistance, community facilities, community and regional development, environmental protection, housing, Native American programs, and transportation);
- **Defense and space** (aeronautics and space, defense contracts, defense payroll and administration);
- **Human resources** (elementary and secondary education, food and nutrition, health services, social services, training, and employment);
- **Income security** (medical and hospital benefits, public assistance and unemployment compensation, retirement and disability—includes Social Security);
- **National functions** (criminal justice and law enforcement, energy, higher education and research, and all other programs excluding insurance).

For more details on these definitions and on the data and methods used, see the Federal Funds Briefing Room on the ERS Web site, www.ers.usda.gov. This Web site also provides maps for different program functions, access to individual county level data, plus research focusing on selected rural regions (such as Appalachia, the Black Belt, and the Great Plains).

CHAPTER 5

U.S. Department of Agriculture





Departmental Administration

Departmental Administration (DA) provides leadership and guidance in managing USDA's administrative support programs and services effectively, efficiently and fairly. DA staff offices support policy officials throughout the Department. DA also manages the buildings that comprise the headquarters complex, and provides direct customer service to departmental-level employees in the Washington area.

Departmental Administration encompasses the following offices: Office of Civil Rights; Office of Human Resources Management; Office of Procurement and Property Management; Office of Operations; Office of Small and Disadvantaged Business Utilization; Office of Ethics; Office of Administrative Law Judges; Office of the Judicial Officer; and the Board of Contract Appeals.

Visit DA's Web site at www.usda.gov/da

Office of Civil Rights

USDA Civil Rights Policy Statement. It is USDA policy to ensure that no person is subjected to prohibited discrimination in USDA employment or in federally assisted or conducted programs or activities administered by USDA based on race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program.

The Office of Civil Rights (CR) works in collaboration with the USDA mission areas and their agencies in implementing civil rights laws, regulations, and best practices relating to both employment and program delivery.

Office of Civil Rights Mission Statement. CR's mission is to facilitate the fair and equitable treatment of USDA customers and employees while ensuring the delivery and enforcement of civil rights programs and activities.

Continuous Process Improvement Plan. In FY 2001, CR published the Long-Term Improvement Plan (LTIP). The LTIP is a roadmap for effecting long-term improvements in CR's employment and program functions. It is the result of a comprehensive analysis of civil rights systems, processes, procedures, and staffing needs, levels of knowledge, skills, and abilities, automation needs, and administrative support.

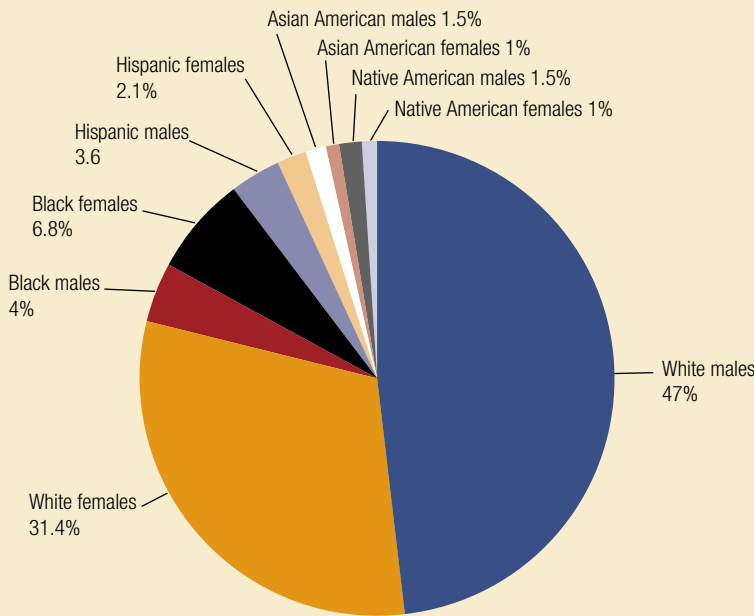
The following are some recent improvements in CR attributable to LTIP:

- Development of an automated complaint tracking system to provide more efficient, accurate tracking and reporting on employment and program complaints.
- Identification of resources and functions needed to support complaint processing.
- Implementation of an online technical resource library to expedite legal research in case processing.
- Institution of a central records management system that ensures the integrity of complaint files and facilitates file retrieval.
- CR employees receiving training in discrimination complaint investigation and adjudication.



The issues facing the modern food and farm system today are so multifaceted and complex that they cannot be solved by any one program or approach. Protecting against plant and animal pests and diseases, or eliminating emerging foodborne pathogens, or overcoming the barriers to producing bioenergy efficiency, or ensuring nutritious food for low-income households, or encouraging cost-effective carbon sequestration on farms and in forests—none of these can be accomplished by any single agency. Increasingly, the technology available to solve many program and policy problems also requires resources from multiple agencies.

Figure 5-1
USDA workplace profile by race and gender group, 2001



Continuing Policy Review. A performance objective of CR is to conduct civil rights impact analyses (CRIAs) of all USDA regulations to assess impacts on underserved customers. Since FY 1999, CR has performed 632 CRIAs, meeting its target of 100 percent review of all new and amended USDA regulations.

Increased Employee Education and Training. During FY 2001, USDA saw an increase in emphasis on civil rights and equal employment opportunity (EEO) training and education. Civil rights, EEO, and sexual harassment training were provided to each of USDA's more than 110,000 employees. Additionally, at the direction of the Secretary, all USDA managers and supervisors received specific diversity training designed to enhance their ability to recruit, retain, train, and manage a diverse workforce.

In FY 2001, a 5-year CR Training Plan was developed for the period FY 2002 to FY 2006. The plan focuses on improving employee skills. Additionally, a USDA pam-

phlet, *Dealing with Workplace Conflict and Concerns: A Guide for Employees*, was distributed to educate employees on approaches to resolving workplace disputes.

Progress in Complaint Resolution. Effective and timely resolution of EEO and program complaints enhances USDA program delivery. The average processing time for EEO cases has been reduced 20 percent since the close of FY 2001, and for program cases the time to process the complaint fell 49 percent.

Equal Employment Opportunity Complaints. CR issued 650 reports of investigation (ROIs) in FY 2001 compared to 315 in FY 2000, a 106-percent increase. The processing time for complaints closed in FY 2001 was 571 days, reflecting a 15.8-percent drop in average days to close EEO complaint cases, compared to FY 1999. Nearly 94 percent of complaint cases closed in FY 2001 constituted cases filed between calendar years 1998 and 2000. The processing time for complaints filed and resolved in FY 2001 was 230 days.

Continuing Progress in Workforce Diversity. Building and maintaining a highly skilled, competent, diverse workforce is an ongoing priority at USDA. The numbers prove the agency's efforts to eliminate under-representation of minorities, women, and persons with disabilities in the workforce are successful. From entry level to top management, USDA's initiatives to recruit and retain a diverse workforce reflect strong commitment and steady progress.

Minorities comprised 20.82 percent of the 2001 USDA permanent workforce, up from 20.07 percent in FY 1999. Employment increases were realized in all diversity groups.

A matter of continuing concern is that the number of permanent employees reporting disabilities continues to decline. In FY 1999, employees with reportable disabilities accounted for 7.9 percent of the permanent USDA workforce. That distribution declined to 7.7 percent in FY 2000, and 7.4 percent in FY 2001. Permanent employees with "targeted" (general-

ly, more severe) disabilities decreased from 1.2 percent in FY 1999 to 1.1 percent in FY 2001. USDA is responding by redoubling its efforts to hire employees with disabilities.

Enforcement. USDA has been strengthening its efforts to ensure accountability for discrimination. The Office of Human Resources Management tracks corrective and disciplinary action taken on matters relating to employment and program discrimination as well as other civil rights-related actions. Between January 1998 and December 2001, 218 civil rights-related corrective and disciplinary actions were taken.

Continuing Vigilance and Commitment. A strong CR program supports USDA's goals. It ensures that customers have full access to all USDA programs and activities, that program and employment complaints are handled fairly and expeditiously, and that the best supervisory and management practices are followed to build and maintain a diverse, competent, highly productive and effective workforce.

Office of Human Resources Management

The Office of Human Resources Management (OHRM) provides leadership, guidance, and oversight for USDA human resources management programs, establishes human resources management policy, and provides liaison and coordination with the U.S. Office of Personnel Management and other central oversight agencies. OHRM programs include employment, recruitment, merit promotion, compensation, classification, position management, employee recognition, employee and executive development, employee assistance, retirement, benefits, workers and unemployment compensation, employee and labor relations, personnel and classified information security, executive resources, safety and health, and organizational development. OHRM also provides staff support for the Secretary's Diversity Advisory Council and seven employee councils, and provides day-to-day operational personnel services for the Office of the Secretary and departmental staff offices.

Human Capital Management Projects: The Department has set an aggressive goal of hiring 9,000 individuals with disabilities over the 5-year period beginning October 1, 2000. USDA has developed a mentoring program with the assistance of the USDA Graduate School. This is a result of the successful pilot conducted by the Secretary's Advisory Committee for Employees with Disabilities (SACED) in 2000-2001. Phase I of the Skills Gap Analysis was completed in FY 2002.

USDA has developed an agencywide Career Intern Program, geared to hiring recent college graduates and current employees almost "on the spot." The program should help USDA attract the "best and brightest" for a 2-year intern program with minimal hiring requirements. In FY 2001, USDA hired 8,765 students, representing a 65-percent increase over the 5,320 hired in FY 2000. The increased student hiring is a direct result of outreach at historically black colleges and universities, Hispanic-serving institutions, tribal colleges, and other colleges and universities.

Secretary's Diversity Advisory Council: On May 10, 2002, Secretary of Agriculture Ann M. Veneman signed the Charter for the Diversity Advisory Council, to provide her with advice on issues raised by the seven USDA employee advisory councils. The Secretary's Diversity Advisory Council (DAC), co-chaired by the Assistant Secretary for Administration and the Associate Assistant Secretary for Administra-



tion, is committed to expanding President Lincoln's vision of the Department of Agriculture as "the People's Department." Seven employee advisory councils comprise the DAC: the African American Employee Advisory Council, American Indian/Alaska Native Employee Advisory Council, Asian American and Pacific Islander Employee Advisory Council, Gay and Lesbian Employee Advisory Council, Secretary's Advisory Committee for Employees with Disabilities, Hispanic Advisory Council, and the Women Employees Advisory Council.

Office of Procurement and Property Management

The Office of Procurement and Property Management (OPPM) provides leadership and policy guidance concerning procurement, property management, and energy conservation. OPPM also promotes and establishes USDA policy for alternative fuel vehicles and the purchase of biobased, environmentally preferable, and recycled products.

OPPM is working to simplify and reduce the cost of procurement, and to improve access to information about procurement and property management policy for businesses and other members of the public. The cost of procurement has been reduced by expanding the use of commercial credit cards (purchase cards) and the Purchase Card Management System to make small purchases. OPPM posts USDA procurement and property management policy and procedures on the Departmental Administration Web site, <http://www.usda.gov/da.html>. Businesses interested in selling to USDA may view *Doing Business with USDA* at the Web site.

In October 1998, USDA published in the *Federal Register* *Uniform Procedures for the Acquisition and Transfer of Excess Personal Property*, in accordance with the provisions of Section 923 of the Federal Agriculture Improvement and Reform Act of 1996. Since then, USDA has transferred excess personal property worth over \$10.6 million to 1994 land-grant institutions (tribal), 1890 land-grant insti-

tutions, and Hispanic-serving institutions.

Hazardous Materials Management Group. The Hazardous Materials Management Group (HMMG) administers USDA's Hazardous Materials Management Program (HMMP) and provides departmental leadership for Resource, Conservation and Recovery Act (RCRA) compliance. In addition, HMMG develops procedures and guidance in the areas of environmental compliance, pollution prevention, and response under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund. The working cost estimate for the environmental cleanup portion of the HMMP exceeds \$4 billion.

The HMMP has been focused for the last several years on environmental cleanup results, prioritization of needs, and integration of budgets and performance. The strategic plan defines two goals: cleaning up and restoring facilities and lands contaminated from releases or threatened releases of hazardous substances and materials, and improving regulatory compliance and reducing environmental contamination through pollution prevention and improvements in management practices.

Office of Operations

The Office of Operations (OO) performs facilities management, physical security, and operational support functions for all USDA activities in the Agriculture headquarters complex, the George Washington Carver Center in Beltsville, MD, and at leased facilities throughout the Washington metropolitan area. OO provides cost-efficient, centralized services, including: information technology management; architect and engineering services; space planning and design; occupational health services; interpreter services for deaf and hard-of-hearing individuals; mail, courier, copier and duplicating services; supply and personal property management; accessible technology resources and ergonomic assessment services for employees with disabilities from USDA and other Federal agencies; and forms and publications acquisition and printing services.

South Building Renovation. USDA is currently engaged in a 10-year, multi-phase project to renovate and modernize the South Agriculture Building. Architectural design, engineering, hazardous materials abatement, and construction services are contracted for or directly provided by the Office of Operations. Phase 1 of the renovation, which included a modernized Wing 3 from the basement to the attic, was completed and dedicated at a

ceremony on December 5, 2000. The design for Phase 2 of the renovation in Wing 4 was completed in February 2001 and a construction contract was awarded in June 2001. Most future phases are based on a wing-by-wing approach, with approximately 1 year required to complete each phase.

Office of Small and Disadvantaged Business Utilization

The Office of Small and Disadvantaged Business Utilization (OSDBU) provides departmentwide leadership and oversight for implementing and executing the Small and Small Disadvantaged Business Procurement Preference Programs, including minorities, veterans, and women business programs, as prescribed under Sections 8 and 15 of the Small Business Act of 1958, as amended. OSDBU is USDA's lead agency in providing an integrated focus for the implementation and execution of programs to assist small and special emphasis small businesses in supporting USDA's missions.

OSDBU develops and coordinates technical assistance services designed to eliminate barriers that prevent or severely restrict small business access and participation in USDA program and contract activities. Through partnerships with USDA program offices, professional associations and universities, OSDBU promotes the growth and competitiveness of small and small disadvantaged businesses located in rural America.

OSDBU's goal is to provide quality information, guidance, and technical assistance services to ensure continuous growth in the rate of small business participation in USDA program and contract activities, with increased emphasis on small businesses owned by minorities, women, and veterans.

If you are interested in business opportunities with the Department of Agriculture, visit the Web site at <http://www.usda.gov/osdbu> or call (202) 720-7117 for more details.

Bringing Rural America Venture Opportunities Program (BRAVO): BRAVO partners tribally



Table 5-1.
Where do USDA employees work?

| State | Number of employees | State | Number of employees | State | Number of employees |
|------------------|---------------------|---------------------|---------------------|----------------------|---------------------|
| Alabama | 1,195 | American Samoa | 8 | United Arab Emirates | 1 |
| Alaska | 940 | Argentina | 3 | Thailand | 1 |
| Arizona | 1,755 | Australia | 3 | Turkey | 1 |
| Arkansas | 1,972 | Austria | 3 | United Kingdom | 1 |
| California | 7,676 | Belgium | 5 | Ukraine | 1 |
| Colorado | 2,867 | Brazil | 4 | Venezuela | 2 |
| Connecticut | 153 | Bulgaria | 2 | Vietnam | 1 |
| Delaware | 218 | Canada | 4 | Virgin Islands | 26 |
| Dist of Columbia | 6,672 | China | 6 | Total | 88,593 |
| Florida | 1,818 | Chile | 2 | | |
| Georgia | 2,474 | Columbia | 2 | | |
| Hawaii | 450 | No. Mariana Islands | 7 | | |
| Idaho | 2,814 | Costa Rica | 3 | | |
| Illinois | 1,566 | Dominican Republic | 3 | | |
| Indiana | 779 | Egypt | 1 | | |
| Iowa | 1,940 | FED ST Micronesia | 10 | | |
| Kansas | 1,092 | France | 9 | | |
| Kentucky | 1,153 | Germany | 3 | | |
| Louisiana | 2,868 | Guam | 35 | | |
| Maine | 256 | Guatemala | 4 | | |
| Maryland | 3,191 | Hong Kong | 1 | | |
| Massachusetts | 341 | Indonesia | 3 | | |
| Michigan | 1,166 | India | 2 | | |
| Minnesota | 1,807 | Italy | 1 | | |
| Mississippi | 1,957 | Cote D'Ivoire | 1 | | |
| Missouri | 4,075 | Japan | 8 | | |
| Montana | 2,932 | Jamaica | 2 | | |
| Nebraska | 1,412 | Kenya | 1 | | |
| Nevada | 391 | Republic of Korea | 4 | | |
| New Hampshire | 300 | Morocco | 1 | | |
| New Jersey | 517 | Mexico | 19 | | |
| New Mexico | 1,505 | Malaysia | 1 | | |
| New York | 1,121 | Nigeria | 1 | | |
| North Carolina | 1,848 | Netherlands | 2 | | |
| North Dakota | 805 | Nicaragua | 2 | | |
| Ohio | 829 | New Zealand | 1 | | |
| Oklahoma | 961 | Peru | 1 | | |
| Oregon | 4,621 | Pakistan | 1 | | |
| Pennsylvania | 1,529 | Poland | 2 | | |
| Rhode Island | 36 | Panama | 5 | | |
| South Carolina | 878 | Republic of Palau | 3 | | |
| Tennessee | 1,084 | Marshall Islands | 1 | | |
| Texas | 3,575 | Philippines | 1 | | |
| Utah | 1,657 | Puerto Rico | 573 | | |
| Vermont | 267 | Russia | 4 | | |
| Virginia | 2,083 | Saudi Arabia | 1 | | |
| Washington | 2,302 | South Africa | 2 | | |
| West Virginia | 718 | Spain | 2 | | |
| Wisconsin | 1,539 | Sweden | 1 | | |
| Wyoming | 804 | Switzerland | 5 | | |

owned 8(a) firms and Alaskan Native small information technology (IT) businesses with experienced Federal contractors in mentor-protégé relationships. The program gives these firms an opportunity to become prime and/or subcontractors for USDA (and other Federal agencies) and furnishes the hands-on experience necessary to compete in the Federal contracting arena. Mentoring and assistance by established IT corporations provides a high level of assurance to USDA and other customer agencies that contract work can be accomplished in a timely and satisfactory manner.

Outreach. The USDA Office of Outreach provides leadership and coordination on outreach issues at the national level to assure that all potential customers have full access to USDA programs and services. Through cooperative efforts, the Office of Outreach and USDA agencies place special emphasis on outreach to the under-served populations. In addition, the Office of Outreach serves as a contact point for those community-based organizations making requests of USDA agencies at the national level.

Office of Ethics

The Office of Ethics was created in 1998 to direct and coordinate the ethics programs within the various mission areas of the Department and to service headquarters staff directly. The Office of Ethics develops departmentwide policies and regulations; provides training to USDA staff on the various rules governing employee conduct, conflicts of interest, and political activity; administers personal financial disclosure reporting by senior staff; and counsels employees on ethics matters. Over the past 3 years, the Office of Ethics has used Internet technology to provide online training modules for USDA staff all over the world. USDA was the first Federal agency to offer financial disclosure reporting through a secure, online Web-based system. In addition to USDA staff, a large and growing number of Federal agencies and the public rely upon the Office of Ethics Web site, located at www.usda.gov/ethics, for ethics training and financial disclosure.

American Indian and Alaska Native Programs

The USDA Tribal Liaison is the primary contact with tribal governments and their members and serves as the principal adviser and representative on USDA programs involving assistance to American Indians and Alaska Natives (with the exception of civil rights activities, which are coordinated by the Office of Civil Rights, and recruitment and employment, which are handled by USDA's Office of Human Resources Management).

The USDA Tribal Liaison also coordinates USDA's activities under Executive Order 13175, which requires Federal agencies to establish meaningful and regular coordination with tribal officials in the development of Federal policies having tribal implications. The Executive Order is designed to strengthen U.S. Government relationships with Indian tribes and reduce the imposition of unwarranted mandates upon tribes. In September 2002, USDA conducted its first comprehensive, departmentwide consultation with the Navajo Nation in Window Rock, AZ.

USDA also has an American Indian/Alaska Native Employee Advisory Council, co-chaired by two senior USDA officials, and consisting of members from Ameri-

can Indian employee groups and all mission areas of the Department.

A comprehensive guide to USDA programs for American Indians and Alaska Natives may be found at <http://www.usda.gov/news/pubs/indians/open.htm>.

Office of the Chief Economist

The Office of the Chief Economist (OCE) advises the Secretary of Agriculture on policies and programs affecting U.S. agriculture and rural areas. This advice includes assessments of USDA program proposals, legislative proposals, and economic developments of importance to agriculture and rural areas. In addition, the Office of the Chief Economist coordinates activities across USDA agencies. These activities are described below. The World Wide Web address for the Office of the Chief Economist is <http://www.usda.gov/oce/>

World Agricultural Outlook Board

The World Agricultural Outlook Board is USDA's focal point for forecasts and projections of global commodity markets. Each month the Board brings together interagency committees of experts to forecast the supply, use, and



prices of major commodities in the United States and abroad. The committees also clear agricultural forecasts published by other USDA agencies. This teamwork ensures that USDA forecasts are objective and consistent.

Because growing-season weather is vital to crop forecasts, specialists from the Board work side by side with weather analysts from the National Oceanic and Atmospheric Administration to monitor the weather and assess its effect on crops. They provide timely information on potential changes in global production and publish a Weekly Weather and Crop Bulletin (<http://www.usda.gov/oce/waob/jawf.htm>). The Board also coordinates departmentwide activity on long-term economic projections, remote sensing, and climate. The Department is one of the largest users of remote sensing in the Federal Government. The Board coordinates remote sensing activities at USDA and chairs the Department's Remote Sensing Coordination Committee. The Board also hosts the Department's Chief Meteorologist, who serves as the principle spokesperson on weather and climate issues, chairs a departmental weather and climate coordinating committee, and serves as president of the World Meteorological Organization's Commission for Agricultural Meteorology. The World Wide Web address for the World Agricultural Outlook Board is <http://www.usda.gov/oce/waob/index.htm>

Office of Risk Assessment and Cost-Benefit Analysis

The Office of Risk Assessment and Cost-Benefit Analysis is responsible for coordinating, reviewing, and approving all risk assessments and cost-benefit analyses of mitigation measures associated with major regulations of the Department. Major regulations are economically significant (with an impact of at least \$100 million each year) and have a primary purpose of addressing issues of human health, human safety, or the environment. The Office provides direction to USDA agencies on appropriate methods for these analyses and serves as a focal point on matters relating to risk assessment in interagency reviews. The World Wide Web address for the Office of Risk Assessment and Cost-Benefit Analysis is <http://www.usda.gov/oce/orac-ba/index.htm>

Agricultural Labor Affairs

The coordinator of agricultural labor affairs is responsible for coordinating USDA's agricultural labor policy. Areas of concern include immigration, the H-2A Temporary Agricultural Worker Program, worker protection standards for pesticide use, farm labor supply, and agricultural employment issues. The World Wide Web address for this office is <http://www.usda.gov/oce/oce/labor-affairs/affairs.htm>

Sustainable Development

OCE's director of sustainable development works to integrate the principals of sustainable development into the Department's policies and programs, ensuring that economic, social, and environmental considerations are balanced in decisionmaking. The director also directs and coordinates the Department's domestic and international policies and programs in sustainable development, including sustainable agriculture, forestry, and rural communities. The World Wide Web address for this office is <http://www.usda.gov/oce/sd/index.htm>. The World Wide Web address for sustainable development activities at USDA is <http://www.usda.gov/sustainable/>

Global Change Program Office

The Global Change Program Office functions as the departmentwide coordinator of agriculture, rural, and forestry-related global change program and policy issues. The Office is responsible for coordinating activities with other Federal agencies, interacting with the legislative branch on climate and other global change issues affecting agriculture and forestry, and representing USDA on U.S. delegations to international climate change discussions. The Office ensures that USDA is a source of objective, analytical assessments of the effects of global change and proposed mitigation strategies, and has a coordinated research program to address the multidisciplinary dimensions of global change. The World Wide Web address for the Global Change Program Office is <http://www.usda.gov/oce/gcpo/index.htm>

Office of Energy Policy and New Uses

The Office of Energy Policy and New Uses provides leadership for development of departmental energy policy and coordination of departmental energy programs and strategies. The Office provides economic analysis on energy policy issues, coordinates USDA energy-related activities within and outside the Department, and studies the feasibility of new uses of agricultural products. The World Wide Web address for the Office of Energy Policy and New Uses is <http://www.usda.gov/oce/oepnu/index.htm>



Office of Inspector General

USDA's Office of Inspector General (OIG), the first civilian OIG in the Federal Government, was established in 1962 and became fully operational in 1963. The Inspector General Act of 1978 expanded and provided specific statutory authorities for the activities of OIG which had previously been carried out under the general authorities of the Secretary of Agriculture. OIG conducts and supervises audits and evaluations, as well as investigations and law enforcement efforts relating to USDA's programs and operations. It provides leadership and coordination and recommends policies for activities that will prevent and detect criminal violations and promote economy, efficiency, and effectiveness in USDA programs and operations. Furthermore, OIG keeps the Secretary and Congress fully informed of problems and deficiencies related to the administration of USDA programs and operations and of the actions designed to correct such problems and deficiencies.

During the period April 1, 2000, through March 31, 2001, audit and investigative efforts resulted in approximately \$133 million in recoveries, collections, fines, restitutions, claims established, and costs avoided. Further, management agreed to put nearly \$276 million to better use. OIG also identified more than \$22 million in questioned costs that cannot be recovered. Investigative efforts resulted in 417 indictments and 431 convictions.

During the period April 1, 2001, through March 31, 2002, audit and investigative efforts resulted in nearly \$65 million in recoveries, collections, fines, restitutions, claims established, administrative penalties, and costs avoided. Further, management agreed to put approximately \$101 million to better use. OIG also identified more than \$85 million in questioned costs that cannot be recovered. Investigative efforts resulted in 394 indictments and 396 convictions. One highly successful initiative is "Operation Talon," which was designed and implemented by OIG to locate and apprehend fugitives, including offenders

who are current or former food stamp recipients. This nationwide initiative was made possible by legislative changes in welfare reform. As of March 31, 2002, Operation Talon had resulted in about 8,000 arrests of fugitive felons during joint OIG, Federal, State, and local law enforcement operations throughout the country.

The events of September 11, 2001, and the subsequent anthrax attacks gave new urgency to the issues of security over USDA's infrastructure and the agricultural economy. OIG continues to redirect its resources toward two fronts—maintaining the integrity of Department programs and helping the Department strengthen its defenses against activities that might threaten Government facili-

ties, production agriculture, and the Nation's food supply. In addition to protecting the food supply, key areas of emphasis include enhancing cybersecurity and ensuring financial integrity in USDA. At the same time, OIG remains vigilant in countering public corruption and workplace violence.

Office of the Chief Information Officer

The Chief Information Officer is the Department's senior information technology official. The Office of the Chief Information Officer (OCIO) supports program delivery in USDA by overseeing the management of the Department's information technology (IT) resources.



In accordance with the Clinger-Cohen Act of 1996 and similar legislation, regulations, and executive orders, OCIO provides long-range-planning guidance, reviews all major technology investments to ensure that they are economical and effective, coordinates interagency Information Resources Management projects, and promotes information exchange and technical interoperability.

OCIO is responsible for managing USDA's eGovernment activities, including: strategic and tactical planning; coordinating inter- and intra-departmental eGovernment functions and budgeting; and information collection and management functions under the Paperwork Reduction Act, Government Paperwork Elimination Act, and related legislation.

OCIO also provides automated data processing (ADP) services to USDA and other Federal agencies through its National Information Technology Center located in Kansas City, MO; and telecommunications services through its Telecommunications Services and Operations in Ft. Collins, CO, and Washington, DC. Direct ADP services are provided to the Office of the Secretary, Office of the General Counsel, Office of Communications, Office of the Chief Financial Officer, and Executive Operations.

OCIO is responsible for ensuring the protection and safety of USDA's information technology resources. Cyber security acts as an enabler for the programs to use highly productive information technology while minimizing security risks. OCIO develops departmental cyber security policies, standards, processes, and procedures; provides guidance and oversight to assist USDA agencies; and ensures compliance with industry best practices, Federal regulation, and legislation.

OCIO has responsibility for the information technology investments of the Service Center Modernization Initiative (SCMI), which is the cornerstone of the overall reorganization and IT modernization effort of the Department. The ultimate goal of the SCMI is to create an en-

vironment of one-stop, quality service for customers of USDA's Farm Service Agency, Natural Resources Conservation Service, and Rural Development mission area agencies.

Office of the Chief Financial Officer

The Office of the Chief Financial Officer (OCFO) is responsible for overall financial management activities in USDA and for direct management of 1,750 employees in the OCFO at USDA headquarters in Washington, DC, and the National Finance Center (NFC) in New Orleans, LA. OCFO's duties include accounting and reporting responsibilities for program funds totaling about \$100 billion and management responsibilities for nearly 41 percent of all debt owed to the U.S. Government. A major cross-servicing and operation facility, the NFC processes the payroll for 468,000 individuals of the Federal workforce and administers the Federal Government's \$98 billion Thrift Savings Plan, which is the world's largest retirement plan, with 2.8 million participants. In addition, OCFO administers and manages the Department's Working Capital Fund.

OCFO maintains an integrated departmental accounting and financial management system that provides complete, reliable, consistent, and timely financial information. OCFO is the chief architect of the departmentwide strategic plan and coordinates its distribution to Congress and other external entities. OCFO also leads the Department's efforts to produce auditable financial statements and to comply with congressional mandates related to financial management.

The OCFO coordinates and provides guidance to USDA agencies for the debt management program. As of September 30, 2001, USDA's gross account and loan receivables were \$103.2 billion, down from \$107.5 billion in FY 1996. The credit portfolio includes loans for farm operations, housing, utilities, business cooperatives, and other economic assistance to rural residents and organizations. As of September 30, 2001, USDA's delinquent

receivables were \$6.2 billion, down by about 28 percent from the \$8.8 billion in FY 1996. During FY 2001, USDA collected \$286.8 million of delinquent debt through administrative offset and other tools authorized under the Debt Collection Improvement Act of 1996. This rate of collection is more than quadrupled the \$63.2 million collected in FY 1996. In FY 2001, \$363 million of delinquent debt was written off. This represents an 80-percent decrease from the \$1.8 billion written off in FY 1996. OCFO's current efforts are focused on providing guidance and assisting USDA agencies in referring eligible debts to the Treasury offset and cross-servicing programs, implementing administrative wage garnishment, and revising debt management regulations.

Office of Congressional and Intergovernmental Relations

Office of Congressional Relations

USDA's Office of Congressional Relations serves as the Department's primary liaison with Members of Congress and their staffs, providing information on the Department's legislative agenda, budget proposals, programs, and policies.

Office of Intergovernmental Affairs

The Office of Intergovernmental Affairs (OIA) works closely with the Nation's Governors and State Commissioners of Agriculture, and other State and local elected officials, on various issues relating to their States. OIA is responsible for disseminating information on programs involving the implementation of USDA policies and procedures applicable to the Department's intergovernmental relations.

OIA participates with the Secretary, Deputy Secretary, and the Assistant Secretary for Congressional Relations in the overall planning, formulation, and direction of the activities of the Office relating to intergovernmental affairs. OIA serves as the USDA liaison with the White House and other executive branch agencies and departments with respect to intergovernmental affairs.

CHAPTER 6

USDA Rural Development



Helping the people of rural America develop sustainable communities and improve their quality of life is the goal of USDA's Rural Development mission area, which works aggressively to increase economic opportunities and empower rural communities to grow.

USDA Rural Development is working to eliminate substandard housing from rural America by helping families and individuals buy, build, repair, or rent decent housing.

It also creates jobs by providing funding and technical assistance to support the growth and creation of rural businesses and cooperatives. In a typical year, Rural Development programs create or preserve more than 150,000 rural jobs, enable 60,000 to 70,000 rural people to buy homes, and help more than 450,000 low-income rural people rent apartments or other housing.

Other Rural Development programs help rural communities build or improve community facilities, such as schools, health clinics, and fire stations. Rural Development also has programs that help rural communities build or extend utilities, including water, electricity, and telecommunications services. Rural Development is also charged with leadership in national, State, and local strategic planning.

Program assistance is provided in many ways, including direct or guaranteed loans, grants, technical assistance, research, and educational materials. To accomplish its mission, USDA Rural Development often works in partnership with State, local, and tribal governments, as well as rural businesses, cooperatives, and nonprofit agencies.

USDA Rural Development programs are delivered through its three agencies—Rural Utilities Service (RUS), Rural Housing Service (RHS), and Rural Business-Cooperative Service (RBS)—and branch, the Office of Community Development (OCD). Rural Development programs are provided across the Nation through 47

State offices and 800 field offices. The following overviews describe the three Rural Development agencies and branch—the Office of Community Development—and their main programs.

Rural Business-Cooperative Service

Creation of viable new and improved competitive businesses and sustainable cooperatives in rural America is the top priority of the Rural Business-Cooperative Service (RBS). This agency works through partnerships with public and private community-based organizations to provide financial assistance, business planning, and technical assistance to rural businesses. It also conducts research into rural economic issues, including rural cooperatives, and provides educational material to the public.

Business and Industry (B&I) Guaranteed Loans help to finance rural business and industry projects that create employment opportunities and improve the economic and environmental climate in rural communities, including pollution abatement and control. Guaranteed loans are made for projects that foster sustained community benefits and open private credit markets. B&I loan guarantees can be extended to loans made by commercial or other authorized lenders in rural areas (this includes all areas other than cities of more than 50,000 people and their immediately adjacent urban or urbanizing areas).

Under the B&I Guaranteed Loan Program, the **Cooperative Stock Purchase Authority** provides financial assistance for the purchase of cooperative stock for family-sized farms where the commodities produced are to be processed by the cooperative.

Direct Business and Industry (B&I) Loans are made to public entities and private parties who cannot obtain credit from other sources. Loans to private parties can be made for improving, developing, or financing business and industry, creating jobs, and improving the economic and environmental climate in rural communities (including pollution abatement). This type of assistance is available in ru-

An environment should be created that will attract private investment to rural America. Three areas are targets of new policy initiatives: expanding value-added agricultural production, finding alternative methods to increase rural income from the natural resource asset base, and providing leadership in education, specifically entrepreneurial skills.

ral areas (this includes all areas other than cities of more than 50,000 people and their immediately adjacent urban or urbanizing areas).

Intermediary Relending Program Loans finance business facilities and community development projects in rural areas, including cities of less than 25,000.

Loans to intermediaries are reloaned to support the establishment of new business facilities and community development projects in rural areas. **Rural Economic Development Loans and Grants** finance economic development and job creation projects in rural areas based on sound economic plans. This financing is available to any Rural Utilities Service electric or telecommunications borrower to assist in developing rural areas from an economic standpoint, to create new job opportunities, and to help retain existing employment. Loans at zero interest are made primarily to finance business startup ventures and business expansion projects.

Grants are made to these telephone and electric utilities to establish revolving loan programs operated at the local level by the utility.

Rural Business Enterprise Grants help public bodies and nonprofit corporations finance and facilitate the development of small and emerging private business enterprises located in rural areas (this includes all areas other than cities of more than 50,000 people and their immediately adjacent urban or urbanizing areas). Grants may be used to acquire and develop land, buildings, plants, equipment, access streets and roads, parking areas, and utility and service extensions. In addition, funds may be used for refinancing, fees for professional services, technical assistance, financial assistance through loans to third parties—including startup costs and working capital, production of television programs targeted to rural residents, and rural distance-learning networks.



Rural Business Opportunity Grants can be made to provide economic planning for rural communities, technical assistance for rural businesses, or training for rural entrepreneurs or economic development officials. Funding must result in economic development of a rural area. This program is available to public bodies, non-profit corporations, Indian tribes, or cooperatives with members who are primarily rural residents.

Rural Cooperative Development Grants finance the establishment and operation of centers for cooperative development. The program enhances the economy of rural areas by developing new cooperatives and fostering improved operations for existing co-ops.

Value-Added Agricultural Product Market Development Grants are available to help farmers and their farmer-owned cooperatives or other businesses to expand the customer base for their products or commodities. An expanded customer base gives producers access to a greater share of the revenues derived from adding value to their crops.

The **Agricultural Innovation Center Program** provides grants to fund a series of centers to provide information and technical assistance to producers in getting into value-added activities.

Rural development policy is no longer synonymous with agricultural policy.

The **Agricultural Marketing Resource Center** grant program establishes a national electronically based center to collect and interpret information about value-added agriculture. It aims to empower the Nation's agricultural producers and processors by providing publicly accessible information on the Internet.

The **Appropriate Technology Transfer for Rural Areas** program provides information to farmers and other rural users on a variety of sustainable agricultural practices, including crop and livestock operations. It helps agriculture by giving reliable, practical information on production techniques and practices that reduce costs and are friendly to the environment.

The **National Sheep Industry Improvement Center** promotes strategic development activities to strengthen and enhance production and marketing of sheep, goats, and their products in the United States. The Center, which has a board of directors to oversee its activities, makes loans and grants.

Cooperative Services helps improve the performance of the Nation's cooperatives and promotes understanding and use of

the cooperative form of business. By working together for their mutual benefit in cooperatives, rural residents are often able to reduce costs for production supplies and consumer goods, obtain services that might otherwise be unavailable, and achieve greater returns for their products.

Cooperative Services accomplishes its mission by (1) responding to requests for technical assistance from rural residents who want to organize a cooperative or improve operations of an existing cooperative; (2) providing information and educational materials relating to cooperatives; (3) conducting research on cooperative financial, structural, managerial, policy, member governance, legal, and social issues; and (4) collecting and disseminating statistics to support research and technical assistance work.

Rural Housing Service

Decent, safe, sanitary, affordable housing and essential community facilities are indispensable to vibrant rural communities. USDA's Rural Housing Service (RHS) has the responsibility to make these essential elements available to rural Americans. RHS programs help finance new or improved housing for more than 60,000 moderate-, low-, or very low-income families each year. These programs also help rural communities finance construction, enlargement, or improvement of fire stations, libraries, hospitals, medical clinics, day care centers, industrial parks, and other essential community facilities.

Single Family Housing Loans provide assistance to very low-, low-, and moderate-income households in rural communities, helping them to purchase, construct, or repair a home. Very low- and low-income borrowers are offered 33- to 38-year direct loans (depending on income) at fixed interest rates with payment assistance to bring the effective interest rate to as low as 1 percent, depending on the family's adjusted income. Low- and moderate-income rural residents can be assisted with loan guarantees, which require no downpayment or mortgage insurance,

Cooperative Solutions for Rural Challenges

- USDA has a long history of promoting cooperatives—businesses that are owned and controlled by the people who use them. Co-ops help rural people maintain control of local resources and improve their standard of living. In the United States, there are an estimated 40,000 cooperatives that do everything from helping farmers market and process their crops to providing electricity and credit services.
- Cooperatives are organized by people who want to: (a) improve their bargaining power, (b) reduce their costs for goods or services, (c) obtain products or services otherwise unavailable to them, (d) expand their marketing opportunities, (e) improve their product service or quality, or (f) increase their income.
- For 67 years, USDA has been providing ideas and leadership to the cooperative community through its prize-winning magazine, *Rural Cooperatives*, published bimonthly. Each issue carries news, features, and columns that report on issues impacting cooperatives and highlighting successful co-op practices. USDA Rural Development also provides the public with more than 100 publications and videos about cooperatives—ranging from *How to Start a Cooperative* to *Tax Treatment for Cooperatives*. To order a free publication and video catalog or to request a magazine subscription order form, call 202-720-8381. Publications are also available from the USDA Rural Development Web site at www.rurdev.usda.gov

that are offered through private lenders at terms up to 30 years. The loans, both direct and guaranteed, can cover up to 100 percent of market value or acquisition cost, whichever is less. This eliminates the need for a downpayment and provides homeownership opportunities to many more rural Americans.

The innovative **Mutual Self-Help Housing Program** makes homes more affordable by enabling low- and very low-income families to perform 65 percent of the labor to construct their homes. The family's investment or "sweat equity" reduces the total amount of money to be borrowed. Grants are awarded to nonprofit and local government organizations that provide technical assistance. They supervise groups of families in the construction of their homes. The families work on homes together, moving in only when all homes are completed. Usually, the homes are financed through an RHS Single Family Housing direct loan. In 2001, RHS made 70 technical assistance grants totaling \$17.63 million, to nonprofit organizations in 26 States that helped about 1,417 families build their own homes. A total of \$165.3 million was loaned to these families to help them pay for their new homes.

Home Improvement and Repair Loans and Grants enable very low-income rural homeowners to remove health and safety hazards from their homes and to make homes accessible for people with disabilities. Loans have a maximum interest rate of 1 percent and are available to very low-income homeowners regardless of their age.

Grants are available for people age 62 and older who cannot afford to repay a loan. A combination of funds from a loan and grant can be used by eligible elderly residents.

Rural Rental Housing Loans finance construction of rental and cooperative housing for low-income individuals and families with an average annual income of \$8,105, including elderly or disabled persons. Loans have a maximum term of 30 years, can equal up to 100 percent of the



appraised value or development cost, whichever is less, and can be used to construct new housing or to purchase or rehabilitate existing structures. In addition to the direct lending program, USDA offers loan guarantees to multi-family housing developers to extend the reach of Federal resources to moderate- and low-income working families and elderly individuals.

Housing Preservation Grants are made to nonprofit groups and government agencies to finance rehabilitation of rental units for low-income residents.

Rental Assistance payments subsidize rent costs to ensure that low-income tenants will pay no more than 30 percent of their income for rent.

Community Facilities Loans, Loan Guarantees, and Grants finance the construction, enlargement, extension, or other improvements for community facilities providing essential services in rural areas and towns with a population of 20,000 or less. Funds are available to public entities such as municipalities, counties, special-purpose districts, Indian tribes, and nonprofit corporations. Projects commonly financed include child care centers, schools, libraries, and medical facilities. In addition, funding may be used for the purchase of firefighting equipment.



Housing for Farm Workers

Farm workers are often among the most poorly housed and lowest paid workers in the United States. RHS provides housing for migrant and farm laborers through several programs. The **Farm Labor Housing** program, the only national farm labor housing program, provides loans to public or nonprofit agencies or to farmers to enable them to build farm labor housing. In States, such as California, many farm laborers are able to build their own homes through our Mutual Self-Help Housing Program.

Outreach to American Indians and Alaskan Natives

The Rural Housing Service is reaching out to better inform Native Americans about its programs and is working to overcome institutional barriers to lending on tribal land. In FY 2001, Single Family Housing direct loans worth \$13.6 million were made to buy or to repair homes for 204 Native Americans, including \$2.183 million to build approximately 39 single family houses on tribal lands. An additional \$17.4 million guaranteed another 231 housing loans made to Native Americans by private sector lenders. Loans and grants made through the Housing Repair program totaled over \$1.3 million and repaired 216 dwellings.

The Community Facilities Program provided more than \$32 million in direct and guaranteed loans and grants to fund 77 essential community facilities benefiting Native American tribes in 13 States. These projects included infrastructure for a tribal housing project, tribal school and college classroom buildings, physicians' clinics, child care centers, museums, fire trucks, a well for water, a food preparation center, and several community centers and general office buildings.

Expanding the Reach of Federal Resources Through Partnerships

Partnerships with public bodies, such as towns, counties, and federally recognized Indian tribes, and the private and nonprofit sectors, form the foundation of several RHS programs. USDA is actively reaching out to organizations whose goals and missions complement those of

the Department. The following are partnerships found in RHS programs:

- Some of USDA's most important partnerships are created through its **guaranteed loan programs**, which are a collaboration with local lenders by which the lender funds the loan and RHS issues a guarantee for up to 90 percent of the amount of the loan.
- The Rural Home Loan Partnership (RHLP), begun in 1996, makes private credit more accessible for eligible low-income borrowers. Partners include RHS, Rural Local Initiatives Support Corporation, the Federal Home Loan Bank System, the Neighborhood Reinvestment, Rural Alliance, the Office of Thrift Supervision, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency. The partnership delivers a new single-family mortgage product that enables families earning 80 percent of area median income or below to achieve homeownership. RHS provides a subsidized mortgage to cover part of the cost of a house, while a local bank finances the remainder. Since RHLP began in 1996, it has provided more than \$341.8 million to help 4,329 families in 36 States attain the American dream of homeownership.

Community Development Financial Institution Partnership

The Community Development Financial Institution Partnership was created in 1998 to provide homeownership opportunities to low-income applicants by combining the resources of RHS and community development financial institutions.

CDFIs are specialized private institutions that serve populations whom traditional financial institutions are not serving. They provide a wide range of financial products and services to underserved communities, including mortgage financing for first-time home buyers and basic financial services needed by low-income households.

Rural Utilities Service

USDA Rural Utilities Service (RUS) programs, including Rural Telephone Bank (RTB) programs administered by RUS, touch the lives of tens of millions of rural people daily. Through project financing and technical assistance, RUS builds infrastructure to provide rural businesses and households with modern telecommunications, electricity, and water.

RUS is a partner with rural business and economic development efforts, providing infrastructure that is the foundation for competitiveness. It is a technical and financial resource in a time of change for rural utilities.

Rural Telecommunications Loans and Loan Guarantees build modern rural communications systems by making financing available for modern high-speed telecommunications facilities. Loans made to rural telephone cooperatives and companies help bring reliable and affordable telecommunications services to more than 15 million rural Americans.

Rural Electric Loans and Loan Guarantees

The RUS Electric Program provides financing and technical assistance to upgrade, expand, and maintain the electric utility infrastructure in rural America. Under the authority of the Rural Electrification Act of 1936, RUS makes direct loans and loan guarantees to electric utilities to serve customers in rural areas. Repayment of RUS loans is secured through liens on the assets of borrowers, long-term power arrangements, and RUS oversight of borrower activities. RUS can also make loans for renewable energy and demand-side management activities to boost rural economic development opportunities and contribute to a cleaner environment. With new authority added in the 106th Congress, RUS can make grants and loans for rural communities with extremely high energy costs.

Through RUS, the Federal Government is the primary lender and majority noteholder for 697 rural electric systems in 46

States, Puerto Rico, the Marshall Islands, and the Virgin Islands. These active RUS borrowers directly serve over 25 million people. In 2000 RUS borrowers accounted for over 10.8 million retail meters (90 percent of them residential meters), 1,689,000 miles of distribution lines, 96,000 miles of transmission lines, 162,699,000 megawatt-hours (MWh) generated, and 240,147,000 MWh in retail sales.

Of the 697 RUS-financed rural systems, nearly 96 percent are nonprofit cooperatives, owned and operated by the consumers they serve. The remaining 4 percent include municipal systems, public power districts, Native American tribal utilities, and other entities. RUS-financed electric systems provide service to 523 of the 540 identified persistent poverty counties and 655 of the 700 counties identified as having net outmigration.

Distance Learning and Telemedicine Loans and Grants bring distance learning and telemedicine to rural America. Education and adequate medical care are crucial to the survival of rural communities, but are becoming increasingly difficult to provide. This program employs innovative ways to use telecommunications infrastructure to extend the reach of educational and medical expertise into communities without those resources. The loan program has been expanded to broaden the use of rural telecommunications infrastructure.

Water and Waste Disposal Loans and Grants develop water and waste disposal systems (including solid waste disposal and storm drainage) in rural areas and towns with populations of less than 10,000. The funds are available to public entities such as municipalities, counties, special-purpose districts, Indian tribes, and nonprofit corporations. RUS also guarantees water and waste disposal loans made by banks and other eligible lenders. This program deals with over 7,000 communities nationwide.

Telecommunications, electricity, water and waste disposal systems, and transportation infrastructure (such as highways and airports) are essential for rural development.

Office of Community Development

The Office of Community Development's goal is to create empowered communities—no longer beset by hopelessness, pervasive poverty, unemployment, and general distress. These communities should be able to implement self-generated strategic plans that solve some of their most difficult economic and social challenges. OCD promotes Federal, State, and local agencies, private sector, and not-for-profit organizations working cooperatively and in partnership with communities.

USDA Rural Development's Office of Community Development (OCD) administers the Rural Community Development program. This effort promotes self-sustaining, long-term economic and community development in areas of pervasive poverty, unemployment, and general distress. The program works by helping distressed communities develop and implement innovative, comprehensive strategic plans, which are supported by partnerships among private, public, and nonprofit entities. This assistance is available through USDA Rural Development field offices to rural communities throughout the United States. This help includes technical assistance and support in obtaining additional financial resources and assistance in forging local and regional partnerships.

USDA's Office of Community Development administers three rural community empowerment efforts: Empowerment Zones/Enterprise Communities (EZ/EC), Champion Communities (CC), and the Rural Economic Area Partnership (REAP) Zones. OCD also administers the Rural Community Advancement Program (RCAP) and other supported communities, as well as the National Centers of Excellence.

Empowerment Zones/Enterprise Communities

The Empowerment Zones/Enterprise Communities (EZ/EC) Program provides economically depressed rural areas and communities with real opportunities for growth and revitalization. Its mission is to help create long-term economic and community development and assist communities in empowering themselves to improve local conditions and become self-sustaining. EZ/EC efforts begin at a grassroots level, where communities, in cooperation with State and local governments, work together to write strategic plans to address the economic and social problems they face. The strategic plan also identifies partnerships and ways to combine private and public resources to implement their plans.

Selected Accomplishments of the Empowerment Program Communities as of 4/2/02:

| Measure | EZ/EC | Champions | REAPs | Total |
|--|--------|-----------|-------|--------|
| New or improved water & wastewater systems | 203 | 56 | 7 | 266 |
| New utility hookups | 6,061 | 0 | 1,264 | 7,325 |
| Business loans made | 953 | 59 | 21 | 1,033 |
| Businesses started or attracted | 854 | 156 | 26 | 1,036 |
| Education program participants | 69,608 | 6,729 | 0 | 76,337 |
| Youth participating in programs | 27,155 | 1,396 | 0 | 28,551 |
| Jobs created or saved | 32,137 | 3,307 | 756 | 36,200 |
| Houses constructed | 1,447 | 506 | 0 | 1,953 |
| Houses rehabilitated | 3,928 | 490 | 210 | 4,628 |
| New health care facilities | 25 | 3 | 0 | 28 |
| New/improved recreation & tourism facilities | 117 | 28 | 21 | 166 |
| Environmental & natural resources projects | 39 | 0 | 0 | 39 |

Key features of the EZ/EC program include:

- Rural EZs receive substantial flexible grant dollars to help implement their strategic plans. Rural ECs receive somewhat less for the same purpose.
- Rural EZs are eligible for tax credits, such as the Work Opportunity Tax Credit and Section 179 tax deductions, as well as tax-free facility bonds.
- Both rural EZs and ECs receive primary consideration for many other Federal and State programs.

In 1994, the Round I EZ/EC designations named three rural Empowerment Zones and 30 Enterprise Communities. In 1998, five Round II rural Empowerment Zones and 20 Enterprise Communities were designated. A third round of two additional rural EZs was named in December 2001. In 1999, USDA formalized the Champion Communities (CC) program by inviting all communities that submitted strategic plans for Round I and II EZ/EC designations to continue implementing their plans through a partnership agreement with USDA.

Rural Economic Area Partnership (REAP) Zones

While poverty-related issues are the main challenge for some rural communities, many others face economic and community development issues of a very different character. Often, these challenges are due to geographic isolation, low population density, over-dependence on agriculture, population loss, out-migration, and economic distress. To address these issues, USDA advocated a pilot concept for rural revitalization and community development called Rural Economic Area Partnership Zones. Two zones in North Dakota were designated in 1995 to be the first participants in the REAP initiative. In 1999, two areas in upstate New York were added, and in 2000 an area in Vermont was designated as the fifth zone. The North Dakota zones and the Vermont zone cover multi-county areas, while the two in New York are basically single counties. Each REAP Zone developed a strategic plan for economic revitalization. Through grassroots efforts in

strategic planning and community action, millions of dollars in State, Federal, private, and nonprofit assistance are being brought to these areas.

Rural Community Advancement Program (RCAP)

The 1996 Farm Bill established the Rural Community Advancement Program (RCAP). RCAP features strategic planning assistance, grants, loans, loan guarantees, and other assistance to meet the development needs of rural communities. Special emphasis is placed on the smallest communities with the lowest per capita income.

National Centers of Excellence: College and University Partnership Project

The National Centers of Excellence (NCE) program has matured into a unique effort to utilize local universities and colleges as catalysts for rural economic and community development. The NCE is a partnership between USDA and rural colleges and universities in the United States. The goal of the program is to improve the economic self-sufficiency of historically overlooked, poor rural communities. It specifically focuses on building the economic and community development educational and outreach capacities of the rural colleges and universities and linking them with impoverished rural communities that they have historically served.

The National Centers of Excellence participating in 2002 include: University of Texas-Pan American, Texas; Somerset Community College, Kentucky; Heritage College, Washington; Cankdeska Cikana Community College, North Dakota; Crownpoint Institute of Technology, New Mexico; Fort Peck Community College, Montana; San Diego State University-Imperial Valley, California; and California State University-Fresno, California.

CHAPTER 7

Farm and Foreign Agricultural Services





Trade is critically important to the long-term economic health and prosperity of our food and agricultural sector. We have far more capacity than needed to meet domestic food market requirements. To avoid excess capacity throughout the system—our farmland, transportation, processing, financing, and other ancillary services—we must maintain and expand our sales to customers outside this country. . . . Clearly, without the salutary effects of an expanding export market, farm prices and net cash incomes would be significantly lower.

Farm Service Agency

The Farm Service Agency's (FSA) mission is to ensure the well-being of American agriculture and the American public through efficient and equitable administration of agricultural commodity, farm loan, conservation, environmental, emergency assistance, and domestic and international food assistance programs.

FSA is a customer-driven agency with a diverse and multi-talented workforce, empowered and accountable to deliver programs and services efficiently, and dedicated to promoting an economically viable and environmentally sound American agriculture.

What Is FSA?

FSA was established under a USDA reorganization in 1994, incorporating programs from several agencies, including the Agricultural Stabilization and Conservation Service, the Federal Crop Insurance Corporation (now a separate Risk Management Agency), and the Farmers Home Administration. Though its name has changed over the years, the agency's relationship with farmers dates back to the 1930s.

Congress set up a unique system under which Federal farm programs are locally administered. Farmers who are eligible to participate in these programs elect a three-to-five-person county committee that reviews county office operations and makes many of the decisions on how to administer the programs. This grassroots approach gives farmers a much-needed say in how Federal actions affect their communities and their individual operations. After more than 60 years, it remains a cornerstone of FSA's efforts to preserve and promote American agriculture.

2002 Farm Bill

The Farm Security and Rural Investment Act of 2002 (2002 Farm Bill), which governs Federal farm programs, includes provisions to support the production of a reliable, safe, and affordable supply of food and fiber; promote stewardship of agricultural land and water resources; facilitate access to American farm prod-

ucts at home and abroad; encourage continued economic and infrastructure development in rural America; and ensure continued research to maintain an efficient and innovative agricultural and food sector.

The 2002 Farm Bill also provides certainty and support for America's farmers and ranchers by providing a generous safety net for farmers without encouraging overproduction and depressing prices.

Today, 25 percent of U.S. farm income is generated by exports. Foreign market access is essential to farmers, ranchers, and the entire agricultural sector. The 2002 Farm Bill helps keep international trade commitments and support the agency's commitment to fair trade by complying with U.S. obligations to the World Trade Organization.

The Farm Bill offers incentives for good conservation practices on working lands, strengthens the farm economy over the long term, and promotes farmer independence. It has increased record-level funding for almost every existing environmental stewardship program and represents an unprecedented investment in conservation on America's private lands, nearly \$13 billion over the next 6 years. The bill emphasizes conservation on working lands and provides the most dramatic growth in the Environmental Quality Incentives Program, providing more than \$5.5 billion over the next 6 years.

Marketing Assistance Loan Programs

FSA administers commodity loan programs for dry peas, lentils, small chickpeas, barley, corn, honey, grain, sorghum, wool, mohair, oats, oilseeds, peanuts, rice, sugar, tobacco, wheat, and upland and extra-long-staple cotton.

The agency provides the operating personnel for the Commodity Credit Corporation (CCC), which provides assistance with respect to products of certain agricultural commodities through loans and loan deficiencies payments (LDP). This provides farmers with interim financing and helps maintain balanced and adequate supplies of farm commodities and

their orderly distribution throughout the year and during times of surplus and scarcity.

Instead of immediately selling the crop after harvest, a farmer who grows an eligible crop can store the produce and, normally, take out a “nonrecourse” loan for its value, pledging the crop itself as collateral. “Nonrecourse” means that the producer can discharge debts in full by forfeiting or delivering the commodity to the Federal Government.

The nonrecourse loan, where available, allows farmers to pay their bills and other loan payments when they become due, without having to sell crops at a time of year when prices tend to be at their lowest. Later, when market conditions are more favorable, farmers can sell their crops and repay the loan with the proceeds. Or, if the prevailing price of the crop remains below the loan level set by CCC, farmers can keep loan proceeds and forfeit the crop to CCC instead. The repayment rate may also be adjusted, in some instances, by USDA to minimize forfeitures and the costs of storing commodities and to allow commodities produced in the United States to be marketed freely and competitively, both domestically and internationally. When repayment rates are set below the loan level during periods of low prices, producers realize a marketing loan gain. Loan deficiency payments may also be offered in lieu of marketing assistance loans when repayment rates are below the loan level.

Commodity Purchase Programs

Foreign food assistance in FY 2000 provided nearly 6 million tons of commodities, valued at \$1.2 billion. During FY 2001, FSA provided more than 5.5 million metric tons of commodities under foreign food aid programs valued at \$1.1 billion. As part of that total, the Global Food for Education program was initiated and provided approximately 470,000 metric tons of commodities valued at over \$106 million.



Domestic food assistance in FY 2000 and FY 2001 totaled approximately 400 million pounds each year at a cost of approximately \$300 million per year.

Under the Dairy Price Support Program, CCC buys surplus butter, cheese, and nonfat dry milk from processors at announced prices to support the price of milk. These purchases help maintain market prices at the legislated support level. Dairy purchases totaled about 500 million pounds in FY 2000 and 400 million pounds in FY 2001, valued at approximately \$500 million in FY 2000 and \$400 million in FY 2001.

CCC can store purchased food in over 10,000 commercial warehouses approved for this purpose across the Nation. However, commodity inventories are not simply kept in storage. FSA employees work to return stored commodities to private trade channels. At the agency's Kansas City Commodity Office in Kansas City, MO, FSA merchandisers regularly sell and swap CCC inventories.

Beyond the marketplace, CCC commodities fill the need for hunger relief both in the United States and in foreign countries. FSA employees work closely with USDA's Food and Nutrition Service to purchase and deliver foods for the National School Lunch Program and many other domestic feeding programs. For foreign food assistance programs, FSA

America should continue to be a global agricultural leader in the 21st century.



employees purchase commodities for the U.S. Agency for International Development and the USDA Foreign Agricultural Service. These agencies administer the P.L. 480, Title II/III Programs and the Section 416(b) and Food For Progress Programs, respectively.

Disaster Assistance Available From FSA

FSA has programs that are activated during certain types of disasters. Among these are the Noninsured Crop Disaster Assistance Program, Emergency Conservation Program, and Emergency Loans.

Noninsured Crop Disaster Assistance Program

The Noninsured Crop Disaster Assistance Program (NAP) provides financial assistance to eligible producers affected by natural disasters. This federally funded program covers noninsurable crop losses and planting prevented by disasters.

When damage to a crop or commodity occurs as a result of a natural disaster, producers requesting NAP assistance must meet certain criteria.

In FY 2002, 40,000 producers received \$173 million in payments.

Emergency Conservation Program

The Emergency Conservation Program provides emergency cost-share funding for farmers and ranchers to rehabilitate farmland damaged by natural disasters and for carrying out emergency water conservation measures during periods of severe drought. The natural disaster must create new conservation problems which, if not treated, would:

- Impair or endanger the land,
- Materially affect the productive capacity of the land,
- Represent unusual damage which is not the type likely to recur frequently in the same area,
- Be so costly to repair that Federal assistance is or will be required to return the land to productive agricultural use.

FSA allocated \$93 million in Emergency Conservation Program assistance to 42 States in FY 1999 and \$105 million to 40 States in FY 2000 to help farmers and ranchers rehabilitate farmland damaged by the year's droughts, floods, hurricanes, and other natural disasters and for water conservation measures for severe drought. In FY 2002, 10,000 producers received \$30 million in payments.

Emergency Loans

FSA provides emergency loans to help cover production and physical losses in counties declared disaster areas by the President, or designated as such by the Secretary of Agriculture or the FSA Administrator (physical loss loans only). Emergency loans also are available in counties contiguous to such disaster areas. These loans are made to qualifying established family farm operators. In addition, to qualify for emergency loans, applicants must have operated a farm in a county declared as a disaster area by the President, or designated as such by the Secretary of Agriculture or the FSA Administrator (physical loss loans only). Loans for crop, livestock, and non-real-estate losses are normally repaid in 1 to 7 years, and in special circumstances, up to 20 years. Loans for physical losses to real estate and buildings are normally repaid in 30 years, and in special circumstances, up to 40 years. In FY 2002, FSA

made 949 emergency loans totaling \$57,609,000.

Emergency Declarations

As of November 25, 2002, 2,344 counties of the total 3,141 in the United States had received disaster declarations for drought (as either primary or contiguous counties) by the Secretary of Agriculture.

Cattle Feed Assistance Program

In 2002, USDA and FSA introduced the Cattle Feed Assistance Program that provides \$150 million to help cow-calf operators in Nebraska, Colorado, Wyoming, and South Dakota. The eligible States were selected because data showed that at least 75 percent of the pasture and forage crops in these States is rated as poor or very poor. Without this assistance, severe disruption could come to the beef industry if producers are forced to prematurely market foundation herds of beef cattle due to lack of forage. To implement the program, USDA's Commodity Credit Corporation (CCC) enters into agreements with feed mills located in the eligible areas, making available existing CCC stocks of nonfat dry milk to be used in the production of livestock feed. Eligible producers are able to obtain feed at reduced or no cost from participating manufacturers. At the time the program was announced, CCC had more than 441 million pounds of nonfat dry milk that was at least 2 years old or older in storage. In the past, CCC has sold similar nonfat dry milk stocks for animal feed.

Livestock Compensation Program

In 2002, USDA and FSA announced the Livestock Compensation Program (LCP), a new program designed to help cattle, sheep, goat, and buffalo producers in counties that have received primary disaster designation due to drought in 2001 and/or 2002. The program, which pays farmers and ranchers a certain amount per head of livestock, provides close to \$1 billion in financial assistance. Sign-up for the program ran from October 1 to December 13, 2002. As of Nov. 20, 2002, applications for LCP benefits had been received from and payments issued to more than 310,000 livestock producers in 41 drought-impacted States. Between



October 1 and November 20, 2002, more than \$578 million had been paid.

Apple Market Loss Assistance Program II and III (AMLAP II and AMLAP III)

In 2002, FSA administered the AMLAP II, which provided about \$75 million to eligible growers to help offset economic losses due to low prices in the U.S. apple market in 2000. As of November 18, 2002, \$73 million had been paid to more than 6,330 growers.

In the fall of 2002, FSA held a sign-up period for AMLAP III, which was authorized by the 2002 Farm Bill. The program provides another \$94 million to eligible growers for their 2000-crop apple production.

Farm Loans

FSA offers guaranteed farm ownership and operating loans and direct farm ownership, operating and emergency loans to family-size farmers who are temporarily unable to obtain private commercial credit and who meet all applicable program eligibility criteria. Often, these are beginning farmers who cannot qualify for conventional loans because they have insufficient net worth. In addition, FSA provides assistance to established farmers who have suffered financial setbacks from natural disasters and





to farmers who have limited resources to improve their farming operation's profitability.

Under the guaranteed loan program, FSA guarantees loans made by conventional agricultural lenders for up to 95 percent, depending on the circumstances. The lender may sell the loan to a third party; however, the lender remains responsible for servicing the loan. All loans must meet qualifying criteria to be eligible for guarantees. FSA has the right to monitor the lender's servicing activities. Farmers interested in guaranteed loans must apply to a conventional lender, who then arranges for the guarantee.

Farmers unable to qualify for a guaranteed loan may apply for a direct loan. Direct loans are made and serviced by FSA officials who provide applicants and borrowers with supervision and credit counseling. Funding authorities for direct loans are limited, and applicants may have to wait until funds become available. To qualify for a direct loan, the applicant must be able to show sufficient repayment ability, pledge enough collateral to fully secure the loan, and meet all other eligibility criteria.

In FY 2001, FSA dealt with a strong demand for loans and loan guarantees

from farmers unable to obtain vital credit elsewhere. FSA provided over 29,900 loans and loan guarantees, totaling \$3.2 billion, including:

- 17,554 direct loans totaling \$943 million
- 12,368 guaranteed loans totaling \$2.3 billion
- more than 8,000 loans and loan guarantees to beginning farmers totaling \$706 million
- 3,440 loans and loan guarantees to minority and women farmers totaling \$288 million
- 1,679 emergency loans totaling \$90 million.

In FY 2000, FSA provided over 33,000 loans and loan guarantees, totaling \$3.7 billion, including:

- 18,559 direct loans totaling \$1.048 billion
- 14,930 guaranteed loans totaling \$2.6 billion
- over 8,100 loans and loan guarantees to beginning farmers totaling \$716 million
- 3,370 loans and loan guarantees to minority and women farmers totaling \$277 million
- 2,451 emergency loans totaling \$150 million.

In FY 2002, FSA's Farm Loan Programs division made more than 14,500 direct farm operating loans totaling over \$668,000,000. There were 9,462 guaranteed farm operating loans valued at \$1,549,666,000. Over 1,500 direct farm ownership loans were made that totaled \$177,861,000. American farmers and producers, 3,905 to be exact, received \$1,101,176,000 in guaranteed farm ownership loans. (The remainder of the loans were emergency loans.) In all, FSA made more than 30,000 loans totaling \$3,553,373,000 in FY 2002.

Conservation Programs

In the conservation arena, USDA's CCC continued its progress in improving our natural resources. During 2001, CCC accepted 223,000 acres in the Conservation Reserve Program (CRP) continuous sign-up (wherein producers can sign up at any time for certain high-priority conservation practices, such as filter strips and riparian buffers).

Also contracts representing more than 2.3 million acres enrolled during Signup 20 became effective in the regular (competitive) CRP, the Federal Government's single largest environmental improvement program.

CRP protects our most fragile farmland by encouraging farmers to stop growing crops on highly erodible and other environmentally sensitive acreage. In return for planting a protective cover of grass or trees on vulnerable property, the owner receives a rental payment each year of a multi-year contract. Cost-share payments are also available to help establish permanent areas of grass, legumes, trees, windbreaks, or plants that improve water quality and give shelter and food to wildlife.

Another conservation program, the Conservation Reserve Enhancement Program, is part of the CRP. This program shields millions of acres of American topsoil from erosion by encouraging the planting of protective vegetation. By reducing wind erosion as well as runoff and sedimentation, it also protects air and groundwater quality and helps improve countless lakes, rivers, ponds, streams, and other bodies of water.

State governments have the opportunity to participate in this environmental improvement effort. CCC provides incentives to agricultural producers to participate, while State governments contribute specialized local knowledge, technical help, and financial assistance. The result is an environmental enhancement effort tailored to the specific environmental needs of each State.



In 2001, California, Illinois, Iowa, Kentucky, and North Dakota signed agreements with FSA under the Conservation Reserve Enhancement Program (CREP). CREP combines State and Federal dollars with funding from nongovernment sources to tackle specific agriculture-related environmental issues. Financial incentives encourage farmers and ranchers to enroll targeted land in CREP and establish riparian buffers, grass filter strips, wetlands, wildlife habitat, and other land improvement practices. At the end of 2001, 18 States had signed agreements with USDA.

FSA works with USDA's Natural Resources Conservation Service and other agencies to deliver other conservation programs, including the Environmental Quality Incentives Program (EQIP). EQIP helps farmers and ranchers improve their property to protect the environment and conserve soil and water resources. Participants can take advantage of education in new conservation management practices, technical support, cost-share assistance, and incentive payments.

WHERE TO GET MORE INFORMATION ON FSA PROGRAMS

Further information and applications for the programs described in this chapter are available at local FSA offices. These are usually listed in telephone directories under "U.S. Department of Agriculture, Farm Service Agency." FSA State offices are usually located in the State capital or near the State land-grant university.

For further information on FSA programs, the FSA homepage can be found at <http://www.fsa.usda.gov>

We must ensure that our exporters have the necessary tools to capture a greater share of the benefits that are flowing from trade reform and the resulting global market expansion.

Foreign Agricultural Service

The Agency and Its Mission

USDA's Foreign Agricultural Service (FAS) represents the diverse interests of the U.S. food and agricultural sector abroad. FAS serves U.S. farmers, ranchers, and other agricultural interests by working to expand markets for U.S. agricultural, fish, and forest products overseas and promoting world food security.

The agency collects, analyzes, and distributes information about global supply and demand, trade trends, and emerging market opportunities. FAS seeks improved market access for U.S. products and implements programs designed to build new markets and to maintain the competitive position of U.S. products in the global marketplace. FAS also carries out food aid programs; operates a variety of congressionally mandated import and export programs; and manages international technical assistance, research, and economic development activities. FAS helps USDA and other Federal agencies, U.S. universities, and others enhance the global competitiveness of U.S. agriculture by mobilizing expertise for agriculturally led economic growth to increase income and food availability in the developing world. FAS also coordinates and articulates USDA views on a number of agricultural policy and program issues in international organizations to promote and enhance the interests of USDA and the U.S. agricultural community.

Formed in 1953 by executive reorganization, FAS is one of the smaller USDA agencies, with about 950 employees. FAS operates worldwide with staff in about 100 offices covering around 130 countries. Washington-based marketing specialists, trade policy analysts, economists, and others work closely with the overseas staff. Roughly 70 percent of the annual FAS budget is used to build markets overseas for U.S. farm products. This includes the funding for all of FAS' trade and attaché offices overseas and its work with U.S. commodity associations on cooperative promotion projects. The remaining funds cover other trade functions, including gathering and

distributing market information, trade policy efforts, international training and research, and representation of U.S. agricultural interests in multilateral organizations. To get a complete picture of the services offered and information available for exporters, visit the homepage at <http://www.fas.usda.gov>

Overseas Representation

FAS foreign service officers wear many hats, serving as diplomats, negotiators, analysts, and marketing representatives for U.S. agricultural producers, processors, and exporters. The officers provide information used to plan and develop strategies for improving market access, promoting world food security, protecting U.S. interests under trade agreements, and developing programs and policies to make U.S. farm products more competitive. They work with other USDA and Federal agencies, international organizations, State and local governments, and the U.S. private sector. They also advise U.S. ambassadors on agricultural matters and represent U.S. agriculture before the government, trade groups, and public of their host countries.

Agricultural Trade

The United States exports more than \$1 billion a week in agricultural products. Export value in fiscal year 2002 (October 2001-September 2002) reached \$53.3 billion, an \$11-billion increase from the level of 10 years earlier. Sales to foreign markets of U.S. meats, fruits, and vegetables, packaged grocery products, and other consumer foods totaled \$21.6 billion, close to 2001's all-time high. Exports of coarse grains, soybeans, wheat, cotton, and other bulk farm commodities reached \$19.1 billion. Exports of semi-processed and other intermediate farm products climbed to a record \$12.6 billion.

In 2002, Canada replaced Japan as the leading market for U.S. agricultural exports. Sales to Canada set a record at \$8.6 billion, while exports to Japan were \$8.3 billion. Mexico was our third largest market, taking \$7.1 billion in U.S. agricultural exports. The 15-nation European Union was fourth at \$6.3 billion, and

South Korea completed the top five at \$2.7 billion. Together, Canada and Mexico, our two partners in the North American Free Trade Agreement (NAFTA), accounted for nearly 30 percent of total U.S. agricultural export sales globally.

U.S. agricultural imports in 2002 totaled \$41 billion, up 5 percent from the previous year. Exports were substantially higher than imports, resulting in a U.S. agricultural trade surplus of more than \$12 billion. Agriculture is one of a few major U.S. industries consistently producing a trade surplus.

Trade is critically important to the economic health and prosperity of the U.S. food and agricultural sector. Overall, exports account for about 25 percent of total farm sales. At the same time, imports provide consumers with year-round access to a wider variety of foods at reasonable prices, including foods not produced domestically.

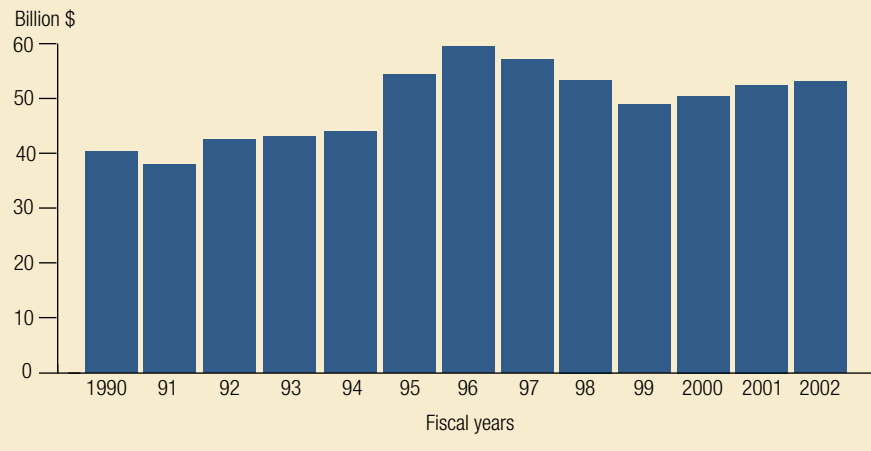
International Trade Agreements

FAS works closely with other government agencies, including the Office of the U.S. Trade Representative (USTR), to protect the trade interests of U.S. producers and processors. FAS monitors the agricultural provisions of existing agreements such as the World Trade Organization (WTO) Uruguay Round Trade Agreement, and works on the agricultural provisions of new agreements such as the bilateral free trade agreement with Chile, and the Free Trade Area of the Americas (FTAA).

The United States was the first WTO member to put forward a comprehensive and specific agriculture proposal for the negotiations under the Doha Development Agenda. Along with a comprehensive tariff reduction formula, the United States proposed that WTO members engage in negotiations on a sector-specific basis on further reform commitments that go beyond the basic reductions. These would include deeper tariff reductions, product-specific limits on trade-distorting domestic support, and other commitments to more effectively address the trade-distorting practices in the affected commodity sectors.

Figure 7-1

U.S. agricultural exports top \$53 billion in 2002, up \$11 billion from 10 years earlier



FAS works to help identify violations of agreements and address them at the appropriate level. Besides working with the USTR, FAS works closely with other USDA agencies such as the Animal and Plant Health Inspection Service and the Food Safety and Inspection Service to form a team with the technical and policy experience needed to resolve problems. This team supports U.S. export interests in the day-to-day activities of multilateral organizations such as the CODEX Alimentarius Commission in the Food and Agriculture Organization and the WTO Committees on Agriculture, and Sanitary and Phytosanitary Measures. These groups help develop international standards that affect trade in agricultural products and monitor compliance with existing trade agreements.

Monitoring of trade agreements is essential to ensure that the benefits gained through long, hard negotiations are realized. Our monitoring of the Uruguay Round Trade Agreement on Agriculture and the Sanitary and Phytosanitary Agreement ensured that nearly \$1.8 billion in U.S. trade was protected or expanded. Examples include the monitoring of China and Taiwan's WTO accession commitments, Venezuela's import licensing for numerous commodities, and Costa Rica's rice import permits. In addition, we worked to secure access for U.S. organic exports to Japan and Europe, averted the imposition of grain import restrictions by the EU, and

helped open the Australian market to U.S. table grapes.

FAS is coordinating efforts with other USDA agencies to establish the new Trade Adjustment Assistance Program for Farmers, a program established by the Trade Act of 2002. Under the program, USDA is authorized to make payments to eligible producer groups when the current year's price of an agricultural commodity is less than 80 percent of the national average price for 5 marketing years, and the Secretary determines that imports have contributed importantly to the decline in price.

Food Assistance Programs

Within USDA, the Foreign Agricultural Service is the leader in developing and executing a number of food assistance activities under Title I of Public Law 83-480 (P.L. 480), the Food for Progress Act of 1985, and Section 416(b) of the Agricultural Act of 1949. These programs help developing nations make the transition from concessional financing and donations to cash purchases. The U.S. Agency for International Development (USAID) is responsible for administering Titles II and III of P.L. 480.

P.L. 480 Title I - The objectives of the P.L. 480 Title I concessional credit program include providing food assistance to developing countries and promoting the development of future markets in these countries. The program promotes market development by encouraging importers in the recipient country to become familiar with U.S. trade practices and to establish long-term trade relationships. Title I funds also support the **Food for Progress (FFP)** program, which is a grant program designed to assist countries working to make the transition to more market-oriented economies. Attention is given to shifting countries from Title I/FFP grant funding to regular Title I long-term concessional credit terms.

In fiscal year 2002, Title I agreements were signed for 504,000 metric tons of commodities to nine countries. The commodities were valued at \$102 million.

The funds and facilities of the Commodity Credit Corporation (CCC), a federally owned and operated corporation within USDA, may also be used to support FFP programming. In all FFP programs, cooperating sponsors (governments and pri-



vate voluntary organizations (PVOs)) may monetize the commodities received under an agreement with CCC to generate local currencies to fund development projects. In fiscal year 2002, USDA had FFP programs in 25 countries. Under CCC-funded Food for Progress programs, about 285,000 tons of commodities with a value of about \$86 million were provided.

Under the Title II emergency and private assistance donations program, for fiscal year 2002, 2.2 million metric tons of commodities valued at \$493 million were programmed. The Title III program has been inactive since fiscal year 2000.

The Section 416(b) program allows for the donation of surplus agricultural commodities, made available through CCC stocks, to assist needy people overseas. In fiscal year 2002, approximately 1.6 million metric tons valued at about \$410 million were programmed under Section 416(b), including 274,000 metric tons for the Global Food for Education (GFE) Initiative. CCC purchased these commodities under its surplus removal authority.

The **McGovern-Dole International Food for Education and Child Nutrition Program**, authorized by the 2002 Farm Act, is based on, and will replace, the pilot GFE initiative. This program (hereafter referred to as FFE program) is now a fourth USDA international food aid authority, in addition to P.L. 480, Section 416(b), and Food for Progress. The FFE program is designed to encourage education and deliver food to improve nutrition for preschoolers, school children, mothers, and infants in impoverished regions. The 2002 Farm Act authorized the FFE program from FY 2003 through FY 2007, providing for \$100 million in CCC funding for FY 2003. Funding in subsequent years would need to be authorized through congressional appropriations.

Commercial Export Credit Guarantee Programs

The primary objective of the export credit guarantee programs is to improve the competitive position of U.S. agricultural commodities in international markets by

facilitating exports to middle-income countries that do not have access to adequate commercial credit. These CCC programs encourage U.S. lenders (typically commercial banks) to extend credit to overseas customers. These guarantee programs encourage the involvement of foreign private-sector banks and private-sector importers in commercial trade transactions with the United States.

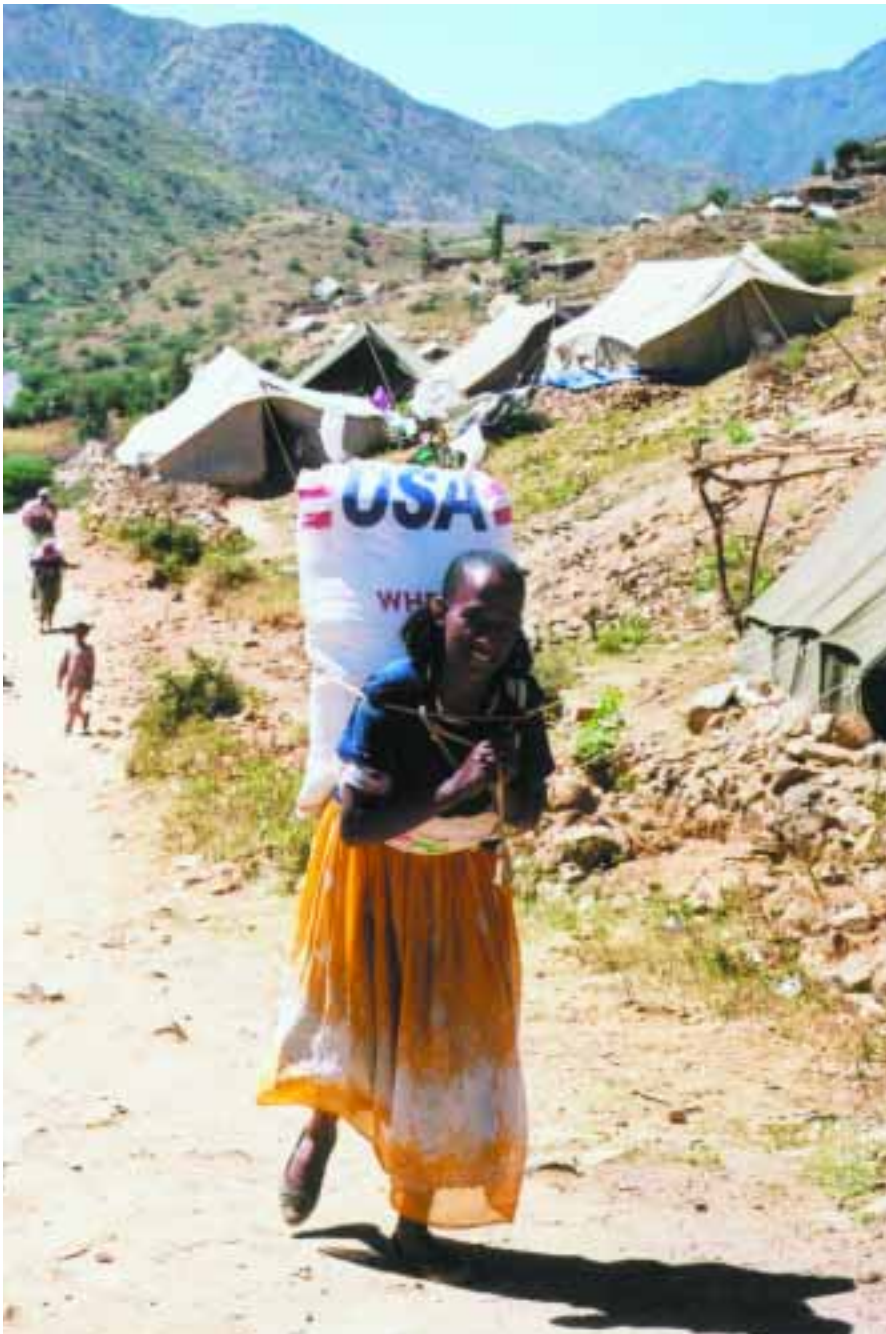
The **GSM-102** program guarantees repayment of short-term credit (90 days to 3 years) extended by U.S. financial institutions in connection with exports of U.S. agricultural products. For fiscal year 2002, GSM-102 allocations of about \$4.6 billion were announced for exports to 22 countries and 11 regional groupings, including the Baltic, Caribbean, Central American, Central Europe, China/Hong Kong, South America, Southeast Asia, Southeast Europe, Southern Africa, East Africa, and West Africa regions. Under this availability, GSM-102 registrations totaled about \$3.0 billion for exports to 11 countries and 6 regions.

The **GSM-103** program helps developing nations make the transition from concessional financing to cash purchases. Guarantees issued under the GSM-103 program can cover financing periods of more than 3 and up to 10 years. For fiscal year 2002, \$165 million in intermediate credit guarantees was made available for exports to eight countries and three regions: Central America, South America, and Southern Africa. No sales were registered under this program in fiscal year 2002.

The **Supplier Credit Guarantee Program (SCGP)** provides export credit guarantees for sales financed by foreign importers rather than financial institutions. Under the program, CCC guarantees a portion of payments due from importers under short-term financing that exporters have extended directly to importers for the purchase of U.S. agricultural commodities and products. In fiscal year 2002, allocations under the SCGP totaled \$1.1 billion in coverage for sales to 18 countries and 11 regions, including the Baltic, Caribbean, Central America, Central Europe, China/Hong Kong, South America,

Southeast Asia, Southeast Balkans, Southeast Europe, West Africa, and Western Europe regions. Under the announced fiscal year 2002 availability, registrations totaled \$452 million. The SCGP has been growing steadily since its inception in 1997.

The **Facility Guarantee Program (FGP)** is designed to provide payment guarantees in connection with projects that it determines will benefit exports of U.S. agricultural commodities to emerging markets. In supporting these facilities, USDA intends to enhance sales of U.S. agricultur-



al commodities and products to emerging markets where the demand for them may be constricted due to inadequate storage, processing, or handling capabilities. In fiscal year 2002, \$285 million in coverage was announced to seven countries and seven regions; however, no sales were registered.

Export Bonus Programs

The **Export Enhancement Program (EEP)** permits USDA to provide bonuses to make U.S. commodities more competitive in the world marketplace and to offset the adverse effects of unfair trade practices or subsidies. The EEP was not used in fiscal year 2002.

The **Dairy Export Incentive Program (DEIP)** helps exporters sell certain U.S. dairy products at prices lower than the exporter's cost of acquiring them. The major objective of the program is to increase exports of U.S. dairy products. This is done by developing export markets for dairy products where U.S. products are not competitive because of the presence of subsidized products from other countries. The DEIP operates on a bid bonus system similar to EEP, with cash bonus payments. The major markets targeted under the DEIP in fiscal year 2002 included Asia and Latin America, with \$54.5 million in bonuses awarded, to facilitate the export of 86,473 metric tons of dairy products.

Market Development Programs

The **Market Access Program (MAP)** uses CCC funds to aid in the creation, expansion, and maintenance of foreign markets for U.S. agricultural products. The MAP forms a partnership between non-profit U.S. agricultural trade associations, U.S. agricultural cooperatives, non-profit State-regional trade groups, and small U.S. businesses to share the costs of overseas marketing and promotional activities such as consumer promotions, market research, trade shows, and trade servicing.

The **Foreign Market Development Cooperator Program**, also known as the Cooperator Program, uses CCC funds to aid in the creation, expansion, and maintenance of long-term export markets for

U.S. agricultural products. The Cooperator Program fosters a trade promotion partnership between USDA and U.S. agricultural producers and processors who are represented by non-profit commodity or trade associations called Cooperators. Under this partnership, USDA and the Cooperator pool their technical and financial resources to conduct overseas market development activities. Activities must contribute to the maintenance or growth of demand for the agricultural commodities and generally address long-term foreign import constraints and export growth opportunities.

The **Emerging Markets Program** assists U.S. public and private organizations in improving market opportunities in low- to middle-income countries that offer viable markets for U.S. agricultural commodities and products. The program supports a broad range of generic technical assistance activities that U.S. organizations undertake to improve market access and to promote, enhance, or sustain U.S. agricultural exports in these emerging markets. For fiscal year 2002, USDA allocated \$10 million for 82 projects in Africa, Asia, Eastern and Central Europe, South America, and the Caribbean.

The **Quality Samples Program** (QSP) was established in 1999 to help U.S. agricultural trade organizations provide samples of U.S. agricultural products to potential importers in foreign markets.

Focusing on industry and manufacturing uses, this program stimulates interest in U.S. products by giving potential customers the opportunity to test the products and discover U.S. quality. The QSP is used to fund projects that broadly benefit agricultural industries rather than individual exporters. Under the program, participants export samples of U.S. agricultural products to foreign buyers and provide technical demonstrations on how to properly use or further process the products. For fiscal year 2002, USDA announced allocations of \$1.6 million to 21 organizations.

The **Technical Assistance for Specialty Crops** (TASC) program was established by the 2002 Farm Act to address unique



barriers that prohibit or threaten exports of U.S. fruits, vegetables, and other specialty crops. The legislation calls for \$2 million in CCC resources to be provided each fiscal year through 2007 to assist organizations in removing, resolving, or mitigating phytosanitary or related technical barriers to U.S. specialty crops. These crops include all cultivated plants and their products produced in the United States, except wheat, feed grains, oilseeds, cotton, rice, peanuts, sugar, and tobacco. For fiscal year 2002, USDA announced allocations of \$2 million to 18 organizations for projects to help address current or potential barriers that hinder trade in specialty crops.

International Cooperation

The Foreign Agricultural Service coordinates, supports, and delivers a diversified program of international agricultural cooperation and development with developing, middle-income, and emerging market countries. These programs enhance the competitiveness of U.S. agriculture, promote agribusiness and trade, preserve natural resource ecosystems, and help partner countries pursue sustainable economic development worldwide by mobilizing the resources of USDA and its affiliates throughout the U.S. agricultural community.

Food Security

The U.S. Action Plan on Food Security, which FAS coordinated, is the U.S. strate-

gy for meeting the goal established at the 1996 World Food Summit to halve the number of undernourished people by 2015. It represents commitments of both the public sector and civil society to address hunger at home and abroad in seven priority areas: an enabling economic and policy environment, trade and investment, research and education, sustainable agricultural practices, a strong safety net, improved identification of the food insecure, and safe food and water. FAS coordinates the efforts of all U.S. Government agencies in partnership with civil society to monitor and implement the U.S. Action Plan and other U.S. followup to the 1996 World Food Summit.

International Organization Liaison

FAS coordinates U.S. participation in international organizations related to food and agriculture and monitors the policy and programs of international organizations to ensure that they reflect U.S. priorities.

Scientific Collaboration

Short-term exchange visits between U.S. and foreign scientists, as well as longer term collaboration on research projects, allow participants to use science to help solve critical problems affecting food, agriculture, and the environment in both the United States and collaborating countries. The activities reduce threats to U.S. agriculture and forestry, develop new technologies, establish systems to enhance trade, and provide access to genetic diversity essential to maintaining crops that are competitive in the world marketplace. In FY 2001, FAS collaborated with a diverse group of U.S. institutions in research partnerships with 51 countries in scientific cooperation. Research and exchange activities promoted the safe development and application of biotechnology, improved food safety, enhanced nutritive value of crops and livestock, environmental sustainability, and addressed other priority food and agriculture issues.

Technical Assistance

FAS implements a variety of technical assistance projects to increase income

and alleviate hunger and poor nutrition in developing nations, to mitigate the impact of natural and civil disasters, to conserve the natural resource base, and to build the capacity to engage in international trade. The projects are funded by a variety of donors such as the U.S. Agency for International Development (USAID), the World Bank, regional development banks, United Nations agencies, foreign governments, and private organizations. Technical assistance is provided in areas such as food safety, plant and animal health, collection and analysis of agricultural statistics, private sector and agribusiness development, agricultural marketing, soil and water conservation, and community forest management.

Recent efforts include coordination of \$13 million of funding from USAID to undertake hurricane recovery efforts in the Caribbean and Central America in the fall of 1998, provide grants to small farmers in the Dominican Republic, and assist African businesses with developing and marketing high-quality natural products for local, regional, and international markets. FAS is working with transportation and standards officials in Southern Africa to enhance public/private partnerships, harmonize transportation and standards policies and procedures, and foster trade and investment opportunities. Other technical assistance activities designed to promote U.S. trade and investment in middle-income and emerging market countries include cold chain improvement, agricultural biotechnology training and technical assistance, WTO trade policy training, food safety programs, and agribusiness opportunity missions.

Training

Career-related training for foreign agriculturists provides long-term benefits to economic development and trade for both the United States and recipient countries. Working collaboratively with USDA agencies, U.S. universities, and private-sector companies and organizations, FAS designs and implements study tours, academic programs, and short-term courses and training in a variety of areas such as agribusiness, extension ed-

ucation, natural resource management, policy and economics, and human resource development.

The **Cochran Fellowship Program** provides short-term training in the United States for mid- and senior-level specialists and administrators from developing, middle-income, and emerging market countries to promote food security and strengthen U.S. agricultural trade and market development opportunities. The **Faculty Exchange Program** helps overseas universities equip their students to compete in the global economy by providing training in the United States to university educators to help them develop market-oriented agricultural education programs. Other training efforts include training officials from Mexico and Indonesia on food labeling to alleviate technical barriers to trade between the United States and these countries and training programs in emerging markets throughout Asia, Africa, and Latin and South America to help improve understanding of agricultural biotechnology.

Risk Management Agency

The mission of the Risk Management Agency (RMA) is to provide and support cost-effective means of managing risk for agricultural producers in order to improve the economic stability of agriculture. Crop insurance is USDA's primary means of helping farmers survive a major crop loss. In 2002, nearly \$37.3 billion in protection was provided on 215 million acres through more than 1.3 million policies; this level of protection is almost 2.7 times the \$13.6 billion protection on the 100 million acres insured in 1994.

Crop insurance helps farmers recover from crop losses, secure operating loans, and aggressively market a portion of their crop. In 2002, more than 70 percent of the acreage planted to major U. S. crops was insured.

Under current law, producers are required to report their actual yields and all such yields are used in computing a yield guarantee for the insured crop. Transitional yields (T-yields), based on average county yields, are used when there is an insufficient number of actual



yields to establish the yield guarantee. Producers suffering multiple years of severe losses often find themselves with protection so low that they are unable to secure operating loans.

Crop insurance is sold and serviced by 17 insurance companies in conjunction with a network of 15,000 agents across the country. Crop insurance is widely available for major commodities such as

corn, wheat, and cotton. Coverage is also available on a growing number of fruit, nut, and vegetable crops. Nationally, over 100 crops are insurable (counting all insurable varieties would greatly increase the number of crops insured), although not everywhere they are grown. Crop information is available at <http://www.rma.usda.gov/policies/>

RMA continues to assist in the development and approval of new pilot programs, such as avocado, cabbage, cherry, pecan, processing chili pepper, forage seed, hay, rangeland, and raspberry/blackberry crops. By increasing the number and types of insurance plans, the program will help producers better manage their production risks.

Insurance Plans Available

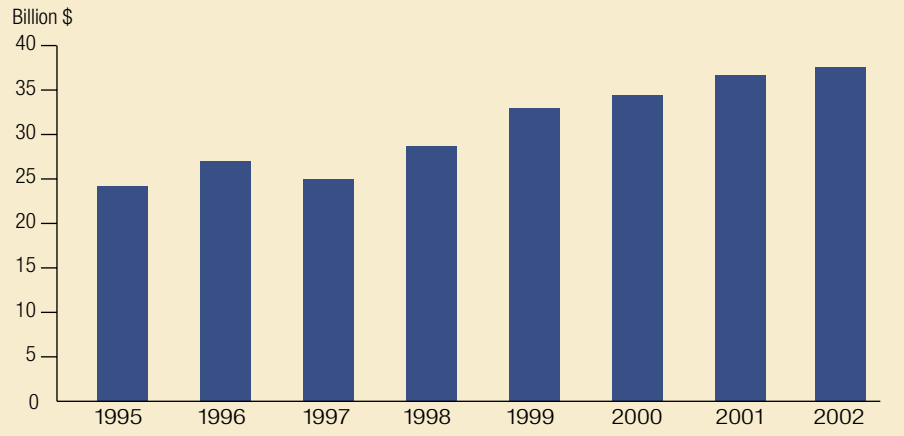
Multiple-Peril Crop Insurance

Multiple-Peril Crop Insurance (MPCI) policies insure producers against losses due to unavoidable causes such as drought, excessive moisture, hail, wind, frost, insects, and disease. Indemnities are paid based on the difference between what was produced and the yield guarantee. Yield guarantees are based on the producer's actual production history and the coverage level percentage elected. Coverage levels generally range from 50 to 75 percent, but up to 85 percent is available for some areas and crops. The prices used to pay losses are between 55 and 100 percent of the commodity price established annually by RMA.

Group Risk Plan

The Group Risk Plan (GRP) policies use a county index as the basis for determining a loss. When the county yield for the insured crop, as determined by USDA's National Agricultural Statistics Service (NASS), falls below the trigger level chosen by the farmer, an indemnity is paid. Yield levels are available for up to 90 percent of the expected county yield. GRP protection involves less paperwork and costs less than the farm-level coverage described above. However, individual crop losses may not be covered if the county yield does not suffer a similar level of loss.

Figure 7-2
Crop insurance liability, U.S. total, 1995-2002



Group Risk Income Protection

Group Risk Income Protection (GRIP) is similar to the Group Risk Plan of insurance except revenue rather than yield is the focus. The GRIP policies provide protection against low county revenue caused by low prices, low yields, or a combination of both. GRIP uses Chicago Board of Trade (CBOT) futures prices to calculate the expected price and harvest price. NASS data are used to calculate the expected and final county yields. The expected price and expected county yield are used to calculate the expected county revenue. An indemnity is paid when the county revenue per acre (harvest price times NASS county yield per acre) falls below the trigger revenue (expected county revenue per acre times coverage percent). Coverage is on an enterprise unit and is available up to 90 percent of the expected county revenue.

Dairy Options Pilot Program

RMA currently operates the Dairy Options Pilot Program (DOPP) to help dairy producers protect their income against the risk of falling milk prices. During each round of DOPP, producers in selected pilot counties receive training in the use of futures and options as price risk management tools. Within program guidelines, they may then purchase dairy put options (right to sell) through futures brokers registered with U.S. exchanges. When prices fall, the value of put options increase, thereby protecting the value of at least a portion of the pro-

ducer's dairy production. USDA assists participating farmers by funding 80 percent of the cost of the options and by paying \$30 per contract toward the commission charged by the broker. In 2001, the Dairy Options Pilot Program (DOPP) was expanded to 300 counties.

Revenue Insurance Plans

Revenue Insurance policies include six plans: Adjusted Gross Revenue, Crop Revenue Coverage, Income Protection, Livestock Gross Margin, Livestock Risk Protection, and Revenue Assurance. Revenue policies are different from standard MPCI policies in that they provide farmers with a measure of price risk protection. Four of the policies, Crop Revenue Coverage, Livestock Gross Revenue, Livestock Risk Protection, and Revenue Assurance, were developed by private-sector insurance companies. Adjusted Gross Revenue and Income Protection were developed by RMA. All the revenue policies guarantee a level of revenue that is determined differently depending on the policy. Visit RMA's Web site at: www.rma.usda.gov

New Plans

The pilot Nutrient Management/Best Management Practice (BMP) Insurance Program provides insurance protection from crop production loss when a producer applies a rate of fertilizer (nitrogen, phosphorus or both) for maximum crop yield as recommended by a Best Management Practice (BMP). A certified crop consultant will recommend a BMP

system for the production area and crop to determine how much fertilizer to apply. The producer will apply the recommended rate of fertilizer on the insured acreage; this portion of the field is called the management unit. Adjacent to the management unit, the crop consultant will lay out a check strip on which the producer will apply his/her historical rate of nutrients. If the producer thinks the crop production on the management unit is low because of insufficient fertilizer, the producer may request a crop appraisal. The producer must use the same farming practices on both the check strip and management unit. It is assumed that growing conditions for the management unit and the check strip are the same, and that fertilization is the only variable. The policy does not cover any causes of loss insured by a policy reinsured by FCIC, such as drought, but only loss of yield from fertilizer recommendations.

Outreach

RMA is continuing its outreach efforts to provide beginning, small, limited-resource, and other traditionally underserved farmers and ranchers with program information and assistance necessary to make informed decisions regarding participating in USDA/RMA programs and activities. RMA is partnering with land-

grant universities, Hispanic-serving institutions (HSIs), and community-based organizations to educate and provide training and technical assistance to farmers and ranchers.

RMA held a national outreach conference, "Survival Strategies for Small and Limited-Resource Farmers and Ranchers," for service providers and stakeholders in FY 2001. The conference goal was to identify and promote successful strategies small and limited-resource farmers and ranchers can use to remain economically viable in the rapidly changing agricultural environment. The strategies identified during the national conference are being shared with farmers and ranchers at the regional and local level through a series of workshops and conferences. Conferences have been held in North Carolina, Washington, and Georgia, with additional conferences in 2002 scheduled for Texas and California.

Risk Management Education

Current farm policy increases the risk borne by producers. To help them acquire the risk management skills needed to compete and win in the global marketplace, RMA is leading a risk management education initiative. This initiative leverages Government funds for education with the resources of public and private-

sector partners to find improved risk management strategies, develop educational curricula and materials, and train producers in effective use of risk management tools.

Through a competitive Request for Applications process, the RMA awarded funds through cooperative agreements and partnership agreements to State departments of agriculture, universities, outreach organizations, and others to deliver risk management educational programs for agricultural professionals, producers, and ranchers. The educational programs cover two areas: risk management education for specific commodities and crop insurance education for producers in 15 underserved States.

More Growth Anticipated

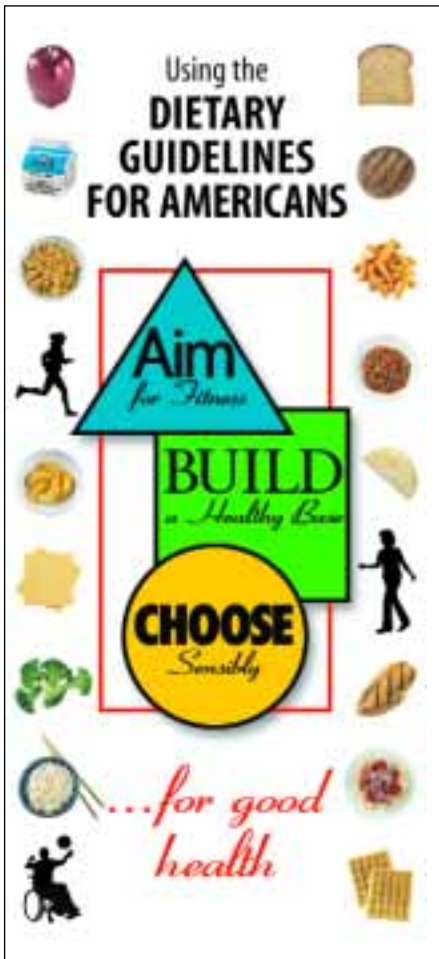
While crop insurance can't provide farmers a good price for their crops, coverage is a vital component of an overall risk management plan. Market-driven risk management products combined with an aggressive risk management education and outreach program will help ensure that our Nation's producers have a reliable and effective safety net. More information on RMA and its programs is available at: <http://www.rma.usda.gov/>

CHAPTER 8

Food, Nutrition, and Consumer Services



While some nutrient deficiencies remain, the most pressing dietary problem today is overconsumption of fat, sodium, refined carbohydrates, and calories.



Center for Nutrition Policy and Promotion

USDA's Center for Nutrition Policy and Promotion (CNPP) was established in 1994 to improve the nutrition and well-being of Americans. Toward this goal, the Center focuses its efforts on two primary objectives—

1. Advance and promote dietary guidance for all Americans, and
2. Conduct applied research and analyses in nutrition and consumer economics.

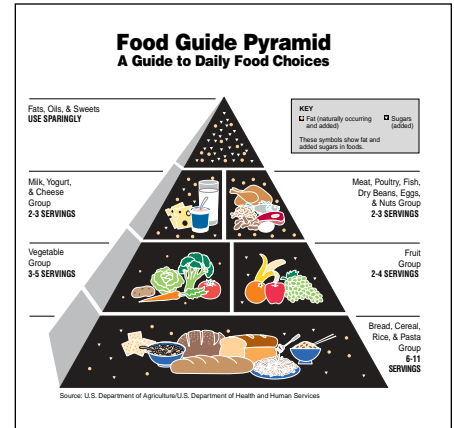
CNPP's core products to support these objectives are the following:

Dietary Guidelines for Americans

The *Dietary Guidelines for Americans* are mandated by Congress and issued jointly by USDA and the U.S. Department of Health and Human Services at 5-year intervals, based on the recommendations of a non-Federal expert committee. The *Guidelines* are the cornerstone of Federal nutrition policy and nutrition education activities. The Center shares leadership in the review and revision of the *Guidelines*, and conducts the consumer research that guides this process. CNPP leads the design and dissemination of the official *Dietary Guidelines* bulletin and also promotes the *Guidelines* by developing and disseminating additional consumer materials. CNPP chairs the Dietary Guidance Working Group, which reviews Federal nutrition materials for the public to ensure that the guidance is consistent and accurately reflects the *Guidelines*.

Food Guide Pyramid

The Pyramid is one of the most widely recognized nutrition education tools in history. It translates nutritional recommendations into the kinds and amounts of food to eat each day. CNPP maintains and updates the research base for the *Pyramid* to reflect current dietary recommendations and food consumption patterns. CNPP also developed the *Food Guide Pyramid for Young Children* to focus on young children's food preferences and nutritional requirements.



Healthy Eating Index

The *Index* is a summary measure of overall diet quality. It provides a picture of the type and quantity of foods people eat and the degree to which diets comply with specific recommendations in the *Dietary Guidelines* and the *Food Guide Pyramid*. CNPP developed the *Index*, and maintains and updates it. CNPP also developed and maintains the *Interactive Healthy Eating Index*, an on-line, self-assessment tool that provides a quick measure of a person's diet quality: <http://147.208.9.133/>

USDA Food Plans

CNPP develops and maintains the four official USDA Food Plans: the Thrifty, Low Cost, Moderate Cost, and Liberal—all representing a nutritious diet at different costs. The Thrifty Food Plan is the basis for food stamp allotments. A supporting consumer publication, *Recipes*



and *Tips for Healthy, Thrifty Eating*, includes menus and recipes based on the Thrifty Food Plan, along with tips for purchasing and preparing foods.

Nutrient Content of the Food Supply

Each year, CNPP assesses the U.S. food supply and reports the amount of nutrients and *Food Guide Pyramid* servings available for consumption on a per capita per day basis. This historical data series, which began in 1909, is used by policymakers in assessing the capacity of the food supply to meet nutritional needs. CNPP also developed and released the *Interactive Food Supply*, an online tool for nutrition researchers, policymakers, and consumers: <http://147.208.9.134/>

Expenditures on Children by Families

USDA has produced estimates of the cost of raising children from birth to age 17 annually since 1960. These estimates are used in setting State child support guidelines and foster care payments, thereby affecting the economic well-being of millions of children in the United States.

ABCs of the Dietary Guidelines for Americans: Science and Application

This innovative Web-based interactive course is designed to provide education for professionals on the *Dietary Guidelines*. The course can be found at: <http://www.dga2000training.usda.gov/>

Family Economics and Nutrition Review

This peer-reviewed journal has been published since 1943. Scientifically based, the *Journal* provides a wealth of useful information to professionals, policymakers, students, and the news media.

Nutrition Insights

CNPP issues brief research papers on current food and nutrition topics. These

two-page documents are targeted to policymakers, nutrition professionals, and the news media.

FOR MORE INFORMATION

Additional information on CNPP can be found at: <http://www.usda.cnpp.gov>

Food and Nutrition Service

The Food and Nutrition Service (FNS) is the gateway to the Nation's nutrition safety net. FNS administers USDA's domestic nutrition assistance programs, and for more than 30 years the agency has worked to accomplish a complex mission—reducing hunger and food insecurity by providing children and needy families better access to food, a healthful diet, and nutrition education.

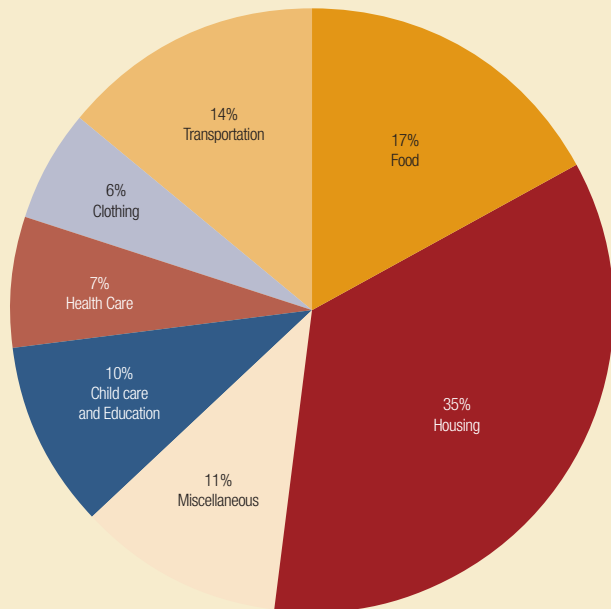
FNS works in partnership with the States to ensure that its programs operate effectively and efficiently. This partnership allows the States to determine most administrative details regarding participant eligibility and distribution of nutrition benefits, and FNS provides funding to cover some of the States' administrative costs.

For fiscal year (FY) 2002, the funding for FNS and its programs was \$38.2 billion. Overall, the nutrition assistance programs reach one out of every six Americans and touch every community in the United States. Most of the programs and

Food and agricultural policy

long has sought to ensure that all Americans have access to a healthy and nutritious food supply, regardless of income. This policy has encompassed a wide array of food assistance and nutrition programs that have humanitarian, investment, and agricultural support goals.



Family expenditures on a child through age 17, by budgetary share¹

¹ U.S. average for the younger child in middle-income, husband-wife families with two children.

nutrition education activities are directed at people with low incomes or school-children. They include:

- The Child and Adult Care Food Program
- The Commodity Supplemental Food Program
- The Disaster Food Stamp Program
- Eat Smart. Play Hard™ Campaign
- Team Nutrition
- The Emergency Food Assistance Program
- The Food Distribution Program
- The Food Distribution Program on Indian Reservations
- The Food Stamp Program
- The National School Lunch Program
- The Nutrition Assistance Programs in Puerto Rico, American Samoa, and the Commonwealth of the Northern Mariana
- Nutrition Services Incentive Program
- The School Breakfast Program
- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- The Special Milk Program
- The Summer Food Service Program
- The WIC Farmers' Market Nutrition Program

Additional information on FNS and its programs can be found on the World Wide Web at <http://www.fns.usda.gov/>

The Child and Adult Care Food Program

The Child and Adult Care Food Program (CACFP) provides healthful meals and snacks in child care centers, family day care homes, and adult day care facilities. By reimbursing participating day care operators for their meal costs and providing them with USDA commodity food and nutrition information materials, CACFP helps ensure that children and adults in day care receive healthful meals. Family day care homes must be overseen by sponsoring organizations that also receive reimbursements from USDA for their administrative expenses.

The program generally operates in child care centers, outside-school-hours care centers, family and group day care homes, homeless shelters, and some adult day care centers. In return for Federal support, care providers in CACFP must serve meals that meet Federal nutritional guidelines and must offer free or reduced-price meals to eligible people. After school care centers can also be

reimbursed for snacks served to children through age 18 in after school educational or enrichment programs.

First authorized as part of a larger pilot project in 1968, the program was formerly known as the Child Care Food Program. It was made a permanent program in 1978, and the name was changed in 1989 to reflect the addition of an adult component. CACFP is administered at the Federal level by FNS. State agencies or FNS regional offices oversee the program at the local level.

In FY 2001, CACFP provided 1.68 billion meals to participants.

Eligibility: At child and adult day care centers, participants from families with incomes at or below 130 percent of the Federal poverty level qualify for free meals; those from families with incomes between 130 percent and 185 percent of the poverty level qualify for reduced-price meals; and those from families with incomes above 185 percent of the poverty level pay full price.

For family day care homes, Congress instituted a two-tier system of reimbursements under the Welfare Reform Act of 1996. Under this system, a higher reimbursement rate (tier 1 reimbursement) is paid to providers located in areas where 50 percent of the children are eligible for free and reduced-price meals or where the provider's household meets established income criteria for free or reduced-price meals. All other providers are reimbursed at a lower rate (tier 2 reimbursement) unless they choose to have their sponsoring organizations identify children who are income eligible. Meals served to such income-eligible children are reimbursed at the higher tier 1 level.

After school care centers are eligible for CACFP on the basis of the income in their area. All snacks are reimbursed at the "free" rate of reimbursement.

Benefits: Children and adults who attend day care facilities receive nutritious meals and snacks. Care providers receive reimbursement for eligible meals and

snacks. Family day care sponsoring organizations receive reimbursement for their administrative costs.

Funding: Congress appropriated \$1.8 billion for the CACFP in FY 2002.

The Commodity Supplemental Food Program

The Commodity Supplemental Food Program (CSFP) is a program of grants to States, administered by FNS at the Federal level. CSFP provides commodity foods to supplement the diets of low-income; pregnant, postpartum, and breastfeeding women; their infants and children up to the age of 6; and persons 60 years of age and older.

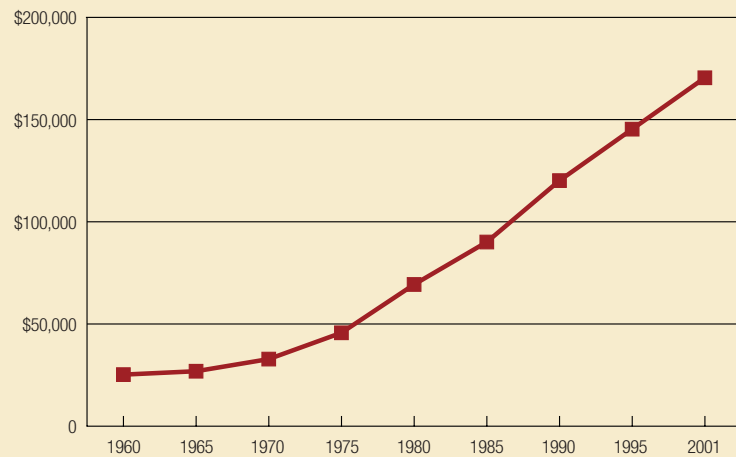
In 1999, CSFP operated at more than 70 sites in 17 States, the District of Columbia, and 2 Indian Tribal Organizations (ITOs). In 2000, the program was expanded to include five new States. USDA donates commodity foods to the State agencies for distribution and provides funds to State and local agencies to cover certain administrative costs. The program served an average of more than 407,000 people each month in FY 2001, including more than 323,000 elderly people and more than 83,000 women, infants, and children.

Eligibility: State agencies that administer CSFP may establish a residency requirement and/or require applicants to be determined to be at nutritional risk in order to be eligible for program participation. To be income eligible, women, infants, and children must be eligible for benefits under existing Federal, State, or local food, health, or welfare programs and must not currently be receiving WIC benefits. Elderly persons must meet a low-income standard.

Benefits: There are six food packages for different categories of participants. The food packages are not intended to provide a complete and balanced diet, but rather they are supplements that are good sources of the nutrients often lacking in participants' diets.

Funding: For FY 2002, Congress appropriated \$92,813,000 for CSFP.

Total expenditures on a child for the first 18 years of life¹



¹ Average expenditures for a middle-income, husband-wife family, not adjusted for inflation.

Disaster Food Stamp Program

When commercial channels of food supply are still operable, or have been restored following a disaster, a State may request approval from the Administrator of the Food and Nutrition Service to operate the Disaster Food Stamp Program.

If approval is granted, FNS may provide on-site guidance for establishing and operating the disaster program. FNS ensures that funding for food stamp benefit issuance is available. State and local officials are responsible for determining the eligibility of households to receive disaster food stamp benefits and for issuance.

Eat. Smart. Play Hard.™ Campaign

The national nutrition education and promotion campaign is designed to convey science-based, behavior-focused, and motivational messages about healthy eating and physical activity. The campaign's primary communication vehicle is Power Panther™, a mascot who conveys nutrition and physical activity messages in a fun and non-threatening way as a peer. The campaign focuses on four basic themes: the importance of breakfast, healthy snacks, physical activity, and balancing what you eat with what you do.

The target audience for this campaign is the diverse population of preschool and school-aged children (ages 2-18 years) participating or eligible to participate in programs and their caregivers. Caregivers include parents, guardians, childcare providers, after school providers and teachers. The campaign is designed to reach the target group where they live, work, learn, and play using multiple communication vehicles, approaches, and channels.

The campaign:

- Encourages families to adopt behaviors that are consistent with the Dietary Guidelines for Americans and the Food Guide Pyramid,
- Communicates behavioral and motivational nutrition education and physical activity messages to children and caregivers,
- Fosters positive behavior change to promote nutrition and health, and reduce the risk for obesity and chronic diseases.

Team Nutrition

FNS provides nutrition education through Team Nutrition; a multifaceted nutrition education initiative delivered in schools, WIC, and child care sites, with ongoing expansion to encompass all the nutrition assistance programs administered



by USDA. The goal of Team Nutrition is to continuously improve children's life-long eating and physical activity habits through public-private partnerships that promote the health and education of children nationwide in accordance with the Dietary Guidelines for Americans and the Food Guide Pyramid.

Team Nutrition engages three behavior-oriented strategies:

- Empower school food service professionals through a variety of training and technical assistance to serve meals that meet the Dietary Guidelines for Americans and that appeal to children.
- Motivate and build skills for children to make food and physical activity choices for a healthy lifestyle through a comprehensive, integrated nutrition education program designed for children, parents, teachers, and school food service professionals.
- Support from school administrators and other school and community partners is vital to the success of Team Nutrition's goal. Persons in these positions can actively support Team Nutrition activities and can help create a healthy school environment.

Six communication channels are involved, and they offer a comprehensive network of delivering consistent nutrition

messages to children and their caretakers that will educate them about the importance of food and physical activity choices for a healthy lifestyle where they live, work, and play. These messages are delivered and reinforced through a variety of sources. They include: (1) food service initiatives, (2) classroom activities, (3) schoolwide events, (4) home activities, (5) community programs and events, and (6) media events and coverage.

Eligibility: All children participating in or eligible to participate in the USDA Child Nutrition Programs may receive nutrition education through Team Nutrition. Professional school food service staffs can also receive training and technical support. There are more than 28,000 Team Nutrition schools across the country.

Funding: In FY 2002, Congress appropriated \$10 million for Team Nutrition.

The Emergency Food Assistance Program

The Emergency Food Assistance Program (TEFAP) provides food assistance to needy people through the distribution of USDA commodities. Under TEFAP, commodities are made available to States for distribution to organizations that provide them to low-income households for home consumption and to organizations that use them in congregate meal service for the needy, including the homeless. Local agencies, usually food banks, shelters, and soup kitchens, are designated by the States to distribute the food.

TEFAP was first authorized in 1981 to distribute surplus commodities to households. Its aim was to help reduce Federal food inventories and storage costs while assisting the needy. The Hunger Prevention Act of 1988 required the Secretary of Agriculture not only to distribute surplus foods but also to purchase additional foods for further distribution to needy households. Funds are also provided for State and local administrative expenses. Foods available vary, depending on market conditions.

Eligibility: Each State sets its own income limits for household eligibility to receive food for home use. States can adjust the

income criteria based on the level of need in order to ensure that assistance is provided only to those most in need.

No income test is applied to people who receive meals at soup kitchens and other congregate feeding sites that make use of TEFAP foods.

Benefits: TEFAP has provided many billions of pounds of food since its beginning. More than 1 billion pounds of food, valued at \$846 million, were distributed at the program's height in 1987. In 1999, more than 311 million pounds of food, valued at more than \$198 million, were distributed.

Funding: Congress appropriated \$150 million for TEFAP in FY 2002.

Food Distribution Program

FNS can provide USDA-donated food assistance through State food distribution agencies. All States have stocks of USDA food on hand for use in their commodity programs for schools or needy people. These stocks can be released immediately for use in a disaster situation.

Upon request from a State, FNS will procure additional food to meet the needs of people affected by a disaster. Nearby States may be asked to release their stocks of USDA food to help feed disaster victims, and USDA will provide replacement of the foods. State agencies then distribute the food to emergency shelters and other mass feeding sites operated by disaster relief agencies such as the American Red Cross.

The State may also request that food be made available for household distribution if commercial channels of food supply are not available because of the disaster.

The Food Distribution Program on Indian Reservations

The Food Distribution Program on Indian Reservations (FDPIR) provides monthly food packages to low-income families living on reservations and to Native American families living near reservations. Many Native Americans participate in FDPIR as an alternative to the Food Stamp Program if their tribe or tribal agency has been authorized to run the

program. An average of 129,000 people received food through FDPIR each month in 1999.

The program is administered at the Federal level by FNS in cooperation with State and tribal agencies. USDA provides food to these agencies, which are responsible for program operations such as storage and distribution, eligibility certification, and nutrition education.

The food packages distributed through FDPIR were updated in 1997 in a cooperative effort by USDA nutritionists, tribal leaders, and health advocates. Changes have made the food packages easier to use and they better serve the health needs and preferences of Native Americans. USDA also provides nutrition information in the monthly food package, along with suggestions for making the most nutritious use of the commodity foods.

Eligibility: To participate in FDPIR, the household must have low income within program requirements, have assets within specified limits, and be located on or near an Indian reservation.

Benefits: USDA donates a variety of foods to help FDPIR participants maintain a balanced diet. These commodities include canned meats and fish products; vegetables, fruits, and juices; dried beans; peanuts or peanut butter; milk, butter, and cheese; pasta, flour, or grains; adult cereals; corn syrup or honey; and vegetable oil and shortening. Frozen chicken and ground beef are increasingly available as tribes are able to store and handle these products safely, and the 1997 review of food packages resulted in the addition of noodles, spaghetti sauce, crackers, reduced-salt soups, and low-fat refried beans.

Each participant receives a monthly package that contains a variety of foods. For FY 2001, the value of the monthly food package was about \$37.39 per person.

Funding: In FY 2002, Congress appropriated \$79.5 million for FDPIR.



The Food Stamp Program

The Food Stamp Program is the cornerstone of USDA's nutrition assistance programs. The program helps low-income households increase their food purchasing power and their choices for a better diet. It is the primary source of nutrition assistance for low-income Americans. The program was initiated as a pilot program in 1961 and made permanent in 1964.

The first line of defense against hunger for millions of families, the Food Stamp Program provides critical support for families making the transition from welfare to work and the elderly and disabled. The program issues monthly allotments of coupons or electronic benefits through Electronic Benefit Transfer (EBT) that are redeemable at authorized retail food stores, farmers' markets, and certain other providers.

The Federal Government pays for the benefits issued and shares with the States the cost of administrative expenses. An average of 18.2 million people received benefits each month in FY 1999. Participation fell steadily from a high of 28.0 million in March 1994 to 17.3 million in March 2000. In March 2001, participation remained at about 17.3 million people, but then increased to 19 million by March 2002. FNS is also translating several publications into 45 languages to assist non-English speakers at food stamp offices.

To ensure that people potentially eligible for benefits are aware of the program, FNS is working with States on public information campaigns. Publications on the Food Stamp Program are being translated in order to assist non-English speakers.

Most States have converted food stamp issuance to EBT systems. EBT allows food stamp customers, using a magnetic stripe card, to buy groceries by transferring funds directly from a food stamp benefit account to a retailer's account. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 requires all States to convert to EBT issuance by October 2002.



EBT is only one component of FNS' commitment to Food Stamp Program efficiency and integrity. The agency works closely with the States to ensure that they issue benefits in the correct amounts and only to people who are eligible. EBT has enhanced FNS' ability to catch those who abuse the program, and penalties have been increased for people who are caught. In addition, FNS now has broader authority to review the performance of food retailers who participate in the program and to quickly remove those who fail to follow program rules.

USDA also provides educational materials to help States integrate nutrition into the Food Stamp Program. States may use program administrative funds for nutrition education to help food stamp recipients make healthier food choices as they use their benefits.

Eligibility: Eligibility and allotments are based on household size, income, assets, and other factors. In FY 2002, the average household benefit is about \$185.62 per month; and the average per-person benefit is about \$79.68 per month.

Benefits: The level of benefits an eligible household receives is based on its household income and expenses. Households with no countable net income receive the maximum monthly allotment of food stamps. The allotment is based on the cost of the Thrifty Food Plan, a low-cost model food plan. The Federal Government pays for the benefits issued and shares with the States the cost of administrative expenses.

In FY 2001, the Food Stamp Program awarded 14 research grants to improve access to the program. The grants totaled \$3.68 million and were awarded to nonprofit organizations partnering with State and local food stamp offices.

Funding: For FY 2002, the Food Stamp Program appropriation was \$23 billion.

The National School Lunch Program

The National School Lunch Program (NSLP) is a federally assisted meal program operating in nearly 97,000 public and nonprofit private schools and resi-

dential child care institutions. It provides nutritionally balanced, low-cost or free lunches and after school snacks to about 27 million children each school day.

NSLP is usually administered by State education agencies, which operate the program through agreements with local school districts. FNS administers the program at the Federal level. School districts and independent schools that choose to take part in the lunch program receive cash reimbursement and donated commodity foods from USDA for each meal they serve. In return, they must serve meals that meet Federal nutrition requirements, and they must offer free and reduced-price lunches to eligible children.

The after school snack component of NSLP provides reimbursement for nutritious snacks served to children through age 18 in eligible after school care programs. In order to qualify for these reimbursements, the school districts must operate the lunch component of NSLP and must sponsor or operate an after school care program that provides children with regularly scheduled educational or enrichment activities in an organized, structured, and supervised environment.

Sites in which more than 50 percent of the students qualify for free or reduced-price breakfasts or lunches are referred to as "area eligible," and these sites serve all snacks free. Otherwise, eligibility for free, reduced-price, and full-price snacks is based on income. To qualify for reimbursement, the snacks must meet meal pattern requirements.

USDA's School Meals Initiative for Healthy Children was launched in June 1994 and is a public policy blueprint to ensure that school meals meet the Dietary Guidelines for Americans requirements, that we motivate children to make food choices for a healthful diet, and that we support these changes through training and technical assistance for school food service professionals.

In support of this commitment for healthier schoolchildren, Team Nutrition



evolved as the implementation tool for this initiative. Extensive training and technical assistance have been provided to all school food service professionals for preparing meals that meet the new nutrition standards and for educating children about nutrition so they have the knowledge to choose foods that are good for them.

The Department has placed special emphasis on improving the quality of USDA commodity foods donated to NSLP, as well as their consistent and timely availability. The Commodities Improvement Council promotes the health of schoolchildren by improving the nutritional profile of USDA commodities while maintaining USDA's support for domestic agricultural markets. Based on the council's recommendations, USDA has reduced the fat, sodium, and sugar content of commodities and has increased the variety of low-fat and reduced-fat products.

USDA has greatly increased the amount of fresh produce available to schools and is now offering unprecedented amounts and varieties of fresh fruits and vegetables. A cooperative project with the Department of Defense (DOD) has allowed USDA to increase the variety of produce available to schools by utilizing DOD's buying and distribution system. USDA is also exploring ways to connect schools to small-resource farmers in their areas

to help the schools purchase fresh, local produce directly from the producers.

Eligibility: Any child, regardless of family income level, can receive a meal through NSLP. Children from families with incomes at or below 130 percent of the Federal poverty level are eligible to receive free meals. Children from families with incomes between 130 and 185 percent of poverty are eligible for reduced-price meals. Children from families with incomes over 185 percent of poverty pay the full price, which is established by the local school food authority.



Benefits: Children receive meals free or at low cost because of USDA support for the school meals programs. Most of that support comes in the form of cash reimbursements to schools for meals served. USDA's per-meal reimbursement rates for the contiguous United States July 1, 2001, through June 30, 2002, were \$ 2.09 for free meals; \$1.69 for reduced-price meals; and .20 cents for full-price meals. Reimbursement rates are higher in Alaska and Hawaii. Schools may charge no more than 40 cents for a reduced-price meal. They set their own prices for full-price meals, though they must operate their meal services on a nonprofit basis.

After school snacks are served free to all children in programs that operate in areas where at least 50 percent of students are eligible for free or reduced-price meals. Schools are reimbursed at the free rate for each snack served.

In addition to cash reimbursements, schools are entitled to receive commodity foods, called "entitlement" foods, at an annually adjusted per-meal rate (15.5 cents per meal in School Year 2001-02) for each meal they serve. Schools can receive additional commodities, known as "bonus" commodities, when these are available from surplus stocks purchased by USDA under surplus removal and price support programs. USDA commodities make up approximately 17 percent of the cost of the food served by the average school food authority. The rest of the food served is purchased locally by the school food authority.

Funding: For FY 2002, the projected funding need for the National School Lunch Program is \$6.4 billion.

The Nutrition Assistance Programs in Puerto Rico, American Samoa, and the Commonwealth of the Northern Mariana Islands

The Food Stamp Program in Puerto Rico was replaced in 1982 by a block grant program. American Samoa and the Northern Marianas in the Pacific also provide benefits under block grants. The programs provide cash or food benefits in place of food stamps or commodities.

Eligibility: The territories determine eligibility and allotments for their programs based on household size, income, assets, and other factors.

Benefits: The territories provide cash and coupons to participants rather than food stamps or food distribution. The grant can also be used for administrative expenses or in the case of Puerto Rico, for special projects related to food production and distribution.

Funding: In FY 2002, Congress appropriated \$1.35 billion for Puerto Rico, \$5.3 million for American Samoa, and funded \$7.1 million for the Commonwealth of Northern Marianas Islands food program.

Nutrition Services Incentive Program

Nutrition Services Incentive Program (NSIP) is the new name for the program formerly known as the Nutrition Program for the Elderly (NPE). The name change is the result of an amendment to the Older Americans Act (OAA) of 2000. The NSIP is administered by the U.S. Department of Health and Human Service's (DHHS) Administration on Aging, but receives commodity foods and financial support from the U.S. Department of Agriculture's Food and Nutrition Service (FNS).

NSIP helps provide elderly persons with nutritionally sound meals through Meals-on-Wheels programs or in senior citizen centers and similar settings.

Eligibility: Age is the only factor used in determining eligibility. People age 60 or older and their spouses, regardless of age, are eligible for NSIP benefits. There is no income requirement to receive meals under NSIP, although the program targets lower income areas.

Benefits: Each recipient can contribute as much as he or she wishes toward the cost of the meal, but meals are free to those who cannot make any contribution.

Under NSIP, meals served must meet a specified percentage of the Recommended Dietary Allowances (RDAs) and the Dietary Guidelines for Americans in order to qualify for cash or commodity assistance.

Funding: Congress appropriated \$150 million for NSIP in FY 2002.

The School Breakfast Program

The School Breakfast Program (SBP) provides cash assistance to States to operate nonprofit breakfast programs in schools and residential child care institutions. The program operates in more than 72,000 schools and institutions, serving a daily average of some 7.4 million children. It is administered at the Federal level by FNS. State education agencies administer the SBP at the State level, and local school food authorities operate it in schools.

Eligibility: Any child at a participating school may receive a meal through SBP. Children from families with incomes at or below 130 percent of the Federal poverty level are eligible for free breakfasts. Children from families with incomes between 130 and 185 percent of the poverty level are eligible for reduced-price breakfasts. Children from families with incomes over 185 percent of poverty pay the full, locally established price for their breakfasts.

Benefits: Students receive their meals free or at low cost because USDA supports the School Breakfast Program with cash reimbursements for meals served. For School Year 2001-02, schools in the contiguous United States received reimbursements of \$1.15 for a free meal; 85

cents for a reduced-price meal; and 21 cents for a full-price meal. As with the National School Lunch Program, reimbursements are slightly higher in Alaska and Hawaii. Schools may charge no more than 30 cents for a reduced-price breakfast. Local schools set their own prices for full-price meals, but must operate on a nonprofit basis.

Funding: For FY 2002, Congress appropriated \$1.49 billion for SBP. Program funding for the School Breakfast Program is estimated to be \$1.57 billion.

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

The Special Supplemental Nutrition Program for Women, Infants, and Children, commonly known as the WIC Program, is a grant program for States intended to improve the health of pregnant, postpartum, and breastfeeding women, and infants and children up to 5 years old by providing supplemental foods, nutrition education, including breastfeeding promotion and support, and access to health care. A few State agencies provide food directly to participants, but most States provide WIC vouchers to WIC participants that they can use at authorized food stores for approved foods at no cost to the participant.

WIC provides each State with a grant of funds to serve its most needy eligible population. Because of documented successes of the WIC program in improving the nutritional well-being of participants, it has been expanded to serve more eligible people. In FY 2001, WIC served an average of more than 7.3 million people each month.

Eligibility: To be eligible for WIC, an applicant must be a pregnant, breastfeeding, or postpartum woman, or an infant or child under age 5, and must meet State residency requirements, meet an income standard, and be determined by a health professional to be at nutritional risk. This nutrition evaluation is done at no cost to the applicant.

Benefits: In most States, WIC participants receive vouchers that allow them to pur-





chase a monthly food package especially designed to supplement their diets. The foods provided are high in protein, calcium, iron, and vitamins A and C. WIC foods include iron-fortified infant formula and infant cereal; iron-fortified adult cereal; vitamin C-rich fruit or vegetable juice; eggs, milk, and cheese; and legumes such as peanut butter, dried beans, or peas. Special therapeutic formulas and foods are provided when prescribed by a physician for a specified medical condition.

WIC mothers are encouraged to breast-feed their babies whenever possible. Women who breastfeed their babies receive an enhanced WIC food package that includes tuna, carrots, cheese, legumes, and extra juice. Those who do not breastfeed their babies receive infant formula for the babies and a regular food package for themselves.

Funding: In FY 2002, Congress appropriated \$ 4.387 billion for the WIC Program.

The Special Milk Program

The Special Milk Program (SMP) provides milk to children in schools and child care institutions who do not participate in other Federal meal service programs. The program reimburses schools for the milk they serve.

Schools in the National School Lunch or School Breakfast Programs may also participate in SMP to provide milk to children in half-day pre-kindergarten and kindergarten programs where children do not have access to the school meal programs.

Expansion of the National School Lunch and School Breakfast Programs, which include milk, and the prohibition against using SMP to fund extra milk for lunch and breakfast program activities, has led to a substantial reduction in SMP since its peak in the late 1960's. In 2001, over 116 million half pints of milk were served through the SMP.

In 2001, nearly 7,000 schools and residential child care institutions participated, along with 1,300 summer camps and over 500 non-residential child care institutions.

Eligibility: Any child at a participating school or kindergarten program can get milk through SMP. Children may buy milk or receive it free, depending on the school's choice of program options. When local officials offer free milk under the program, any child from a family that meets income guidelines for free meals and milk is eligible.

Benefits: Participating schools and institutions receive reimbursement from the Federal Government for each half pint of milk served. They must operate their milk programs on a nonprofit basis and agree to use the Federal reimbursement to reduce the selling price of milk to all children.

Funding: In FY 2002, Congress appropriated \$16.9 million for SMP.

The Summer Food Service Program

The Summer Food Service Program (SFSP) provides free meals to low-income children during school vacations.

SFSP was first created as part of a larger pilot program in 1968 and became a separate program in 1975. In the summer of 2001, more than 2.1 million children participated at more than 31,000 summer feeding sites.

The program is administered at the Federal level by FNS. Locally, it is operated by approved sponsors who receive reimbursement from USDA for the meals they serve. Sponsors provide meals at a central site such as a school or community center. All meals are served free.

SFSP operates in low-income areas where half or more of the children are from households with incomes at or below 185 percent of the Federal poverty guideline. Residential children's camps also may get reimbursement through SFSP for meals served to income-eligible children.

Eligibility: Children age 18 and under who participate in a school program for the mentally or physical handicapped and people over age 18 who are determined by a State educational agency to be

mentally or physically handicapped may receive meals through SFSP.

Benefits: At most sites, participants receive either one or two meals a day. Residential camps and sites that primarily serve children from migrant households may be approved to serve up to three meals per day.

Sponsors are reimbursed for documented operating and administrative costs.

Funding: In FY 2002, Congress appropriated \$ 312 million for SFSP.

USDA Disaster Assistance

FNS is the primary agency responsible for providing Federal food assistance in response to domestic disasters such as fires, floods, storms, earthquakes and any other emergencies declared as such by the President. FNS provides assistance through the Food Distribution Program and the Disaster Food Stamp Program.

The WIC Farmers' Market

Nutrition Program

The WIC Farmers' Market Nutrition Program (FMNP) was established in 1992.

The program has two goals: to provide fresh, nutritious, unprepared food, such as fruits and vegetables, from farmers' markets to WIC participants who are at nutritional risk; and to expand consumers' awareness and use of farmers' markets. This program, operated in conjunction with the regular WIC Program, is operational in 44 State agencies, including 4 Indian Tribes, 1 Territory, and the District of Columbia. During FY 2001, 2.1 million WIC participants received FMNP benefits through 2,500 farmers' markets.

Eligibility: Women, infants over 4 months old, and children who receive WIC program benefits or who are WIC-eligible, may purchase foods at farmers' markets through FMNP.

Benefits: Fresh produce can be purchased with FMNP coupons. State agencies may limit FMNP sales to specific produce that is locally grown to encourage participants to support the farmers in their own State.

Funding: In FY 2002, \$25 million was appropriated for FMNP.

CHAPTER 9

Food Safety



Food Safety and Inspection Service

The Office of Food Safety oversees the Food Safety and Inspection Service, the agency within USDA responsible for ensuring the safety, wholesomeness, and correct labeling and packaging of meat, poultry, and egg products. FSIS operates under the authority of the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act. FSIS sets standards for food safety and inspects and regulates all raw and processed meat and poultry products, and egg products sold in interstate commerce, including imported products. FSIS has implemented a strategy for change to reduce the incidence of foodborne illness attributable to meat, poultry, and egg products. The Office of Food Safety, headed by USDA's Under Secretary for Food Safety, provides oversight of the agency.

In FY 2001, FSIS inspected over 8.2 billion poultry, 140 million head of livestock, and 4.5 billion pounds of egg products.

The activities of FSIS include:

- Inspection of poultry and livestock, as well as processed products made from them;
- Inspection of all liquid, frozen, and dried egg products;
- Setting food safety standards for plant facilities, product contents, processing procedures, packaging and labeling, and microbial and chemical adulterants;

- Analyzing products for microbial and chemical adulterants;
- Conducting risk assessments, as well as epidemiological and other scientific studies, to estimate human health outcomes associated with the consumption of meat, poultry, and egg products. These risk assessments and studies provide science-based information for risk management and communication; and
- Educating consumers about foodborne illness by way of publications, educational campaigns, and a toll-free, nationwide USDA Meat and Poultry Hotline (1-800-535-4555).

FSIS inspectors examine animals before and after slaughter, preventing diseased animals from entering the food supply and examining carcasses for visible defects that can affect safety and quality. Inspectors also test for the presence of harmful pathogens and drug and chemical residues.

More than 7,600 FSIS inspectors carry out the inspection laws in over 6,500 privately owned meat, poultry, egg product, and other slaughtering or processing plants in the United States and U.S. Territories.

In addition, about 250,000 different processed meat and poultry products fall under FSIS inspection. These include hams, sausages, soups, stews, pizzas, frozen dinners, and products containing 2 percent or more cooked poultry or at least 3 percent raw meat. In addition to inspecting these products during processing, FSIS evaluates and sets standards for food ingredients, additives, and compounds used to prepare and package meat and poultry products.

As part of the inspection process, FSIS tests for the presence of pathogens and toxins such as *Salmonella*, *Listeria monocytogenes*, and *Staphylococcal enterotoxin* in ready-to-eat and other processed products. FSIS continues to have a zero tolerance for these pathogens in ready-to-eat and other processed products.

America's familiarity with health risks from foodborne microbial hazards has increased in recent years. Widely publicized outbreaks of foodborne illness...have raised the public's concern.

Table 9-1
Livestock, poultry, and egg products federally inspected in 2000 and 2001

| | 2000 | 2001 |
|-----------------|---------------|---------------|
| Cattle | 36,239,548 | 38,974,227 |
| Swine | 93,385,041 | 96,599,904 |
| Other livestock | 3,915,417 | 4,138,779 |
| Poultry | 8,547,271,635 | 8,220,504,495 |
| Egg products | 5,100,000,000 | 4,500,000,000 |

Note: Fiscal years are October-September (i.e., fiscal 2001 ran Oct. 1, 2000–Sept. 30, 2001). All numbers are rounded from original data.

FSIS also tests for pathogens in some raw products. In 1994, USDA declared *E. coli* O157:H7 an adulterant in raw ground beef and established a monitoring program for the pathogen. As part of the Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) Systems final rule, issued in July 1996, FSIS for the first time set pathogen reduction performance standards for *Salmonella* that slaughter plants and plants producing raw ground products must meet. The final rule also requires meat and poultry slaughter plants to conduct microbial testing for generic *E. coli* to verify the adequacy of their process controls for the prevention of fecal contamination.

Imported meat and poultry are also subject to FSIS scrutiny. The agency reviews and monitors foreign inspection systems to ensure that they are equivalent to the U.S. system before those countries are allowed to export. When the products reach the United States, products are reinspected at 155 active import locations by inspection personnel.

Nearly 4 billion pounds of meat and poultry passed inspection for entry into the United States from 33 countries during 2001.

Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) Systems—Implementation

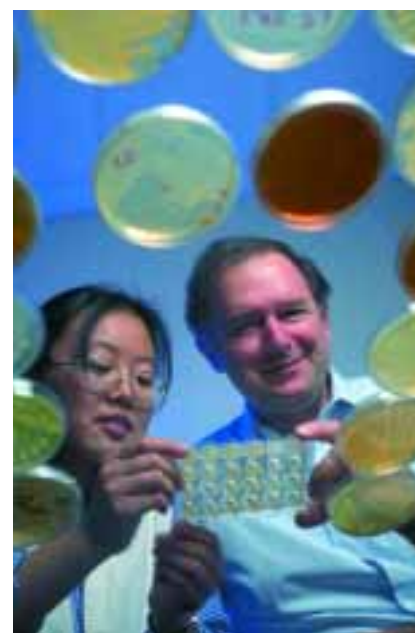
In 2000, FSIS completed implementation of its landmark rule, Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) Systems. The rule addresses the serious problem of foodborne illness in the United States associated with meat and poultry products by focusing more attention on the prevention and reduction of microbial pathogens on raw products that can cause illness. It also clarifies the respective roles of government and industry in food safety. Industry is accountable for producing safe food. Government is responsible for setting appropriate food safety standards, maintaining vigorous oversight to ensure that these standards are met, and for operating a strong enforcement program to, among other things, deal with plants that do not meet regulatory standards.

The Pathogen Reduction/HACCP rule: (1) requires all meat and poultry plants to develop and implement written standard operating procedures for sanitation (SSOPs); (2) requires meat and poultry slaughter plants to conduct microbial testing for generic *E. coli* to verify the adequacy of their process controls for the prevention of fecal contamination; (3) requires all meat and poultry plants to develop and implement a system of preventive controls, known as HACCP, to improve the safety of their products; and (4) sets pathogen reduction performance standards for *Salmonella* that slaughter plants and plants producing raw ground products must meet.

The Pathogen Reduction/HACCP rule applies to over 6,500 federally inspected and 2,300 State-inspected slaughter and processing plants in the United States. Countries that export meat and poultry products to the United States must also meet the requirements of the final rule. Egg products are not covered by the final rule, but FSIS has developed a strategy that will include HACCP to improve the safety of eggs and egg products.

Implementation of HACCP in all plants has been smooth, and the new prevention-oriented meat and poultry inspection system continues to show improvement. With only minor fluctuations, *Salmonella* prevalences in all classes of products have decreased to levels below the baseline prevalence estimates determined prior to HACCP. The decrease in the prevalence of *Salmonella* in raw meat and poultry from 1998 to 2001 is consistent with reports from the Centers for Disease Control and Prevention indicating a decline in human illnesses linked to *Salmonella* during the same time period. As industry has complied with the new pathogen reduction and HACCP requirements, FSIS is strengthening HACCP systems to more effectively protect consumers from unsafe meat and poultry.

For more information on HACCP and compliance, visit the FSIS Web site at: <http://www.fsis.usda.gov> and access “HACCP Implementation.”



Proper design and implementation of new food safety policies must be based on the best available science. This is especially important in an international context.

Table 9-2
Prevalence of Salmonella in the PR/HACCP Verification Testing Program
All Years 1998–2001

| Product | Base-line Prevalence (%) | Large Establishments | | Small Establishments | | Very Small Establishments | | All Sizes Establishments | |
|----------------|-----------------------------|----------------------|-------|----------------------|-------|---------------------------|-------|--------------------------|-------|
| | | # Samp | % Pos | # Samp | % Pos | # Samp | % Pos | # Samp | % Pos |
| Broilers | 20.0 | 23,229 | 9.2 | 7,757 | 13.7 | 453 | 34.7 | 31,439 | 10.7 |
| Market Hogs | 8.7 | 5,701 | 3.5 | 4,479 | 8.6 | 6,393 | 4.9 | 16,573 | 5.4 |
| Cows/Bulls | 2.7 | 419 | 0.5 | 4,164 | 2.0 | 1,288 | 3.6 | 5,871 | 2.2 |
| Steers/Heifers | 1.0 | 766 | 0.1 | 1,614 | 0.4 | 1,403 | 0.7 | 3,783 | 0.4 |
| Ground Beef | 7.5 | 3,954 | 5.2 | 48,595 | 3.8 | 22,209 | 2.4 | 74,758 | 3.4 |
| Ground Chicken | 44.6 | 408 | 15.9 | 536 | 16.0 | 53 | 11.3 | 997 | 15.7 |
| Ground Turkey | 49.9 | 2,836 | 30.2 | 812 | 25.6 | 64 | 28.1 | 3,712 | 29.2 |

Table 9-3
Percent of Sample Sets Meeting the Salmonella Performance Standards
All Years 1998–2001

| Product | # Sets | | % Pass | | # Sets | | % Pass | | # Sets | | % Pass | |
|----------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--|--------|--|
| | | | | | | | | | | | | |
| Broilers | 442 | 93.4 | 142 | 84.5 | 4 | 25.0 | 588 | 90.8 | | | | |
| Market Hogs | 99 | 91.9 | 69 | 73.9 | 49 | 77.6 | 217 | 82.9 | | | | |
| Cows/Bulls | 7 | 100.0 | 62 | 83.9 | 17 | 76.5 | 86 | 83.7 | | | | |
| Steers/Heifers | 8 | 100.0 | 19 | 94.7 | 4 | 100.0 | 31 | 96.8 | | | | |
| Ground Beef | 70 | 85.7 | 796 | 91.0 | 288 | 95.5 | 1,154 | 91.8 | | | | |
| Ground Chicken | 6 | 100.0 | 9 | 100.0 | 1 | 100.0 | 16 | 100.0 | | | | |
| Ground Turkey | 49 | 91.8 | 13 | 84.6 | 1 | 100.0 | 63 | 90.5 | | | | |

HACCP-Based Inspection Models Project (HIMP)

In 2002, the CDC published a report that credits the implementation of HACCP as a major factor in the continued decline in the incidence of foodborne illness. However, the HACCP system does not currently apply to all activities associated with the slaughter process, so FSIS has developed and is testing new inspection models that employ the scientific principles associated with Pathogen Reduction/HACCP.

HIMP is a pilot program that began in 1997 and is designed to test whether new government slaughter inspection procedures can be employed that improve food safety and increase consumer protection, and that leads to the more efficient and effective use of inspection resources and personnel. Only meat and poultry plants that slaughter exclusively young, healthy, uniform animals—market hogs, fed cattle, or young poultry

(including turkeys)—are eligible for the project. These animals comprise nearly 90 percent of animals slaughtered in inspected establishments. Eligible plants may volunteer to participate in the pilot program.

Under HIMP, changes are being made in the role of the slaughter inspector. Except for one inspector at the end of the line, inspectors are no longer tied to one point on the inspection line. Instead, inspectors are free to move around the plant and up and down the processing line to perform verification checks and observe operations wherever necessary. Currently, approximately 24 establishments that slaughter young chickens, hogs, and turkeys are participating in the pilot project.

Under the project, FSIS has established performance standards for food safety and non-food safety defects, such as bruises, (also known as “other consumer

protections”) that volunteer plants must meet. In order to meet these standards, plants are extending their HACCP systems to address the food safety conditions, and they are developing process control plans to address other consumer practices. Plants are responsible for identifying and removing meat and poultry carcasses that do not meet these standards.

The accomplishments of the new system must meet or exceed the accomplishments of the current system in order for FSIS to consider the new system to be successful. The project is being carried out through an open public process that allows all interested constituents the opportunity to provide input. Data collected in the project to date, by both an independent contractor and FSIS’ in-plant inspectors, show improvements in both food safety and other consumer protections. FSIS will continue to evaluate and make improvements to HIMP. Plants that are permitted to operate under HIMP will be held accountable for meeting the performance standards and all other regulatory requirements.

Activities Related to Homeland Security

For nearly a century, FSIS has protected consumers by ensuring that meat, poultry, and egg products are safe, wholesome, and accurately labeled. Although we are now facing new threats related to intentional contamination of the food supply, this history of dealing with food emergencies has allowed FSIS to develop the expertise to protect our Nation’s supply of meat, poultry, and egg products.

With a strong food safety infrastructure already in place, USDA has been able to focus on fortifying existing programs and improving lines of communication both internally and externally through cooperation with industry, consumers, and other government agencies.

FSIS coordinates its efforts with several other agencies committed to preventing biosecurity threats. FSIS works closely with the Centers for Disease Control and Prevention, the Food and Drug Administration, and the Environmental Protection

Agency, as well as with State and local health agencies to share information about illnesses.

Emerging Issues

Over the past several years, FSIS has enhanced the public health focus of its food safety program helping the agency address emerging and re-emerging issues, such as *E. coli* O157:H7 and *Listeria monocytogenes*.

***E. coli* O157:H7**

The CDC estimates that 73,000 cases of infection and 60 deaths occur in the United States each year as a result of *E. coli* O157:H7.

A risk assessment for *E. coli* O157:H7 in ground beef was completed in September 2001 and submitted to the National Academy of Sciences for peer review. The risk assessment estimates the risks of foodborne illness from the pathogen under current baseline manufacturing conditions and will be revised in response to comments from the peer review. When the review is completed, the agency will use the risk assessment to determine whether changes in its policies on *E. coli* O157:H7 are needed.

Listeria monocytogenes

According to the CDC, an estimated 2,500 people in the United States become ill from *Listeria monocytogenes* each year, and approximately 20 percent die as a result of the illness.

FSIS consumer education programs specifically target pregnant women and newborns, older adults, and people with weakened immune systems caused by cancer treatments, AIDS, diabetes, kidney disease, etc., who are all at risk for becoming seriously ill from eating foods that contain *Listeria monocytogenes*.

On January 18, 2001, FDA and FSIS released a draft risk assessment of the potential relative risk of listeriosis from eating certain ready-to-eat foods, as well as an action plan designed to reduce the risk of foodborne illness caused by *Listeria monocytogenes*.

Continued basic research is needed to evaluate the incidence of current and emerging hazards, identify and quantify the chronic complications that these acute foodborne illnesses can cause, and identify which foods are causing the illnesses.



FSIS also has the following four longer term initiatives:

- The agency drafted a protocol to study the post-production growth of *Listeria monocytogenes* in a wide variety of ready-to-eat products. USDA's Agricultural Research Service is conducting the study;

- FSIS has developed an indepth verification protocol that can be used to determine the adequacy of plants' HACCP plans for ready-to-eat products, particularly regarding *Listeria monocytogenes*;

- A risk ranking for *Listeria monocytogenes*, in conjunction with the Food and Drug Administration, focused on all foods, particularly refrigerated, ready-to-eat foods; and

- FSIS is developing food safety standards for ready-to-eat products that will address the need to control all pathogens, including *Listeria monocytogenes*.

Bovine Spongiform Encephalopathy

Bovine spongiform encephalopathy (BSE) has never been detected in U.S. cattle. Since 1989, USDA has banned the import of live ruminants, such as cattle, sheep, goats, and most ruminant products from the United Kingdom and other countries having BSE. Should a case of BSE ever be detected in this country, an emergency response plan has been developed to immediately control suspect animals and prevent them from entering the food supply.

In 1998, USDA asked the Harvard Center for Risk Analysis to evaluate the robustness of U.S. measures to prevent the spread of BSE or "mad cow disease" to animals and humans if it were to arise in this country.

Results of this landmark 3-year study showed that the risk of BSE occurring in the United States is extremely low. The report noted that early protection systems put into place by the USDA and the U.S. Department of Health and Human Services (HHS) have been largely responsible for keeping BSE out of the United States and would prevent it from spreading if it ever did enter the country.

Even so, in November 2001, the Under Secretary for Food Safety announced a series of actions the USDA would take, in cooperation with HHS, to strengthen its BSE prevention programs and maintain the Government's vigilance against the disease.

- USDA will have the risk assessment peer reviewed by a team of outside experts to ensure its scientific integrity;
- USDA will continue increasing its testing for BSE, with over 12,500 cattle samples targeted in fiscal year 2002—up from 5,000 during fiscal year 2001;
- USDA will announce in the *Federal Register* the availability of a policy options paper that will outline additional possible regulatory actions to limit the risk of BSE exposure;
- USDA will issue a proposed rule to prohibit the use of certain stunning devices used to immobilize cattle during slaughter; and

■ USDA will publish an Advance Notice of Proposed Rulemaking to consider disposal options for dead and downer animals. Such cattle are considered an important potential pathway for the spread of BSE in the animal chain.

A complete copy of the Harvard Report can be obtained from USDA's official Web site at <http://www.usda.gov>. For more information about BSE, also visit <http://www.usda.gov> or <http://www.hhs.gov>

Food Net and PulseNet

FSIS has partnered with the CDC and other State and Federal agencies to determine the extent of foodborne illness in the United States and to maintain a database of DNA fingerprinting of foodborne bacteria.

The Foodborne Diseases Active Surveillance Network (FoodNet) is a part of the CDC Emerging Infections Program. FSIS worked in conjunction with CDC, the Food and Drug Administration, and public health laboratories in several States to establish FoodNet in 1995.

FoodNet includes active surveillance for diseases caused by foodborne pathogens, case-control studies to identify risk factors for acquiring foodborne illness, and surveys to assess medical and laboratory practices related to the diagnosis of foodborne illness. The baseline and annual data collected are being used to



help determine the effectiveness of the Pathogen Reduction; Hazard Analysis and Critical Control Points rule and other regulatory actions as well as public education efforts in decreasing the number of cases of major bacterial foodborne disease in the United States each year.

In FY 2001, FSIS completed the sixth full year of an agreement with the CDC to conduct active population-based surveillance for foodborne diseases (*Campylobacter*, *E. coli* O157:H7, *Listeria*, *Salmonella*, *Shigella*, *Vibrio*, *Yersinia*, *Cryptosporidium* and *Cyclospora*) in Minnesota, Oregon, Connecticut, Georgia, and selected counties in California, Maryland, New York, Colorado, and Tennessee (total population: 30 million). This multi-year study is providing much-needed data regarding the burden of foodborne illness in the United States.

PulseNet is a national computer network of public health laboratories that helps to rapidly identify and control outbreaks of foodborne illness. The laboratories perform DNA fingerprinting on bacteria that may be foodborne and the network permits rapid comparison of the fingerprint patterns through an electronic database at the CDC. PulseNet is an early warning system that links seemingly sporadic human illnesses together and, as a result, more outbreaks can be recognized, especially those that involve many States.



FoodNet and PulseNet are two examples of Federal and State agencies working together to accomplish the agency's public health goals of protecting the public and the meat and poultry supply through improving the tracking of foodborne illnesses and outbreaks.

Consumer and Food Safety Education

For more than two decades, FSIS has provided consumer information and educational materials designed to foster safe food handling through behavior changes in order to reduce the risk of foodborne illness. Educational materials and campaigns are science based and drawn from epidemiological studies concerning food and behaviors that contribute to food safety risks. Projects and activities are also based on social marketing principles, research derived from educational theory, market and consumer research, and focus group testing. FSIS provides information and educational materials designed to foster safe handling of meat, poultry, and egg products.

Consumer education programs focus on key food safety messages to the general public and special high-risk groups that face increased risks from foodborne illness—the very young, the elderly, pregnant women, people who have chronic diseases, and people with compromised immune systems. The agency reaches

diverse audiences through the media, information multipliers such as teachers, Extension and health educators, the FSIS Web site, printed materials, videos, USDA's Meat and Poultry Hotline, the internationally distributed newsletter, *The Food Safety Educator*, and other presentations and exhibits. FSIS produces public service announcements, news features, and partners with other government agencies, industry, and consumer associations on food safety projects.

USDA Meat and Poultry Hotline

In addition to basic food handling, storage and preparation questions, USDA's toll-free Meat and Poultry Hotline addresses the latest issues: outbreaks of foodborne illness; pathogens such as *Listeria monocytogenes*, *Salmonella*, *Campylobacter jejuni*, and *E. coli* O157:H7; recalls of meat and poultry products; egg safety; red meat irradiation; and food safety during a power outage or natural disaster. Over 172,000 calls were taken during FY 2000 and FY 2001 combined with over 400 media or information multiplier calls addressing safe food handling practices in the home. The analysis of call data helps to identify gaps in consumer knowledge to plan future food safety education campaigns. The Hotline's staff is comprised of home economists, registered dietitians, food technologists, and a physician.

In September 2001, the USDA Meat and Poultry Hotline initiated a 3-month Spanish language outreach pilot for the Latino community to provide consumers with bilingual service. The pilot outreach efforts were focused in Miami, FL, San Diego, CA, and Newark, NJ.

Callers may speak with a food safety specialist—in English or Spanish—from 10:00 a.m. to 4:00 p.m., Eastern time on weekdays year round by dialing the nationwide toll-free number 1-800-535-4555 or in the Washington, DC area, (202) 720-3333. The toll-free number for the hearing impaired (TTY) is 1-800-256-7072. An extensive menu of recorded food safety messages in English and Spanish may be heard 24 hours a day. The Hotline can also now be reached by e-mail at: mpholine.fsis@usda.gov

Food Thermometer Education Campaign—Thermy™

Based on USDA and other scientific research, FSIS launched a national consumer education campaign to increase consumer use of food thermometers at a May 25, 2000, press conference. Input from nationwide focus groups helped to develop Thermy™, a cartoon character, and his message: “It’s Safe to Bite When the Temperature is Right!” Thermy™ educational materials, developed in English and Spanish, were distributed nationally to schools, cooperative extension, and other educators. Thermometer companies, grocery chains, and other partners began using Thermy™ on product packaging, in-store floor displays, and consumer information publications. Thousands of information kits, magnets, and posters were distributed to food safety educators nationwide and a variety of Thermy™ information is available (also in Spanish) on the FSIS Web site: www.fsis.usda.gov/thermy. Thermy™ continues to appear at public functions across the country.

Partnership for Food Safety Education and Fight BAC!® Campaign

The Partnership for Food Safety Education’s Fight BAC!® campaign, which began in 1997, is a far-reaching, ambitious, and consumer-friendly public education campaign focused on safe food handling. The Fight BAC!® campaign’s goal is to educate consumers on the four simple steps they can take to fight foodborne bacteria and reduce their risk of foodborne illness. These steps are:

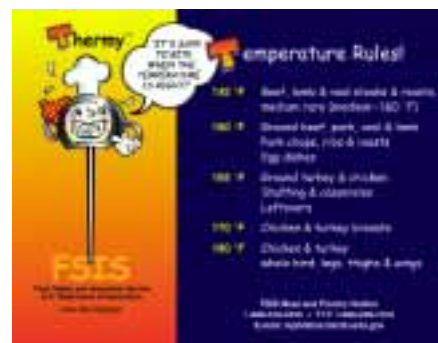
- Clean—wash hands and surfaces often,
- Separate—don’t cross-contaminate,
- Cook—cook to proper temperatures, and
- Chill—refrigerate promptly.

The campaign is represented by the character BAC! (bacteria), the invisible enemy who tries his best to spread contamination wherever he goes. By giving foodborne bacteria a personality, BAC! makes the learning process more meaningful and memorable for consumers of all ages.

For more information about the Partnership for Food Safety Education and Fight BAC!®, visit <http://www.fightbac.org/>

Listeria monocytogenes Consumer Outreach

Focus groups have shown that consumers are not aware that pregnant women are at high risk for foodborne illness and are unfamiliar with the bacterium *Listeria monocytogenes* (*Lm*). In FY 2001, FSIS developed a new brochure for pregnant women—*Listeriosis and Pregnancy: What Is Your Risk? Safe Food Handling for a Healthy Pregnancy*. The *Listeriosis and Food Safety Tips* (June 1999) brochure in English and Spanish remains available for purchase in single or bulk copies through the Government Printing Office and through the Federal Consumer Information Center (FCIC) in Pueblo, CO.



TM



The National Food Safety Information Network

FSIS and other agencies of the U.S. Department of Agriculture participated in the National Food Safety Information Network, which fosters communication among the Federal Government's primary providers of food safety information. The network includes: <http://www.FoodSafety.gov> the "Government Gateway to Food Safety Information;" the USDA Meat and Poultry Hotline; FDA's Center for Food Safety and Applied Nutrition (CFSAN); the USDA/FDA Foodborne Illness Education Information Center at the National Agricultural Library; National Food Safety Educators Network (EdNet); and FoodSafe, an online discussion group with 2,000 subscribers from more than 50 countries.

National Food Safety Education MonthSM (NFSEM)

Created by the International Food Safety Council, a coalition of restaurant and foodservice professionals certified in food safety, National Food Safety Education MonthSM (NFSEM) is an activity within the National Food Safety Initiative. It is held in September each year and its major focus is on food safety education for government and consumer organizations, as well as industry. The goals are: (1) to reinforce food safety education and training among restaurant and foodservice workers; and (2) to educate the public on how to handle and prepare food properly at home—whether cooking from scratch or serving take-out meals or leftovers. The theme for the September 2001 observance, *Be Cool, Chill Out, Refrigerate Promptly*, was one of the Fight BAC![®] messages.

FSIS Web Site

The Web site www.fsis.usda.gov remains a valuable resource for consumers, food safety educators, the regulated industry, FSIS employees, government officials, and other professionals. The site contains thousands of documents concerning FSIS news, meat and poultry product recalls, HACCP, speeches, regulations and directives, agency reports, food safety for consumers, and career employment information. Because documents may be downloaded in a variety of electronic formats, the Web site serves as an integral part of the agency's publication distribution process. Visitors to the site may also view video clips of news releases and public service announcements and can access numerous links to other food safety-related sites. Also, the Web site's electronic mailbox address received thousands of questions and comments by visitors from around the world.

Food Service Education

In FY 2001, FSIS participated in meetings and conference calls with the Food Safety Training and Education Alliance (FSTEA) to identify food safety activities and initiatives. In collaboration with FSTEA, FSIS organized and coordinated two symposia—(1) A Social Marketing Approach to Educating Food Service Workers and (2) Educating Food Service Workers. FSIS was instrumental in developing a Web site for FSTEA, www.fstea.org, at the National Agricultural Library managed by the USDA/FDA Foodborne Illness Education Information Center. FSIS also led the effort to develop, design, and distribute the brochure, *Food Safety: Taking Care of Business*. This brochure provides resources for food safety information and training materials specifically designed for retail and food service. A decal for mirrors depicting the importance of hand washing in relation to food safety, one of the four Fight BAC!® messages, was designed and produced for distribution to restaurants and foodservice establishments. Also, FSIS currently provides liaisons to USDA's Food and Nutrition Service (FNS), the National Food Service Management Institute (NFSMI), and the National Coalition for Food Safe Schools (NCFSS) and a staff member serves as a consultant to the Conference for Food Protection's Manager Training, Testing, and Certification Committee.

CHAPTER 10

Natural Resources and Environment



Forest Service

Mission

The Forest Service mission is “Caring for the Land and Serving People.” The mission is further expressed in the Forest Service land ethic: “Promote the sustainability of ecosystems by ensuring their health, diversity, and productivity,” which is coupled with the service ethic: “Work collaboratively and use appropriate scientific information in caring for the land and serving people.”

The Forest Service, through ecosystem management, applies these land and service ethics. Ecosystem management is the integration of ecological, economic, and social factors in order to maintain and enhance the quality of the environment to meet current and future needs.

The four strategic goals of the Forest Service are to: (1) protect ecosystems, (2) restore deteriorated ecosystems, (3) provide multiple benefits for people within the capabilities of ecosystems, and (4) ensure organizational effectiveness.

The Forest Service’s Natural Resource Agenda identifies four key areas of national focus. They are: watershed health and restoration, sustainable forest ecosystem management, forest roads management, and recreation enhancement.

Principal Laws

The Forest Service administers the lands and resources of the National Forest System (NFS) under the Organic Administration Act of 1897, the Multiple Use-Sustained Yield Act of 1960, and the National Forest Management Act of 1976.

The agency also conducts research, provides assistance to State and private landowners, assesses the Nation’s natural resources, and provides international assistance and scientific exchanges.

These activities are carried out under the Forest and Rangeland Renewable Resources Planning Act of 1974, the Renewable Resources Extension Act of 1978, the Forest and Rangeland Renewable Resources Research Act of 1978, the Cooperative Forestry Assistance Act of

1978, and the International Forestry Cooperation Act of 1990.

Organizational Structure

The Chief, the top administrative official of the Forest Service, reports to the Secretary of Agriculture through the Under Secretary for Natural Resources and Environment. The Forest Service typically is viewed as consisting of three major components: (1) the National Forest System (NFS), (2) State and Private Forestry (S&PF), and (3) Research and Development (R&D). However, the agency supports many other programs, such as International Programs and Job Corps Civilian Conservation Centers. The NFS is organized into a Deputy Area within the Washington Office, 9 regional offices, 155 national forests managed by 115 supervisors’ offices, and approximately 570 ranger districts and 20 national grasslands.

The Forest Service manages the 192-million-acre NFS and supports multiple use; sustained yields of renewable resources such as water, livestock forage, wildfire, habitat, wood, and recreation; and integration of mineral resource programs and visual quality. The agency also mitigates, when appropriate and in a scientific manner, wildfires, epidemics of disease and insects, erosion, floods, water quality degradation, and air pollution.

The NFS provides many recreational activities for the public. In 2000, it hosted more than 209 million recreation visits, including 60 percent of the Nation’s skiing and significant percentages of hiking, camping, hunting, fishing, and driving for pleasure. NFS takes care of 4,418 miles of the Wild and Scenic Rivers System; 412 units of the National Wilderness Preservation System, 133,000 miles of trails; more than 250,000 heritage sites; and over 23,000 campgrounds, picnic areas, and visitor facilities.

The National Forests and Grasslands support economic activity contributing \$38 billion in total income to the national economy. The Forest Service administers many S&PF programs to provide technical and financial conservation assistance to State and private nonindustrial forest land. These programs serve as a link

The Nation’s capacity to produce healthy, sustainable forest resources, while maintaining favorable watershed and habitat conditions, increasingly depends on nonindustrial private forests. Owners of these lands control nearly 60 percent of the Nation’s forests and supply nearly half of its forest products, but fall far short of their potential for producing wood, other forest products, or environmental benefits.

among many public and private organizations and they help to promote the best use and conservation of America's natural resources on private lands. Wildland fire protection on private and public lands, Smokey Bear, forest health protection, and natural resource education are examples of S&PF programs. S&PF is organized into a Deputy Area within the Washington Office; it has an office in Newtown Square, PA, to work with States and landowners in the Northeastern United States, and has programs delivered from most NFS offices.

Forest Service Research & Development (R&D) is one of the world's leading forestry research organizations, conducting and sponsoring basic and applied scientific research. This research provides both credible and relevant knowledge about forests and rangelands and exciting new technologies that can be used to sustain the health, productivity, and diversity of private and public lands to meet the needs of present and future generations.

Forest Service Community-Based Partnerships

Over a century ago, public concern about adequate supplies of clean water contributed to the establishment of federally protected forest reserves. These reserves are now part of the USDA, Forest Service. In 1999, the Forest Service established an innovative approach to restoring watersheds through partnerships—community-based, large-scale watershed restoration projects.

Projects were competitively selected for supplemental funding at the national level because of their important location and purpose, collaborative relationships, feasibility, and precedent-setting approach to achieve long-term improvement of watershed conditions. The national office has invested over \$70 million in these projects. And this was matched 2:1 by partner organizations that have contributed over \$150 million. Work has focused on improving water quality, forest and range health, recovering threatened species; implementing the State and Private Forestry Action Strategy and the North American Waterfowl Management

KEY FACTS ABOUT THE FOREST SERVICE:

- The entire Nation has about 1.3 billion acres of forest and rangeland, under all ownerships.
- The entire Nation has 747.0 million acres of forest land area, not including rangeland, under all ownerships; the owners/managers of this forest land are as follows:
 - Federal Government:** 246.7 million acres
 - Forest Service:** 1,146.8 million acres
 - Bureau of Land Management:** 48.3 million acres
 - National Park Service, Department of Defense, Department of Energy, & other Federal:** 51.6 million acres
 - Non-Federal total:** 500.2 million acres
 - State:** 60.5 million acres
 - 9.9 million private landowners:** 362.8 million acres
 - County and municipal:** 9.2 million acres
- There are 192.0 million acres of National Forest System land. This is 8.3 percent of the United States' land area, or about the size of Texas. The Forest Service manages:
 - National Forests:** 187.6 million acres
 - National Grasslands:** 3.8 million acres
 - National Primitive Areas:** 173,762 acres
 - National Scenic-Research Areas:** 6,630 acres
 - National Wild & Scenic Rivers:** 4,418 miles—95 rivers
 - National Recreation Areas:** 2.9 million acres
 - National Monument Areas:** 3.3 million acres
 - National Historic Areas:** 6,540 acres
 - Congressionally Designated Wilderness:** 34.7 million acres
- There are 88 wilderness areas designated Class 1 for air quality protection totaling 15 million acres.
- The marginal value of the water from national forest lands is over \$3.7 billion per year.
- Approximately 14 percent of the Nation's water runoff (about 190 million acre-feet annually) comes from national forest lands (excluding Alaska).
- The Forest Service manages 155 national forests for multiple uses.
- Miles of property boundary line: 249,000
- Number of property corners: approximately 1 million
- The national forest trail system is the largest in the Nation, with 133,000 miles of trails for hiking, riding, cross-country skiing, snowmobiling, bicycling, and snowshoeing.

The Forest Service provides a significant portion of the recreation opportunities available from Federal lands. Visitors to national forests are attracted by:

- 5,800 campgrounds and picnic areas
- 328 swimming developments
- 1,222 boating sites
- 250 winter sports sites, including 135 downhill ski areas

- Recreation use:** 209 million national forest visits
- Lands burned by wildfire:** 530,000 acres
- Insect and disease suppression:** 1.7 million acres
- Watershed improvements:** 35,562 acres
- Terrestrial acres restored or enhanced for wildlife:** 600,670
- Aquatic acres restored or enhanced for fisheries:** 20,389
- Stream miles restored or enhanced for fisheries:** 2,741
- Reforestation:** 268,520 acres
- Livestock grazing:** 9.3 million animal head months
- Grazing allotments administered:** 8,783
- Timber sold:** 2.2 billion board feet, enough to build about 150,000 homes
- Timber harvested:** 2.9 billion board feet
- Road system:** 386,000 miles

Large-Scale Watershed Restoration Projects



Plan; and providing jobs for local communities. These funds and their use are the critical link to local governments and allow private landowners to become major partners in watershed restoration efforts.

National Forest System—Conservation and Multiple Use

Lands and Realty Management

Lands and Realty Management activities include:

- Purchasing land to protect critical resources areas and provide increased public recreation opportunities,
- Authorizing powerlines to provide electricity to communities,
- Ensuring that hydro-electric projects protect riparian areas on the national forest,
- Exchanging lands with private parties to achieve a desired national forest landownership pattern that supports forest land and resource goals and objectives,
- Surveying national forest boundaries to identify and protect private and public lands,
- Determining the fair market value of lands purchased or exchanged, so that transaction is fair to the public and the landowner involved,
- Authorizing right-of-ways for roads to private in-holdings within the forest,

Farmers and forest landowners need information to facilitate the adoption or use of more environmentally sound practices.

- Accepting donations of land to protect archeological, historical, or other significant sites,
- Maintaining records of national forest land areas, land transactions, land status, permitted uses, and easements,
- Securing public road and trail access to existing National Forest System lands,
- Responding to congressional request drafting services for land ownership adjustment activities.

KEY FACTS ABOUT WILDLIFE, FISH, AND RARE PLANTS

The National Forest System includes 2.3 million acres of fishable lakes, ponds, and reservoirs and more than 197,000 miles of perennial streams.

National forests and grasslands support habitats for more than 3,000 species of birds, mammals, reptiles, amphibians, and fish, as well as some 10,000 plant species.

In 2000, over 76,000 people engaged in Eyes on Wildlife and Migratory Bird Day events on national forests and grasslands.

The national forests and grasslands also provide:

- 80 percent of the elk, mountain goat, and bighorn sheep habitat in the lower 48 States,
- 28 million acres of wild turkey habitat,
- 5.4 million acres of wetland habitat,
- Habitat for 250 species of neotropical migratory birds, and
- 2,800 species classified as sensitive, threatened, or endangered plants, fish, or wildlife.

Partnerships

In 2001, \$17.6 million in Federal funds was matched by partners' \$26.9 million, for a total of \$44.5 million to accomplish partnership projects for wildlife, fish, and threatened, endangered, and sensitive species on the national forests and grasslands. For example, employees of the Alabama Power Company and the Bankhead Ranger District utilized bundles of donated Christmas trees to construct sunken fish habitat structures.

Water, Soil, and Air

About 14 percent of the surface water supply in the United States flows from National Forest System (NFS) watersheds. The goals of the Forest Service's watershed, soil, and air management programs

are to (1) manage watersheds to maintain or improve watershed conditions to sustain forest land and rangeland health for multiple uses; (2) sustain soil productivity, (3) protect 88 Class I wilderness areas from air pollution, and (4) evaluate Forest Service activities and their effect of air quality, watershed and soil condition.

The task of mapping all soils within NFS, with the cooperation of USDA's Natural Resources Conservation Service, is continuing and is over 50 percent complete. Annually, the Forest Service completes approximately 30,000 acres to improve water and soil resources. Other significant ongoing activities include watershed inventory and analyses to better understand the capability of watersheds to sustain forest land and rangeland health; participating in water rights adjudications; restoring desired watershed conditions on abandoned mines and hazardous materials sites located on national forests; monitoring to determine air pollution impacts on visibility, water, and soil chemistry in wilderness areas; and leading collaboration on large-scale watershed restoration efforts.

KEY FACTS ABOUT WATER, SOIL, AND AIR:

- There are approximately 6,000 watersheds on National Forest System lands that produce an average 190 million acre-feet of water annually.
- There are 3,336 municipalities, serving 60 million people, which get their tap water from NFS lands.
- 173 trillion gallons of water are supplied by National Forest System municipal watersheds annually.
- There are 88 wilderness areas designated Class I for air quality protection totaling 15 million acres. As of FY 2001, all of these areas are monitored for regional haze and part of a nationwide multi-agency network.
- There are 5 regional planning organizations assessing strategies for improving visibility in class/acreages. The Forest Service participates in all of these. Strategies developed will improve air quality for all people.
- About 600 remote weather data collection platforms are used in agricultural, fire, weather, and stream flow forecasting.



Rangeland

NFS rangeland is managed to conserve the land and its vegetation while providing food for both livestock and wildlife. Under multiple-use concepts, grazing areas also serve as watersheds, wildlife habitat, and recreation sites. Grazing privileges are granted on national forests and grasslands through paid permits; permittees cooperate with the Forest Service in range improvement projects.

(National Environmental Policy Act (NEPA) process decisions were made on allotments across the country in adherence to the Rescissions Act of 1995 (Public Law 104-19). The first 6 years of the 15-year Rescissions Act schedule, 1996 through 2001, ended with approximately one-third of all the livestock grazing allotments that needed environmental analyses being analyzed. Implementation of improved management was undertaken on these allotments. Monitoring both implementation and effectiveness of the management actions has been undertaken and will continue into the future.

The noxious weed management program was a success in FY 2000 with 143,938 acres treated. The Forest Service in cooperation with the States, counties, and cities worked together to prevent the spread of noxious weeds, treating existing infestations, and educating citizens about noxious weed problems.

KEY FACTS ABOUT RANGELAND:

- In FY 2001, the Forest Service administered 8,783 grazing allotments.
- Permitted livestock grazing totaled approximately 9.4 million animal head months. (A head month is 1 month's occupancy by an adult animal.)
- By the end of 2001, 2,107 allotments underwent environmental analyses under the 1995 Rescissions Act. Management decisions were made on those that resulted in improved rangeland vegetation.
- In FY 2001, 143,938 acres of rangelands were treated to control noxious weeds infestations.
- Forage improvement took place on 33,667 acres of rangelands in FY 2001.
- In FY 2001, 1,357 structural improvements were constructed on NFS rangelands to implement management changes prescribed in recent decisions.

Energy, Minerals, and Geology

Exploration, development, and production of energy and minerals from National Forest System lands contribute to economic growth, provide employment in rural communities, and raise revenues that are shared with the States. The energy and minerals component of the program is directed at obtaining these benefits while ensuring operations are conducted in an environmentally sound manner. In terms of the magnitude of the energy and minerals program, there are approximately 5.3 million acres leased for oil and gas, over 150,000 mining claims, about 9,000 mineral material sales contracts and permits, over 2,000 new operations proposed each year, and more than 15,000 operations to monitor and inspect. The largest coal mine in the United States is on NFS lands, and much of the Nation's phosphate and lead production comes from NFS lands. The value of all energy and mineral production exceeds \$2.1 billion per year. Annual revenues are about \$170 million, 25-50 percent of which is returned to the States where production occurs.

KEY FACTS ABOUT FOREST SERVICE ENERGY, MINERALS, AND GEOLOGY PROGRAM

- Minerals found on Forest Service lands provide more than \$3.3 billion in private sector revenue.
- 7 million acres where there is a possibility for coal leasing (50 billion tons)
- 45 million acres where there is a possibility for oil and gas leasing; 5.3 million acres leased
- About 7,000 sand, gravel, and stone pits and quarries
- Approximately 2,000 new operations requiring review each year
- Over 95 percent of domestic platinum/palladium comes from the Custer and Gallatin National Forests
- Over 20,000 existing operations requiring monitoring
- 45 percent of the Nation's production of lead
- One of the world's largest molybdenum deposits (Tongass National Forest, AK)
- Many of the Nation's 100,000 rock hounds, recreational mineral collectors, students, and geologic organizations use the national forests for education and recreational purposes.

- Recreational panning for gold is an activity that is rapidly increasing.
- The Forest Service manages fossil and geologic sites of interest as resources for present and future generations, scientific, education, interpretive, recreational, and aesthetic values.
- The most complete Champsosaurus skeleton in the world (55 million years old) came off Little Missouri National Grasslands and is on display at FS headquarters.
- FS has partnerships with communities, States, and universities on managing the paleontological resource.

Following are examples of energy and mineral production on NFS lands:

FY 2001

- 7.3 million barrels of oil
- 93 billion cubic feet of gas
- 94 million tons of coal

FY 2000

- 575 million pounds of lead
- 178 million pounds of copper
- 529,000 ounces of gold

Recreation, Heritage and Wilderness Resources

America's national forests and grasslands are the "gold crown" of outdoor settings where American and international visitors alike enjoy a wide variety of premier recreation activities. From the Tongass National Forest in Alaska, where glaciers and coniferous forests abound, through the wild and scenic rivers of Idaho, to the heritage sites of the Jemez Mountains in New Mexico and the tropical forest of the Caribbean National Forest in Puerto Rico, recreation is outdoor fun on our national forests and grasslands.

In partnership with six other Federal agencies, the Forest Service unveiled an Internet program that makes it possible for anyone with access to a computer to learn about outdoor recreation opportunities on all Federal public lands. Visit www.recreation.gov

Forest Service Recreation Portfolio

- 60 percent of the Nation's skiing
- Significant percentages of hunting, fishing, and wildlife viewing
- World-class hiking, camping, and driving for pleasure

- 50 percent of habitat for salmon and trout (lower 48 States)
- 80 percent of habitat for elk, bighorn sheep, and mountain goat (lower 48 States)
- 50 percent of public lands trail miles in the country

KEY RECREATION FACTS:

- Wilderness areas 399 (34.7 million acres)
- 63 percent of National Wilderness Preservation System managed by Forest Service in lower 48 States
- 34 percent of National Wilderness Preservation System managed by Forest Service in total United States
- 20 national recreation areas (NRA) (includes land between the lakes NRA)
- 9 national scenic areas (NSA)
- 4 national monuments and volcanic monuments (NM)
- 6.7 million acres of NRA, NSA, and NM (includes land between the lakes NRA)

Recreation Roads, Trails, and Rivers

- 136 (9,126 miles) national forest scenic byways
- 95 (4,418 miles) wild and scenic rivers
- 133,087 miles of trails
- 6,709 miles of scenic and historic trails

Sites, Facilities, and Services

- 277,000 heritage properties
- 4,300 campgrounds
- 23,000 developed recreation sites
- 135 Alpine ski areas
- 1,496 picnic sites
- 1,222 boating sites
- 140 swimming areas
- 18,000 recreation facilities
- 14,900 recreation residences
- 480 resorts

National Forest System Inventory, Assessment, and Planning

Sustainable and effective management of National Forest System lands is dependent upon scientifically credible information and collaborative planning. Sustainable management includes the continued existence and use of resources to meet human physical, economic, and social needs; the desire to preserve the health of ecosystems in perpetuity; and the ethical choice of preserving options for future generations while meeting the needs of the present.



National Forest System planning consists of four basic activities that constitute a continuous planning framework: Inventory, Assessment, Land Management Planning, and Monitoring.

KEY FACTS ABOUT INVENTORY, ASSESSMENT, AND PLANNING:

- Inventories of National Forest System resources are currently being conducted at a refreshment rate of 15–18 years and total 10,432,000 acres/year.
- A total of 130 watersheds and 18 broad-scale assessments were completed.
- Land and Resource Management Plans have been prepared for 126 administrative units and include all national forests and grasslands. Revisions were initiated or completed on 11 units.
- Annual reports of monitoring results were prepared for 126 administrative units.
- Each year the Forest Service produces:
 - 10,000 decision memorandums
 - 5,000 environmental assessments
 - 250 environmental impact statements
- Over 1,200 projects, plans, and permit decisions were administratively appealed.
- On average, the Forest Service had over 200 lawsuits pending at any given time challenging resource management decisions.



Forest Vegetation Management

Approximately 73 percent of the 192 million acres of national forests is considered forested. Of the forested land, 29 percent is available for regularly scheduled timber harvest and less than 1 percent is subject to some form of timber harvest treatment in any given year. The remaining 71 percent of the forested land is protected as wilderness, used for recreation, or cannot be harvested due to environmental or economic conditions such as steep slopes, fragile soils, and lack of feasible access.

Stewardship Demonstration Projects

Experience has shown that the agency's traditional tools for managing vegetation, i.e., the standard timber sale and service contracts, are oftentimes not well suited to addressing many of today's most pressing vegetative management needs, or to implementing truly integrated resource management projects. The standard timber sale contract was designed to dispose of commercially valuable timber, but many of today's most important treatment needs—e.g., reducing excessive fuel loadings—often involve managing wood of little or no commercial value. The standard service contract can be a flexible and powerful tool, but funding frequently limits the amount of work that can be accomplished in this manner.

Recognizing the problems associated with its traditional vegetative management tools, Congress gave the Forest Service the authority to test an array of new processes and procedures through a series of 28 stewardship contracting end-results demonstration projects. The projects that are undertaken are to address one or more of the following resource management objectives: road and trail maintenance or obliteration to restore or maintain water quality; soil productivity, habitat for wildlife and fisheries, or other resource values; setting of prescribed fires to improve the composition, structure, condition, and health of stands or improve wildlife habitat; noncommercial cutting or removing of trees or other activities to promote healthy forest stands, reduce fire hazards, or achieve other noncommercial objectives; watershed restoration and maintenance; restoration and maintenance of wildlife and fish habitat; and control of noxious weeds and reestablishing native plant species. The new processes and procedures the agency may test include the following: award of contracts on the basis of best value, service contracts of up to 10 years' duration, exchange of goods for services, retention of receipts, offer of sales valued at over \$10,000 without advertisement, designation of timber to be cut by description, and use of State foresters as Federal agents in helping to prepare and administer national forest timber sales.

Passport in Time

Through the Passport in Time program, the Forest Service offers unique, nontraditional recreation opportunities such as archaeological excavation, historic structure restoration, and wilderness surveys. These experiences foster environmental stewardship while providing the public with unusual, educational experiences.

Passport in Time has over 13,000 volunteers contributing over \$5.2 million worth of time and effort to preserve our Nation's history by restoring historic structures, stabilizing National Register eligible sites, evaluating sites for inclusion in the National Register of Historic Places, working on projects in wilderness, and developing heritage interpre-

tive sites. Every activity is aimed at making our Nation's unique history accessible to the public and preserving it for future generations.

State and Private Forestry—Providing Assistance to Nonindustrial Private Landowners

The State and Private Forestry programs represent important tools for the monitoring, management, protection, and better use of America's forests, with emphasis on non-Federal forest land stewardship. These programs connect forestry to all land managers—whether small, urban woodlot owners, tribal foresters, State agencies, or Federal—in efficient, nonregulatory ways. Through a coordinated effort in management, protection, and better use, the programs of State and Private Forestry help facilitate sound forestry across ownerships on a landscape scale.

About 70 percent of America's forests are in State and private ownership, and 80 percent of the wood fiber potential comes from these lands. These lands are also critical to watershed conditions, fish and wildlife habitat, and the aesthetic quality of the Nation's landscape; and they represent one of the best sources of carbon sequestration. Since these non-Federal forests represent most of the forests in our country, keeping these lands healthy, productive, and sustainable in the rural and urban areas on a cumulative basis is especially important to the Nation. With increasing fragmentation and development pressure, the unique Federal role in maintaining the value and functions of these lands across ownership divisions has never been greater or more important.

Forest Health Protection

The Forest Service provides technical and financial assistance to Federal agencies, tribal governments, States, and (through State foresters) private landowners. The Forest Service and State foresters participate in a forest health-monitoring program. With USDA's Animal and Plant Health Inspection Service, the Forest Service works to protect the Nation's forests from exotic insects, diseases, and plants. The Forest Service pro-



vides technical assistance in the safe and effective use of pesticides, shares the cost of insect and disease prevention and suppression projects with States, and funds prevention and suppression projects on Federal lands. The agency also evaluates and applies new, efficient and environmentally sensitive technologies for forest health protection.



Cooperative Forestry—Providing Assistance to Nonindustrial Private Landowners (NIPF) and Community Areas

Cooperative Forestry supports the Forest Service mission in two important ways. First, it helps meet the needs of present and future generations by “connecting people to resources and ideas” and by assisting them to “sustain their communities.” Second, it helps to sustain the health, diversity, and productivity of the Nation’s forests and grasslands by helping people care for the land and its resources.

The **Forest Stewardship Program** promotes sustainable management of America’s non-Federal forests by enabling 9.9 million NIPF landowners—who own 48 percent of the Nation’s forests—to better manage, protect, and use their natural resources. In cooperation with State resource management agencies, the program assists forest landowners with planning and implementation of riparian restoration, wildlife habitat enhancement, forest stand improvement, and other aspects of sustainable forest management. The program also assists NIPF landowners, on a voluntary, nonregulatory basis by providing technical and financial assistance, in cooperation with States, to develop long-term forest stewardship plans for the management of their forests and related sources.

The **Forest Legacy Program** is designed to effectively protect and conserve environmentally important forest areas that are threatened by conversion to non-forest uses. These lands can be protected through conservation easements and other mechanisms. This program is based on the concept of “willing seller and willing buyer” and is completely nonregulatory in its approach. No eminent domain authority or adverse condemnation is authorized.

Economic Action Programs

Economic Action Programs (EAP) stimulate and assist natural resource-dependent rural communities and natural resource-based businesses to pursue self-sufficiency and sustainability. Special focus includes helping build rural business infrastructures to utilize and market products from ecosystem management operations.

KEY FACTS ABOUT COOPERATIVE FORESTRY PROGRAMS:

The **Economic Action Programs** as a whole and the funds from the National Fire Plan designated for rural communities used over 1,700 activities to build local capacity to address their needs and create opportunities. More than 650 projects included funded activities aimed at maintaining local community businesses. About 25 projects in FY 2001 specifically included activities associated with natural resource-based business startups. Communities and organizations used nearly 30 activities in FY 2001 associated with biomass or energy.

During FY 2001 the **Rural Community Assistance Program** provided technical or financial assistance to nearly 800 rural communities and organizations. This total includes 81 tribes/tribal organizations, 99 minority communities/organizations, and 133 underserved communities. Wildfire protection, prevention, and hazardous fuels management were incorporated into 180 rural community strategic action plans.

In FY 2001 the **Forest Products and Conservation Recycling Program** provided technical and financial assistance to 1,456 individual businesses that employed 10 or less people, 967 businesses that employed 11 to 99 people, 193 individual businesses that employed 100 or more people, and 596 assists were made to communities and nonprofit organizations.

The **Wood in Transportation Program** in FY 2001 funded six projects which were completed and closed. Those projects were six designed and constructed timber bridges. These projects not only resulted in a wooden timber bridge but also assisted in providing technical assistance to engineers, highway officials, and others.

The **Forest Stewardship Program** was responsible for facilitating the development of more than 50,000 forest management plans covering just over 4 million nonindustrial private forest land acres in FY 2000 and FY 2001.

Forest Legacy Program since 1992 has assisted in the protection of over 209,000 acres from development. These lands have a value of roughly \$124 million. Thirty-one States are participating in the program.

Conservation Education

“Through education, we connect people with the land so they take informed actions to sustain natural and cultural resources.” This is the mission of Forest Service Conservation Education (CE).

The Forest Service brings unique strengths to the field of conservation education. The agency is a leader in providing scientific knowledge through its research programs and outstanding opportunities for place-based learning about natural resources on more than 192 million acres of forests and grasslands within the National Forest System. It also provides an extensive delivery network for CE through more than 700 offices and 30,000 employees, as well as with partners such as State foresters. The Forest Service emphasizes delivery of CE to youth, urban populations, and forest visitors.

In 2001, the CE program reached nearly 4 million Americans, nearly 100,000 of those in face-to-face educational experiences. Nearly 1 ½ million people participating in Forest Service’s CE programs and activities were students, and another 90,000 were teachers. Over ½ million Forest visitors participated in these programs along with nearly 1 ½ million members of the general public.





The National Symbols Program: The National Symbols Program, a part of the Conservation Education Staff, provides leadership for the Smokey Bear, Woodsy Owl, and Junior Forest Ranger programs.

Each of these programs is designed to increase awareness and educate the general public about natural resource conservation and fire prevention.

Smokey Bear: The Smokey Bear fire prevention campaign has been managed in partnership with the Advertising Council and the National Association of State Foresters for over 50 years. The Smokey Bear program is the cornerstone of the Forest Service's fire prevention program. Annual campaigns have contributed to Smokey's popularity both nationally and internationally, and several other countries have adopted Smokey as their symbol for fire prevention.



In addition to speaking to elementary-school-age children, Smokey's message and image are also used to generate awareness among adults about the real cause of fire: forest fires caused by the people who would least expect to be the

cause of a fire, people like you. In 2001, Smokey's message was changed to "Only you can prevent wildfires!" The change helps to include non-forested areas such as grasslands, prairies, and rangelands in Smokey's fire prevention campaign.

Junior Forest Ranger: In 1952, a Smokey Bear stuffed toy sold in stores included an application to become a Junior Forest Ranger. The response was overwhelming. More than 1/2 million children enrolled in the program within the first 3 years. As a result, the Junior Forest Ranger program was established to augment and complement a fire prevention classroom program that included hands-on activities led by teachers. Response to the program was so enthusiastic that by 1960 Smokey was given his own zip code to help the postal service sort the mail generated by Smokey Bear and the Junior Forest Ranger programs.

Youth who participate in the Junior Forest Ranger program receive a packet including a plastic badge, wallet card, letter, and certificate. Junior Forest Ranger is still a popular program, and over the next few years, the program will be refocused to support education about fire ecology as well as fire prevention.



Woodsy Owl: Woodsy Owl is America's symbol for environmental quality, established by an Act of Congress in June 1974, to promote wise use of the environment and programs that foster maintenance and improvement of environmental quality. Woodsy's goals and objectives and his look have been updated to reflect today's needs. Woodsy's primary audience is children from pre-kindergarten to third grade with special emphasis on outreach to nontraditional groups, such as: Hispanics, Native Americans, and inner-city children. An innovative program called Junior Snow Ranger has been developed as part of the Woodsy Program to promote conservation ethics and an understanding of winter ecology. Junior Snow Ranger was piloted at the 2002 Winter Olympic Games.

New Century of Service

The Forest Service will celebrate 100 years of service to the American public in 2005. Through New Century of Service, the Forest Service is commemorating the many contributions that people of the Forest Service have made to the United States over the past 100 years, taking the lessons the agency has learned and applying them to continue to provide world-class public service for the next 100 years. New Century of Service is about the people of the agency, celebrating service, excellence, relationships and innovation. Activities taking place nationally, regionally, and locally include participation in the Smithsonian Institution's Folklife Festival in 2005; teaching natural resource conservation through visual and performing arts; nurturing our commitment to communities through a forest fire lookout project and other activities.

Research and Development

Forestry research in the U.S. Department of Agriculture goes back a long way. In 1876, Congress appropriated \$2,000 to the Department of Agriculture to gather forestry information, and thus the Federal forestry research program was born. In 1908, Gifford Pinchot established the first research station within the newly formed Forest Service in Fort Valley, AZ. The Forest Products Laboratory, which was established in Madison, WI, in 1910, distinguished itself in meeting the Nation's demands during two World Wars and the housing needs of the booming economy after that time period.

Currently, Forest Service Research and Development has 132 laboratories in 70 locations across the country. They are organized within 6 research stations, the national Forest Products Laboratory, and the International Institute of Tropical Forestry in Puerto Rico. Of the 192 million acres of forest and rangeland managed by the Forest Service, 408,600 acres are officially designated as Experimental Forests.

KEY FACTS ABOUT RESEARCH AND DEVELOPMENT:

- Research and Development develops and maintains key databases for enhancing forest health, productivity, and conservation, including an extensive portfolio of long-term research databases with many more than 60 years old.
- About 525 permanent full-time scientists are working on the productivity, health, and diversity of the temperate, boreal, and tropical forests.
- Research and Development scientists are held to high standards of scientific ethics and many are recognized worldwide for the quality of their work. All four of the U.S. scientists who received the prestigious Marcus Wallenberg Award (the forestry equivalent of the Nobel prize) are research and development scientists.
- Research and Development manages 73 experimental forests and ranges and 452 research natural areas devoted to long-term research.
- Research and Development works with the National Forest System and university partners on a network of 62 long-term soil productivity sites across the United States and Canada with the goal of monitoring management effects on sustainability and productivity.
- The Forest Service provides leadership in tropical forestry through collaborative research programs at the International Institute of Tropical Forestry in Puerto Rico and the Institute of Pacific Islands Forestry in Hawaii.
- Scientific products in 2001 included more than 5,678 publications, including patents, computer models, videos and books, that address the questions and needs of natural resource managers, other scientists, and the public.
- Collaboration with research partners through 794 domestic grants, agreements, and contracts total about \$52 million of extramural funding.
- In 2001, the Forest Inventory and Analysis program, including forest health detection monitoring conducted inventory on 75 percent of the Nation's forest land across all ownerships in 35 States and reported status and trends in 115 inventory and monitoring reports.





Senior, Youth, and Volunteer Programs

Senior, Youth, and Volunteer Programs provide job opportunities, training, and education for the unemployed, underemployed, elderly, young, and others with special needs, while benefiting high-priority conservation work. In FY 2001, these programs included more than 108,700 participants and accomplished over \$115 million in conservation work on Forest Service lands.

Through an agreement with the U.S. Department of Labor, the Forest Service operates 18 co-educational Job Corps Civilian Conservation Centers on Forest Service lands. The Forest Service has been operating Job Corps Centers since 1965. The Job Corps program is the only Federal residential education/training program for the Nation's disadvantaged youth.

KEY FACTS ABOUT JOB CORPS CIVILIAN CONSERVATION CENTERS:

- 18 Job Corps Centers (co-educational)
- 9,528 enrolled, ages 16-24
- \$114.6 million budget (PAY 2000)
- \$18.3 million work accomplishment
- 91 percent students placed (based on participants enrolled)
- \$8.42 average starting hourly wage
- 48 percent minorities

The Senior Community Service Employment Program (SCSEP) is designed to provide useful part-time employment, work experience, training, and transition to public and private unsubsidized employment for persons age 55 and over. A 30th anniversary celebration is being planned for PAY 2001.

KEY FACTS ABOUT THE SENIOR COMMUNITY SERVICE EMPLOYMENT PROGRAM:

- 5,537 older workers participated
- \$28.4 million budget (PAY 2000)
- \$39.4 million work accomplishment
- Only Federal agency among 10 national sponsors
- 44 percent females
- 29 percent placed in unsubsidized employment (1,160 seniors)
- \$1.39 return on dollar invested

In the Youth Conservation Corps (YCC) summer employment program, persons aged 15-18 accomplish projects that further the development and conservation of the United States' natural resources. The agency was directed to use not less than \$2 million of agency appropriations for high-priority projects to be carried out by the Youth Conservation Corps program.

KEY FACTS ABOUT THE YOUTH CONSERVATION CORPS:

- 891 enrollees, ages 15-18
- \$2.2 million operating costs
- \$2.6 million work accomplishment
- \$1.18 return on dollar invested
- 42 percent females
- 30th anniversary of operating program

The Volunteers in the National Forests program allows organizations and individuals to donate their talents and services to help manage the Nation's natural resources.

KEY FACTS ABOUT VOLUNTEERS IN THE NATIONAL FORESTS:

- 84,508 volunteers have participated (including 80 international volunteers)
- \$38.6 million work accomplishment
- 36 percent females
- Over 1.6 million volunteers served since the 1972 legislation

Hosted programs provide conservation training and work opportunities on national forests or in conjunction with Federal programs. Programs are administered through agreements with State and county agencies, colleges, universities, Indian tribes, and private and non-profit organizations.

KEY FACTS ABOUT HOSTED PROGRAMS:

- 8,333 participants
- \$16.3 million work accomplishment
- 23 percent females
- 29 percent minorities

Civil Rights

The Forest Service encourages a variety of recruitment and community capacity-building efforts aimed at recruiting for permanent professional positions and conducting program public outreach/technical assistance to underserved communities through Forest Service programs, academic institutions, and partners.

Office of International Programs

The Forest Service promotes technical cooperation and develops support for sustainable forest management practices worldwide. In addition, many individual research relationships exist between Forest Service researchers and managers and their counterparts around the world.

KEY FACTS ABOUT THE IMPACT OF INTERNATIONAL PROGRAMS:

- Through involvement with industry, State foresters, and major nongovernmental organizations, 12 countries forged a consensus on a set of criteria and indicators for assessing progress towards sustainable forest management.
- International collaboration on research and monitoring help to reduce the impact of invasive pests such as the Asian gypsy moth and hemlock woolly adelgid, which have severe impacts on timber resources.
- Partnerships with organizations such as Ducks Unlimited to restore waterfowl habitat will increase the populations of waterfowl that migrate to the Western and Southwestern United States from Mexico and further south.
- A program with the Federal Forest Service of Russia, the State of Alaska, and U.S. companies and nongovernmental organizations will help to ensure that Russians have access to the best environmental technology as petroleum resources on Sakhalin Island are developed. This will promote increased employment in Alaska and preserve salmon fisheries around Sakhalin Island and Alaska.

Law Enforcement and Investigations

The Forest Service Law Enforcement and Investigations (LEI) program is charged with providing a safe environment for the public and our employees on National Forest System (NFS) lands and protecting natural resources and other property under the agency's jurisdiction. Law Enforcement and Investigations cooperates with Federal, State and local law enforcement agencies and other Forest Service programs to achieve these goals. The LEI staff provide high-visibility uniformed patrol presence and prompt response to public and employee safety incidents and violations of law and regulation. They conduct criminal investigations and maintain strong relationships with cooperating law enforcement agencies. While the FS does not have immigration authority, our drug enforcement authorities and other responsibilities on the hundreds of miles of contiguous NFS lands along both the Southwest and Northern Border require FS and LEI personnel to maintain a steadfast vigilance and presence in these areas.

In addition, they reduce the production of domestic cannabis and other controlled substances and smuggling of illegal drugs through NFS lands. The National Forest System Drug Control Act of 1986, amended in 1988, placed primary responsibility on the Forest Service for Federal drug enforcement on NFS lands. Three primary drug enforcement issues affect NFS lands: (1) marijuana cultivation, (2) methamphetamine production, and (3) smuggling across the U.S./Mexico and U.S./Canada borders.

KEY FACTS ABOUT LAW ENFORCEMENT AND INVESTIGATIONS—CALENDAR YEAR 2001

- LEI has approximately 490 uniformed officers patrolling NFS lands nationwide and 120 criminal investigators.
- LEI made more than a million public contacts for a variety of reasons, such as providing general information, obtaining information on criminal matters, and assisting with visitors' problems.
- LEI personnel responded to 215,593 incidents of violation including on- and off-road vehicles, wilderness, fire and forest products, damage to government property and natural resources, as well as emergency responses such as search and rescue.
- LEI conducted 1,908 serious misdemeanor and felony investigations for timber and other forest product theft, archeological violations, wild land fire, controlled substances, employee threats, assaults, and other resource and property-related crimes.
- LEI had oversight of 172 internal and hotline complaints against agency employees and programs.
- LEI entered into 527 cooperative agreements with State and local law enforcement agencies to provide reimbursement for enforcement of State and local laws on NFS lands in regular patrol functions, and 61 cooperative agreements for drug enforcement activities.
- LEI eradicated 719,985 marijuana plants from NFS lands.
- LEI seized nearly 90,000 pounds of processed marijuana being smuggled into the United States across the southwest border.
- LEI located 102 methamphetamine labs and 242 chemical dumpsites on NFS lands and seized 153.5 pounds of methamphetamine.
- Through a partnership with the Office of National Drug Control Policy, LEI received \$500,000 for the National Marijuana Public Lands Initiative.

Farmers, ranchers, and private forest landowners own and manage two-thirds of the Nation's land and are the primary stewards of our soil, air, and water. While the cost of stewardship on that land is borne by land managers, the benefits accrue to society at large.

Natural Resources Conservation Service

Introduction

As the Nation's lead Federal agency addressing private lands conservation, the Natural Resources Conservation Service (NRCS) provides technical assistance and administers a wide range of programs to help solve this country's natural resource problems.

Our well-being depends on healthy, productive natural resources and their sustainable use. Just as soil, water, and habitat are interrelated, the programs that address these resources are interrelated, and programs that help one resource also benefit others. Protecting the soil from erosion, for example, also enhances soil productivity and protects water and air quality. Improving the environment enhances the economic future of communities throughout the United States.

The mission of NRCS is to provide national leadership, in a partnership effort, to help people conserve, improve, and sustain the Nation's natural resources and environment. NRCS' authorizing legislation directs the agency to assist resource owners, operators, and managers in conserving soil, water, and related resources. Conservation of natural resources is necessary to ensure that the Nation's people enjoy the benefits of:

- A productive resource base supporting a strong agricultural sector
- A high-quality natural environment
- Watersheds and water supplies that are protected against risks imposed by weather and climate
- A healthy economy and high quality of life in rural communities

A Partnership Approach to Resource Conservation

For nearly seven decades, NRCS employees have worked side by side with landowners, conservation districts, resource conservation and development councils, tribes, State and local governments, and urban and rural partners to restore and enhance the American landscape. The agency helps landowners and

communities take a comprehensive approach in conservation planning, working toward an understanding of how all natural resources—soil, water, air, plants, and animals—relate to each other and to humans. The agency works to solve the natural resource challenges on the Nation's private lands—reducing soil erosion, improving soil and rangeland health, protecting water quality and supply, conserving wetlands, and providing fish and wildlife habitat.

Most NRCS employees serve in USDA's network of local, county-based offices, including those in Puerto Rico and the Pacific Basin. The rest are at State, regional, and national offices, providing technology, policy, and administrative support. They serve all people who live and work on the land. Nearly three-fourths of the agency's technical assistance goes to helping farmers and ranchers develop conservation systems uniquely suited to their land and their ways of doing business.

The agency helps rural and urban communities curb erosion, conserve and protect water, and solve other resource problems. American Indian tribes, Alaska Natives, Pacific Islanders, and other native groups work with NRCS on a variety of initiatives that include resource inventories and the adaptation of conservation programs to fit the special needs of their people and their land. Also, countries around the globe seek NRCS' advice on building their own conservation delivery systems and in coping with severe natural resource problems.

NRCS provides locally based conservation assistance in cooperation with conservation districts through a nationwide network of local field offices. Locally based NRCS technical staff work directly with individual farmers, ranchers, local and State officials and employees, and community groups, providing them technical, financial, and information assistance. In fiscal year 2001, NRCS provided assistance to 2.4 million farmers, ranchers, and other customers.

Erosion and Sediment Control

While NRCS has cut erosion on cropland by 38 percent between 1982 and 1997, soil erosion continues to threaten agricultural productivity on about one-third of our Nation's cropland. During fiscal year 2001, NRCS helped landowners plan and apply resource management systems on 9.5 million acres of cropland. The agency protected 3.5 million acres of cropland from excessive wind and water erosion and applied erosion control measures on 9.3 million acres of land, resulting in reducing soil loss by 257 million tons.

Important Farmlands

Farmland, one of America's greatest treasures, continues to be converted to nonagricultural uses. Between 1982 and 1997, every State lost some high-quality farmland to urban development. According to the National Resources Inventory, on average, 666,000 acres of prime farmland are converted each year to non-agricultural uses. This amounts to more than 70 acres per hour each day.

NRCS, working through State, tribal, or local government partnerships, has been able to protect important farmland including prime, unique, statewide or locally important soils. Since 1996, NRCS has entered into agreements in 29 States to leverage funds to protect more than 100,000 acres of agricultural lands from being converted to non-agricultural uses.

Wetlands, Fish and Wildlife

Wetlands provide vital wildlife habitat and help trap nutrients and sediment before they enter our streams. Loss of wetlands is still a concern; however, landowners have begun to restore, protect, and enhance this resource in a serious way. Since 1992, the net loss of wetland acreage on agricultural land has decreased dramatically. Continuing the reduction in net loss trend, in fiscal year 2001, wetlands were created, restored, or enhanced on 362,000 acres with NRCS technical and financial assistance.



NRCS Technical Assistance

NRCS provides Conservation Technical Assistance (CTA) to improve and conserve natural resources. This assistance is based on voluntary local landowner cooperation. CTA is the foundation upon which NRCS delivers its services, through local conservation districts, to private landowners, communities, and others who care for natural resources. CTA is the intellectual capital of the agency; experts in soils and other physical and biological sciences, with knowledge of local conditions, work with private landowners in the stewardship of our natural resources.

CTA provides the infrastructure through which the agency is able to respond to a multitude of needs, from natural disaster recovery to complex site-specific natural resource problems. CTA is the means by which this Nation is able to voluntarily bring about land stewardship that improves our soil, water, wildlife, and air resources while providing for sustainable agricultural production. The investments in CTA return to the American public significant benefits, ranging from an improved environment and quality of life to a safe and abundant food supply.

NRCS provided assistance to 2.4 million farmers, ranchers, and other customers. The agency earned an American Customer Satisfaction Index rating of 81 from a sample of landowners who received conservation technical assistance (CTA). The average score for all government agencies in the survey was 71. Customers gave NRCS an extremely high rating of 90 on trust, which is measured by whether the customer will (1) become an advocate for CTA and (2) request services or information from the agency in the future.

Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is a voluntary program to restore wetlands. Participating landowners can establish conservation easements of either permanent or 30-year duration or can enter into restoration cost-share agreements where no easement is involved. In exchange for establishing a permanent easement, the landowner receives payment up to the agricultural value of the land and 100 percent of the restoration costs for restoring the wetland. The 30-year easement payment is 75 percent of what would be provided for a permanent easement on the same site and 75 percent of the restoration cost. The restoration cost-share agreements are for a minimum 10-year duration and provide for 75 percent of the cost of restoring the involved wetlands. At the end of fiscal year 2001, 1,074,245 acres were enrolled in WRP.

Environmental Quality Incentives Program

The Environmental Quality Incentives Program (EQIP) works primarily with locally identified significant natural resource concerns, such as soil erosion, water quality and quantity, wildlife habitat, wetlands, and forest and grazing lands. Activities must be carried out according to a conservation plan. The program offers financial, educational, and technical help to install or implement structural, vegetative, and management practices called for in 1- to 10-year contracts. Cost sharing may pay up to 75 percent of the costs of certain conservation practices. Nationally, at least 60 percent of the funding for this program is targeted to livestock-related natural resource concerns and the remainder to other significant conservation priorities.

Wildlife Habitat Incentives Program

The Wildlife Habitat Incentives Program (WHIP) provides financial incentives to develop habitat for fish and wildlife on private lands. Participants agree to implement a wildlife habitat development plan and USDA agrees to provide cost-share assistance for the initial implementation of wildlife habitat development practices. USDA and program participants enter into 5- to 10-year cost-share agreements. Since WHIP began in 1998, nearly 11,000 participants have enrolled more than 1.6 million acres into the program. In fiscal year 2001, NRCS utilized \$12.5 million to enroll nearly 2,300 agreements on nearly 212,000 acres.

Conservation Security Program

The Conservation Security Program (CSP) is a voluntary program that provides financial and technical assistance for the conservation, protection, and improvement of soil, water, air, energy, plant and animal life, and other conservation purposes on tribal and private working lands. The program provides payments for producers who practice good stewardship on their agricultural lands and incentives for those who want to do more. CSP assistance is authorized in the 2002 Farm Bill and the program will be available in fiscal year 2003.

Eligible producers who own or control agricultural land may participate by submitting a conservation security plan and entering into an agreement with USDA. Participants must maintain or establish conservation treatment to specific levels of natural resource conservation protection on their land in exchange for an annual payment. Under certain conditions, participants would be eligible for renewal of the agreement in subsequent years. NRCS, or any other USDA-approved source, will provide technical assistance to the participant on the required conservation measures. Innovation and the use of new technologies are encouraged. Conservation achieved through the CSP will help ensure the sustainability of farms and ranches and improve the condition of natural resources on our Nation's working lands.

Farmland Protection Program

The Farmland Protection Program (FPP) is a voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to State, tribal, or local governments and non-governmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land. NRCS manages the program. In fiscal year 2001, NRCS entered into 57 cooperative agreements with State and local governments and non-governmental organizations to protect an estimated 34,900 acres of farmland from conversion to nonagricultural uses through the program. Through 2001, more than 108,000 acres have been protected in 28 States.

Soil Surveys

The National Cooperative Soil Survey information constitutes one of the largest and most valuable natural resource databases in the world. NRCS conducts soil surveys cooperatively with other Federal agencies, land-grant universities, State agencies, and local units of government. Soil surveys provide the public with local information on the uses and capabilities of their soil resource. Soil surveys are based on scientific analysis and classification of the soils and are used to determine land capabilities and conservation treatment needs. The pub-

lished soil survey for a county or designated area includes maps and interpretations with explanatory information that is the foundation of resource policy, planning, and decisionmaking for Federal, State, county, and local community programs. In fiscal year 2001, NRCS mapped or updated 24.4 million acres of soils and provided 139 soil surveys in digital format. Soil survey mapping has been completed on more than 96 percent of the Nation's private land, 78 percent of American Indian lands, and 82 percent of public lands. In addition, more than 1,270 soil surveys have been digitized and made available for resource assessments.

Snow Survey and Water Supply Forecasts

NRCS field staff collect snow information through a network of 660 Snow Telemetry (SNOTEL) sites and 1,100 manual snow courses to provide 13 Western States with water supply forecasts. The data are collected, assembled, and analyzed to make water supply forecasts, which provide estimates of available seasonal yield, spring runoff, and summer stream flow. In fiscal year 2001, 9,000 water supply forecasts for Federal, State, and local water resource planning purposes were issued to 69,000 water users and managers. Snowmelt provides approximately 80 percent of the stream flow in the West. Snow data and water supply forecasts are used by individuals, organizations, and State and Federal agencies to make decisions relating to agricultural production, fish and wildlife management, recreation, power generation, water quality management, and emergency flood and snow safety management. Current and historical data, water supply forecasts, and drought risk assessments are available at:

<http://www.wcc.nrcs.usda.gov>

Plant Materials Centers

NRCS employees at 26 Plant Materials Centers assemble, test, and encourage increased plant propagation and usefulness of plant species for biomass production, carbon sequestration, erosion reduction, wetland restoration, water quality improvement, streambank and riparian area protection, coastal dune stabilization, and to meet other special conservation treatment needs. The work is carried out cooperatively with State and Federal agencies, universities, commercial businesses, and seed and nursery associations. After species are proven effective for conservation purposes, they are released to the private sector for commercial production. NRCS has released nearly 540 varieties of conservation plants to commercial producers. Nearly 250 improved varieties are now in commercial production and used in conservation programs. In fiscal year 2001, NRCS released 24 new conservation plants for commercial or private use and evaluated 424 plant material studies. The agency also provided data to 1.2 million customers through the PLANTS database Web site. NRCS plant information is available on the Web at:

<http://www.plant-materials.nrcs.usda.gov>

Small Watershed Program

The Small Watershed Program works through local government sponsors and helps participants solve natural resource problems of a specific watershed. Project purposes include watershed protection, flood prevention, erosion and sediment control, water supply, water quality, fish and wildlife habitat enhancement, wetlands creation and restoration, and public recreation in watersheds of 250,000 acres or less. Both technical and financial assistance are available. In fiscal year 2001, communities realized a total of \$1.62 billion worth of benefits from small watershed projects.

Emergency Watershed Protection

The Emergency Watershed Protection (EWP) Program is designed to reduce threats to life and property in the wake of natural disasters. It provides technical and cost-sharing assistance. Assistance includes establishing vegetative cover; installing streambank protection devices; removing debris and sediment; and stabilizing levees, channels, and gullies. In subsequent storms, EWP projects protect homes, businesses, highways, and public facilities from further damage. Floodplain easements under EWP may be purchased to help prevent future losses due to natural disasters. In fiscal year 2001, nearly 2 million persons benefited from EWP efforts.

Watershed Operations

The Flood Control Act of 1944 authorized NRCS to administer watershed works of improvement. Flood prevention operations include planning and installing improvements and land treatment measures for flood prevention; for the conservation, development, utilization, and disposal of water; and for the reduction of sedimentation and erosion damages. This also may include the development of recreational facilities and the improvement of fish and wildlife habitat. Activities are authorized in 11 specific flood prevention projects covering about 35 million acres in 11 States. In fiscal year 2001, \$14 million was obligated to assist clients impacted by flooding, and work plans were completed on 24 million acres. These plans provide project implementation guidance to local sponsors.

Watershed Surveys and Planning

NRCS cooperates with other Federal, State, and local agencies in conducting river basin surveys and investigations, flood hazard analysis, and flood plain management assistance to aid in the development of coordinated water resource programs, including the development of guiding principles and procedures. Cooperative river basin studies are made up of agricultural, rural, and upstream water and land resources to identify resource problems and determine corrective actions needed. These surveys address a variety of natural resource concerns, including water quality improvement; opportunities for water conservation; wetland and water storage capacity; agricultural drought problems; rural development; municipal and industrial water needs; upstream flood damages; and water needs for fish, wildlife, and forest-based industries. Flood plain management assistance includes the identification of flood hazards and the location and use of wetlands. NRCS represents USDA on river basin regional entities and river basin interagency committees for coordination among Federal Departments and States. In fiscal year 2001, the total financial obligation to support locally led watershed group actions was approximately \$112 million.

Resource Conservation and Development Program

The Resource Conservation and Development (RC&D) Program provides a framework for local people to join together to improve their community's economy, environment, and living standards. RC&D areas are locally organized, sponsored, and directed. USDA provides technical and financial assistance and helps sponsors secure funding and services from Federal, State, and local sources. The major emphasis is environmental conservation and rural development. To date, 368 areas across the Nation (plus the Caribbean and Pacific Basin) have been designated by the Secretary of Agriculture as RC&D areas. They serve more than 85 percent of U.S. counties and more than 77 percent of the U.S. population.

Each year, these locally organized and directed areas create thousands of new jobs, protect thousands of miles of water bodies, conserve hundreds of thousands of acres of land, and improve the quality of life in hundreds of communities. RC&D areas are run by a council of volunteers who serve without pay. More than 20,000 volunteers are serving on and with RC&D councils. In fiscal year 2001, RC&Ds completed more than 3,000 projects. These resulted in 500 businesses created and 1,800 businesses expanded; 7,500 jobs created; and 5,000 miles of streams and 880,000 acres of wildlife habitat improved. More than 283,000 people learned new job skills and nearly 780,000 economically and socially disadvantaged people were served.

National Resources Inventory

NRCS conducts an inventory on the condition and trends of natural resources on non-Federal land. From 1982 to 1997, the inventory was conducted every 5 years. Starting in 2000, NRCS began collecting data each year. The National Resources Inventory (NRI) contains the most comprehensive and statistically reliable data of its kind in the world. It measures trends in soil erosion by water and wind; wetland losses; prime farmland acreage; irrigation; and habitat and conservation treatment at national, regional, State, and sub-State levels.

Conservation of Private Grazing Land Program

The Conservation of Private Grazing Land Program (CPGL) is a voluntary program that provides technical assistance from NRCS to owners and managers of private grazing land. Private grazing land, the largest agricultural land use, constitutes nearly half of the non-Federal land of the United States. This vast area contributes significantly to the quantity and quality of water available for use and supports some of the most extensive wildlife habitats in the Nation. NRCS provides technical assistance to owners and managers of private grazing land for the long-term productivity and ecological health of grazing land. In fiscal year 2001, through CPGL, NRCS helped landowners apply resource management systems on 11.3 million acres of grazing land and prescribed grazing on 18.6 million acres.

National Conservation Buffer Initiative

In April 1997, USDA launched a new public-private partnership called the National Conservation Buffer Initiative to help landowners install 2 million miles of conservation buffers by the year 2002. Agricultural producers and other landowners who install buffers can improve soil, air, and water quality; enhance wildlife habitat; restore biodiversity; and create scenic landscapes.

Conservation buffers are areas or strips of land maintained in permanent vegetation and designed to intercept pollutants. Buffers can be installed along streams or in uplands—within crop fields, at the edge of crop fields, or outside the margins of a field.

The National Conservation Buffer Initiative is a multi-year effort led by NRCS in cooperation with other USDA agencies, State conservation agencies, conservation districts, agribusinesses, and agricultural and environmental organizations.

To date, about 1.3 million miles of buffers, or nearly 65 percent of the national goal, have been established under the Conservation Reserve Program, Environmental Quality Incentives Program, Wetlands Reserve Program, and other USDA programs.

International Programs

NRCS helps improve the management and conservation of natural resources globally. Participation in collaborative efforts with other countries results in benefits to the United States and in accomplishment of the NRCS mission. During fiscal year 2001, NRCS specialists completed 188 assignments to nearly 40 countries. The objectives of the assignments were to provide short- and long-term technical assistance and leadership for the development of natural resource conservation programs and projects and exchange conservation technology with countries that face soil and water conservation issues similar to those in this country.

NRCS provided opportunities for approximately 250 foreign nationals from more than 35 countries to gain a better understanding of natural resource conservation activities by observing and discussing conservation programs in the United States.

Agricultural Air Quality

The Task Force on Agricultural Air Quality makes recommendations to the Secretary of Agriculture with regard to the scientific basis for agriculture's impact on air quality. The task force is charged with strengthening and coordinating USDA air quality research efforts to determine the extent to which agricultural activities contribute to air pollution and to identify cost-effective ways in which the agricultural industry can improve air quality.

To date, the task force has submitted to the Secretary of Agriculture recommendations and priorities for research emphasizing the need for credible science on which to base regulation and subsequent conservation practices for mitigation of emissions. The top three priorities recommended are related to National Ambient Air Quality Standards for PM₁₀, PM_{2.5} and ozone, and animal waste odor.

Backyard Conservation Campaign

In 1998, NRCS developed a national Backyard Conservation Campaign to tell non-farm audiences about the good conservation work being done by America's farmers and ranchers. The campaign features 10 common conservation practices, such as composting, mulching, tree planting, nutrient management, and water conservation, and shows how miniature versions can work in just about any backyard—whether measured in acres, feet, or flower pots.

Farmers and ranchers already have made progress in natural resource conservation by protecting and restoring wetlands, enhancing wildlife habitat, and reducing soil erosion. There are nearly 2 billion acres of land in the United States. Most of that land, 1.4 billion acres, is managed by farmers and ranchers. However, more than 92 million acres are privately developed, and much of this land is tended by homeowners. These homeowners can join the conservation tradition right in their own backyards to curb water pollution and improve wildlife habitat. For more information on this campaign or agency programs, visit the NRCS Web site at <http://www.nrcs.usda.gov>

CHAPTER 11

Research, Education, and Economics



Agricultural Research Service

The Agricultural Research Service (ARS) is the principal in-house scientific research agency of the USDA. The agency is committed to providing access to agricultural information and developing new knowledge and technology needed to solve technical agricultural problems. Research is done to ensure an abundance of high-quality, safe food and other agricultural products to meet the nutritional needs of the American consumer, to sustain a viable economy, and to maintain a quality environment and natural resource base. Research is conducted at the ARS headquarters in Beltsville, MD, as well as throughout over 100 national laboratories in the United States.

ARS research has contributed to improved crop yields and more environmentally sensitive farming techniques. In addition to enhancing productivity, today's agricultural research is as much about human health as it is about crop production.

For example, a powerful but expensive anticancer drug could become more plentiful, thanks to a new process developed by ARS scientists. The process makes the drug—called taxol—from laboratory-cultured cells of its increasingly rare natural source, the yew tree. The new process is 100 times more productive than the original process for deriving taxol, which was patented by USDA in 1991. Taxol is a potent chemotherapy drug for breast, ovarian, lung, and other cancers. Under the original process, it took about 6,700 pounds of bark from rare yew trees to make a pound of taxol.

ARS research is also as much about development of new products and new crop varieties. One environmentally friendly product now on the market grew out of ARS research showing that adding alum to poultry litter helps reduce runoff of nutrients from the litter into groundwater and surface waterways. The alum reduces phosphorus runoff by 70 percent, reduces the litter's ammonia vapors—

ARS RESEARCH: SELECTED HIGHLIGHTS

ARS scientists in Peoria, IL, and in New Orleans and Philadelphia have found a way to extract a health-enhancing oil from a waste byproduct of the corn processing industry. The scientific team started with corn fiber, a low-value byproduct of corn milling that's now sold as a low-cost ingredient in cattle rations. From that corn fiber, they've extracted an oil that, in tests with hamsters, lowered total serum cholesterol levels and LDL cholesterol, the type that clogs arteries. They've also extracted a second product from corn fiber, a white gum that could be used in a variety of products—in food as an emulsifier, as a soluble dietary fiber or thickener, or as industrial adhesives and water-based paint thickeners.

ARS studies in Boston, MA, have shown that certain foods contain higher levels of compounds that could help slow the processes associated with aging in both body and brain. In the studies, eating plenty of foods with these beneficial substances, called antioxidants, raised the power of human blood to defuse harmful internal substances called oxidants by up to 25 percent. Fruits and vegetables found to have the

highest amounts of these beneficial antioxidants were prunes, raisins, blueberries, blackberries, kale, strawberries, spinach, raspberries, brussel sprouts, plums, and alfalfa sprouts.

ARS research at the U.S. National Arboretum has yielded two new elm trees resistant to the Dutch elm disease that has ravaged the American elm population since the 1940s, wiping out an estimated 77 million elms. The two new resistant elms from ARS are called Valley Forge and New Harmony. Also, ARS researchers recently unveiled two new maple trees for American streets and yards: Red Rocket, a fiery-red maple cultivar with pest resistance and the ability to grow where temperatures dip to -40 degrees, and New World, which also has pest and cold resistance and is an excellent shade tree, as well as an ideal choice for city landscaping.

ARS research on natural resources uncovered a reason to celebrate: American farmers have crossed an auspicious environmental boundary and begun reducing the level of atmospheric carbon dioxide rather than adding to it. CO₂ is one of the greenhouse gases thought to cause global warming. The ARS study showed that

U.S. farmers have shifted from being net producers of carbon dioxide to net accumulators of carbon, in the form of valuable soil organic matter. The changeover was due largely to farmers' increasing abandonment of a cherished symbol of past American agriculture, the moldboard plow used to break up the prairies. Instead, many farmers now leave crop residue on or near the soil surface, where the residue readily decays to organic matter.

For decades, USDA has battled scrapie, a fatal brain disease of sheep and goats. Now, the first preclinical, noninvasive test for scrapie should be available in a few years as a result of ARS research. Reliable diagnosis of scrapie is the first step to eradicating the disease, which would greatly improve U.S. sheep and goat export opportunities. ARS scientists discovered that the nictitating membrane, or third eyelid, in sheep collects proteins known as prions. Abnormal prions are the infectious agents believed to cause scrapie. The researchers developed a new laboratory-built molecule, called a monoclonal antibody, that detects the presence of the abnormal prions. The test will eventually allow veterinarians to detect scrapie before animals show clinical signs.

which can physically damage the chickens and cause respiratory problems for poultryhouse workers—and reduces heavy metal runoff such as copper, zinc, and iron by up to 50 percent. The ARS-patented technology is now used by poultry growers across the United States and in Canada.

On the crops side, a new potato variety known as AWN86514-2 is highly resistant to attack by late blight, the disease that caused the Irish potato famine of the 1840s. Late blight is caused by a fungus, *Phytophthora infestans*. New, more aggressive strains of the fungus that are fungicide-resistant have appeared in recent years, so breeders have been scrambling to find potatoes with natural resistance. The new potato held up well in tests when attacked by the newest and most virulent strains of the fungus. That's good news for consumers, because the average American eats about 143 pounds of potatoes a year, making potatoes the Nation's favorite vegetable. ARS released the new potato in collaboration with agricultural experiment stations in Oregon, Idaho, and Washington.

ARS research provides solutions to a wide range of problems related to agriculture—problems that require the long-term commitment of resources or that are unlikely to have solutions with a quick commercial payoff that would tempt private industry to do the research. These problems range from fighting the ongoing battle to protect crops and livestock from costly pests and diseases, to improving the quality and safety of agricultural commodities and products for humans, to making the best use of natural resources. All the while, the research results must help ensure profitability for producers and processors while keeping down costs for consumers.

For more information about ARS, see its home page: <http://www.ars.usda.gov>

National Agricultural Library

The National Agricultural Library (NAL) was established as part of the Department of Agriculture in 1862 under legislation signed by President Abraham Lincoln. Part of the Agricultural Research Service (ARS) of the U.S. Department of Agriculture, NAL is the largest agricultural library in the world, with a collection of over 3.3 million items.

It is the mission of the National Agricultural Library to serve as the chief agricultural information resource of the United States, ensuring and enhancing access to agricultural information for a better quality of life.

The library serves national and international customers, including researchers, farmers, educators, policymakers, agricultural producers, and the general public. A key NAL goal is to become a “library without walls,” a library whose collection and services are available electronically throughout the world. By adapting electronic information technology to its needs, the library is well on its way to meeting this goal with worldwide accessibility over the Internet.

Over 48 miles of bookshelves hold the NAL collection. Materials in the collection include the latest electronic resources as well as books, journals, reports, photographs, films, videotapes, maps, artwork, and historic materials dating to the 16th century. Tens of thousands of new items are added each year. The collection is international in scope and includes items in nearly 75 foreign languages.

The library is located in Beltsville, MD, on the grounds of the ARS Beltsville Agricultural Research Center. In addition to being the agricultural library for the Nation, NAL is also the departmental library for USDA, serving thousands of USDA employees around the globe. NAL is a key resource in USDA's scientific and research activities. About 170 people work at NAL, including librarians, computer specialists, information specialists, administrators, and clerical personnel. Volunteers ranging from college students to retired persons work on various programs at NAL too. The library has an

Every aspect of the infrastructure and the food system it supports is fed, fundamentally, with new knowledge, through research and development, data collection, and information dissemination.



active visiting scholar program as well, which allows professors, scientists, and librarians from universities worldwide to intern at NAL on projects of mutual interest.

AGRICOLA (AGRICultural OnLine Access) is NAL's bibliographic database providing access to the NAL collection. AGRICOLA contains nearly 3.5 million citations to agricultural literature and is available on the Internet through the NAL home page at <http://www.nal.usda.gov>. NAL provides reference and document delivery services in all aspects of agriculture. It also includes specialized information centers that provide customized information

services on topics such as alternative farming systems, animal welfare, food and nutrition, technology transfer, rural development, and water quality.

For walk-in visitors, the library is open from 8:30 a.m. to 4:30 p.m., Eastern time, Monday through Friday, except Federal holidays. Many of NAL's services are available anytime through the NAL homepage.

NAL can be contacted at:
The National Agricultural Library
Agricultural Research Service, USDA
10301 Baltimore Avenue
Beltsville, MD 20705-2351
(301) 504-5755
E-mail: agref@nal.usda.gov

NAL SELECTED HIGHLIGHTS:

- **Electronic Delivery of Documents Expands and Preservation Plans Developed**

Working toward its goal of becoming a "library without walls," NAL encourages its patrons to send requests and receive materials electronically. Requests submitted electronically to NAL account for about 80 percent of all document delivery requests received. NAL has also significantly increased its electronic delivery of materials to patrons. This number is nearly 40 percent. NAL has taken the lead in developing plans to preserve USDA electronic publications. Preservation and long-term access of these publications are an important issue due to the ephemeral nature of electronic formats.

- **Dietary Supplement Database Established**

In its continuous effort to keep abreast of key issues affecting U.S. food and nutrition, NAL, working with the National Institutes of Health, has launched an Internet site on dietary supplements. The user-friendly database helps researchers and consumers find current information on the growing number of supplements available. For more information about the database, visit the Web site at: <http://ods.od.nih.gov/databases/ibids.html>

Cooperative State Research, Education, and Extension Service

The Cooperative State Research, Education, and Extension Service (CSREES) sees agriculture as a knowledge-based, global enterprise sustained by the innovation of scientists and educators. Its mission is to advance knowledge for agriculture, the environment, human health and well-being, and communities.

CSREES works with land-grant universities, historically Black colleges and universities (HBCUs), Hispanic and Native American institutions, as well as universities and other public and private organizations to advance research, extension, and higher education in the food and agricultural sciences and in related environmental and human sciences. Its programs increase and provide access to scientific knowledge, strengthen the capabilities of State universities, expand accessibility and use of improved communication and network systems, and promote informed decisionmaking.

CSREES links the research and education resources and activities of USDA, improving customer service and responsiveness to emerging issues and national priorities. CSREES programs focus on improving economic, environmental, and social conditions in the United States and globally. These conditions include improved agricultural productivity and development of new products; safer food; cleaner water and air; enhanced stewardship and management of natural resources; healthier and more responsible individuals, families, and communities; and a stable, secure, diverse, and affordable food supply.

The CSREES domestic and international research, education, and extension networks are strengthened with partnerships that maximize resources and program impact. CSREES partners include:

- More than 130 colleges of agriculture, including land-grant institutions in each State and Territory;

- 59 agricultural experiment stations with more than 9,500 scientists conducting research;
- 57 cooperative extension services with more than 9,683 local extension agent educators working in 3,150 counties;
- 63 schools of forestry;
- 17 1890 historically Black land-grant institutions and Tuskegee University;
- 27 colleges of veterinary medicine;
- 42 schools and colleges of family and consumer sciences;
- 31 1994 Native American land-grant institutions;
- 175 Hispanic-serving institutions
- Federal and State governments
- Nonprofit organizations
- Private sector

CSREES research, education, and extension leadership is provided through programs in:

- Communications
- Competitive Programs
- Economic and Community Systems
- Families, 4-H, and Nutrition
- Information Systems and Technology Management
- Natural Resources and Environment
- Office of Extramural Programs
- Plant and Animal Systems
- Science and Education Resource Development

CSREES programs include:

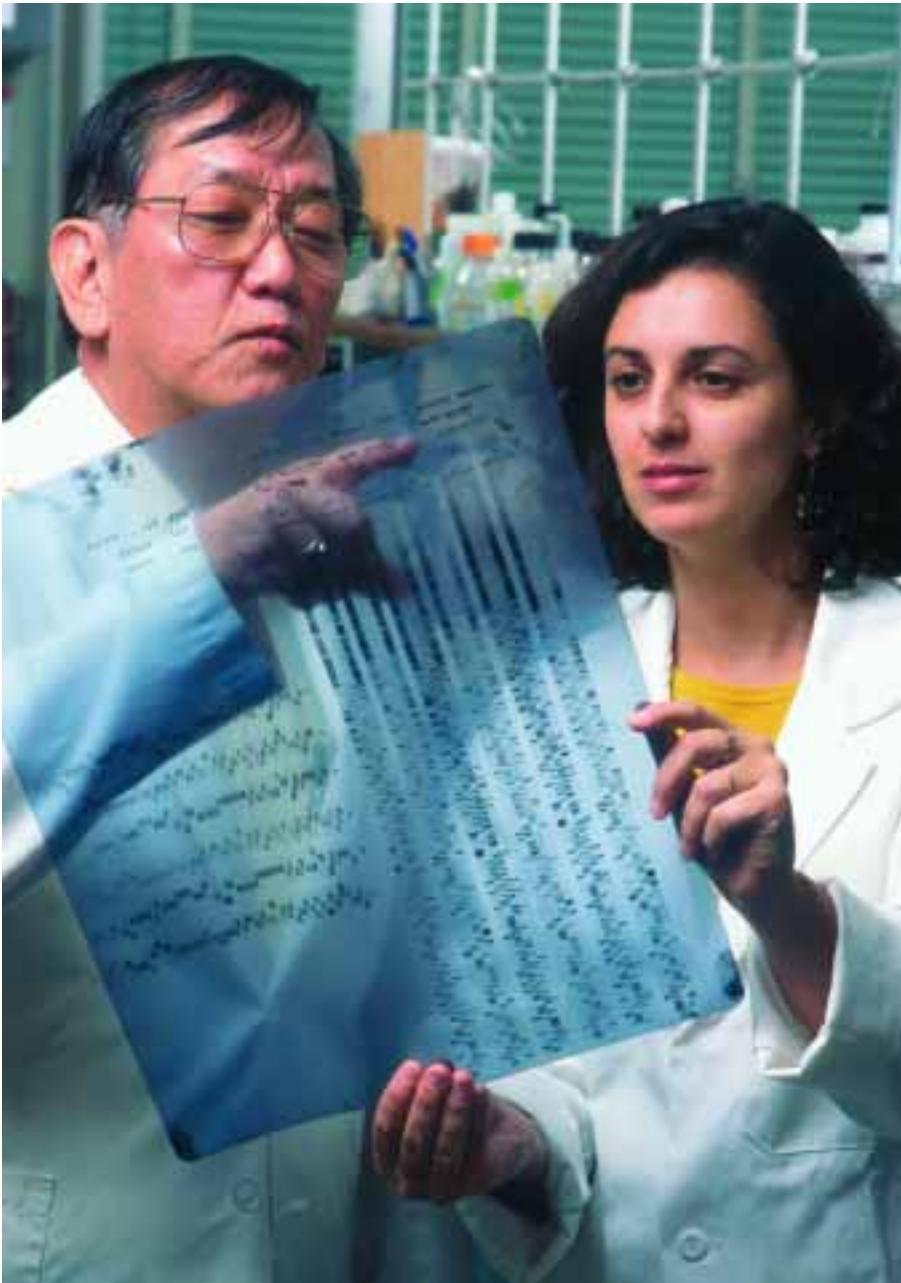
- Model education programs in sustainable agriculture, water quality, food safety, risk management, children and families, health, environmental stewardship, and community economic development.
- Higher education programs to develop the scientific and professional expertise needed to advance the food, agricultural, and natural resource systems and maintain excellence in college and university teaching programs.
- Cooperative partnerships involving:
 - over 9,600 scientists engaged in research at 59 State agricultural experiment stations, 17 1890 historically Black land-grant colleges and universities, and Tuskegee University

- over 9,680 local extension agents working in 3,150 counties
- over 700,000 volunteers working in the Master Extension Volunteer programs...at a dollar value (computed at \$16.52 per hour) of \$1.9 billion
- 3 million trained volunteers working with national outreach education programs
- 6.8 million youth involved in 4-H programs that increase self-esteem and enhance problem-solving skills in a positive, support environment.

- The National Research Initiative to support research in the biological, physical, and social sciences to solve key agricultural and environmental problems

- A Small Business Innovation Research program to support high-quality research proposals containing advanced concepts related to important scientific problems and opportunities in agriculture that could lead to significant public benefit if the research is successful

- Immediate electronic access to vital information on safety and disaster recovery during time-critical disasters, such as hurricanes, wildfires, floods, and terrorism.



CSREES HIGHLIGHTS

New Uses for Agricultural Materials

USDA and land-grant university scientists are finding new uses for agricultural materials of all kinds. Years of research and development are now paying off and scientists have successfully developed bioplastics from corn, potato, wheat, and rice starch. The problem with most petroleum-based plastics, such as polystyrene, is that they don't degrade and are filling up landfill space. But starch-based plastic polymers are environmentally preferable because they are biodegradable.

Virginia Tech scientists have demonstrated in the laboratory that cotton gin waste is a suitable source for fuel ethanol. Successful development could convert existing gin waste, which typically gets plowed back into the soil, into 680,000 gallons of ethanol each year. This could create 100 new jobs in southeast Virginia. Large-scale testing is under way.

Roadmaps to Better Crops and Animals

Arizona researchers are halfway there to mapping the 50,000 genes in corn, America's most important crop. They are sharing information with public and private researchers to develop improved traits in corn and genetically similar crops like wheat, barley, rice, and oats.

Arkansas researchers have engineered plants to produce two human proteins that may be involved in the regulation of cancer metastasis. Large-scale, low-cost production of these two cancer-related proteins in plants may facilitate their practical use in early cancer diagnosis or treatment. Farmers may become pharmaceutical producers.

Texas A&M researchers have cloned a bull calf from cells frozen for 15 years. The resulting calf is believed to be the first animal specifically cloned for disease resistance. The cells used to clone the calf are from a bull that was naturally resistant to brucellosis, tuberculosis, and salmonellosis—infectious diseases that can be transmitted among cattle to humans. Breeding resistance into cattle could reduce pathogens in meat and milk. Ranchers who cannot afford to vaccinate or test their herds for these diseases would benefit from this research.

Looking Out for the Small Farm

The CSREES Small Farm Program works in partnership with a network of State small farm specialists in the land-grant university system to improve the economic viability of small farm and ranch operators nationwide. The CSREES *Small Farm Digest* newsletter targets farmers, ranchers, and small farm specialists at local, State, and Federal levels with information about direct marketing techniques for farm-raised goods and other timely topics.

The CSREES' Sustainable Agriculture Research and Education (SARE) Program advances farming and ranching systems that are profitable and environmentally sound for families and communities. SARE's national outreach arm, the Sustainable Agriculture Network (SAN), combines SARE-funded research results with other information to produce practical publications on a variety of topics, including marketing.

Protecting Water Quality

As a result of a widely publicized Utah Extension program, residential water users are measuring sprinkler pressure, coverage, and water saturation per hour to reduce their water consumption in one of the fastest growing States. Utah is the second driest U.S. State and if population growth and current water consumption continue at their present rate, Salt Lake City could "run dry" by 2020. An added benefit of the Utah Extension program is that residents using it are saving 25 percent on water bills and reducing water consumption by 50 percent.

The Fond du Lac Tribal and Community College in Wisconsin is playing a key role in the St. Louis River Watch Program, which protects the watershed and improves water quality. Since 1997, the college has supported water sampling in the river, using students in 21 area schools, teacher training, and data collection. An annual conference to measure results and encourage stewardship is held by the college. The St. Louis River contributes significant amounts of water, nutrients, and pollutants to Lake Superior. The river and lake are important to the region's water supply and recreation.

Healthier Lives Through Research and Education

Land-grant universities are considering cultural differences as they address nutritional needs of different populations as different cultures obtain nutrients in different ways. Caucasians use milk for a protein source. Hispanics get more calcium from cheese and beans, while Asians use seaweed and soy. California Extension specialists conduct the Expanded Food and Nutrition Education Program (EFNEP) for low-income Vietnamese fam-



ilies in five counties. A California Extension program, "Cooking for Better Health," helps low-income Hispanic families improve dietary practices. Program graduates ate fewer fried foods, drank lower fat milk, and bought lower fat foods. Colorado Extension educators conduct a bilingual program called "La Cocina Saludable" (The Healthy Kitchen) to provide Hispanic grandmothers with nutritional information. Seventy-eight percent surveyed made positive nutritional changes as a result of the program. Connecticut EFNEP reached 10,000 low-income Latino children and their caretakers with a bilingual nutrition education program emphasizing the importance of eating fresh produce. Salud!, a nutrition marketing campaign, features Latino celebrities who "toast" good health by promoting fresh fruits and vegetables. This program reached more than 50,000 children at a cost of only \$1.60 per child in 2000.

Pest Management

Researchers in Delaware found that sprays containing viruses control gypsy moths. Producers using this pest control technique have cut insecticide spraying from 67,000 acres to almost zero, at a savings of \$2 million.

Local Problem Solving

Nevada land-grant specialists, in a collaboration of public and private organizations, including Nevada and California firefighters, are teaching homeowners how to live more safely in a high wildfire-hazard environment. Extension specialists have developed 72 wildfire-rating

maps on various vegetation types covering 3,200 square miles for use by developers and firefighters. These include recommendations for managing vegetation and creating a buffer zone between houses and dry grass.

Purdue students are mentoring kids who live in public housing by helping them with homework and basic life skills. College students gain life experience while helping children improve their grades. Georgia 4-H community service club members are helping kids to read. Participants are spending more time reading, and their teachers are seeing improved literacy skills.

Managing Agricultural Waste

A cooperative multi-State effort to protect the Chesapeake Bay led Maryland researchers to promote the use of riparian buffers—areas of trees, shrubs, and vegetation adjacent to bodies of waters that capture pollutants before they reach the bay. An educational video has increased riparian awareness throughout the Chesapeake Bay area and was distributed in all 50 States and several foreign countries, including Germany and Albania. This effort addresses the problem of non-point-source pollution from urban and rural sources as the primary cause of water quality problems in the United States. Many States are now combining urban and agricultural efforts to protect water supplies.

FOR MORE INFORMATION

More information on CSREES can be found at: <http://www.reeusda.gov/>



Economic Research Service

Are you a congressional staffer who wants to know how U.S. agriculture would be affected if China joined the World Trade Organization (WTO)? Are you a reporter seeking insights on future patterns of adoption of genetically engineered crops? Are you an industry analyst who has heard the meatpacking industry has fewer and fewer firms and wonders why this increasing concentration occurred and what it means? Are you looking for farm income and farm program payment information to use in designing a new safety net program for small or limited-resource farmers? Are you a nutrition educator who wonders what Americans eat and why they make the food choices they do?

If so, you are in luck. These are just a few of the many timely issues addressed by the Economic Research Service (ERS)—USDA's premier source of social science information and research. ERS conducts social science research for a purpose. That purpose is to build the knowledge base for informed and effective decisionmaking on economic issues related to agriculture, food, natural resources, and rural economies.

ERS publications are easy to find. They are posted in their entirety, and summarized for easy access to the main ideas, on the ERS Web site: <http://www.ers.usda.gov>

Copies are also available from the USDA Order Desk (1-800-999-6779 or 703-605-6220). For assistance in locating specific publications, periodicals, or data products, please call the ERS Information Center at (202) 694-5050 or email service@ers.usda.gov.

Finding the Facts

Commodity Markets. What's up and what's down in the crop and livestock markets? The ERS commodity situation and outlook series includes monthly and quarterly reports containing current and prospective information on commodity supply, demand, and price conditions. Annual situation and outlook yearbooks that include historical data series on acreage, yield, supply, domestic use, foreign trade, and price, as well as topical articles pertinent to understanding the U.S. and global markets, are also available. From the ERS Web site, you will find links to situation and outlook reports for cotton and wool, feed, fruit and tree nuts; livestock, dairy and poultry; aquaculture; oil crops, rice, sugar and sweeteners; tobacco, vegetable and specialty crops, and wheat. *Commodity briefing rooms* can also be found on the ERS Web site. These sites provide one-stop-shopping entrees into commodity data from all USDA agencies.

Agricultural Trade. Are prospects bright or dim for U.S. agricultural trade? To find out, visit the ERS Web site where you will find the *Outlook for U.S. Agricultural Trade*, which offers the latest value and volume of U.S. farm exports by commodity and region, and also the agricultural trade balance, import commodities, and export outlook. Or take a look at the *Trade Briefing Room*, which will hook you directly into the *Foreign Agricultural Trade of the United States*—a trade database that you can search according to the commodity, country or region, and time period that interests you.

Farm Income and Finance. Are farmers doing better or worse economically than in the past? How many farmers make a living “just farming” these days? What percentage of farm income comes from government payments? You can find the answer to these questions in the ERS

periodical *Agricultural Income and Finance*. Issued 3 times a year, this report provides historical estimates and forecasts of farm sector financial information that will allow you to gauge the financial well-being of the Nation's farmers and ranchers. It includes farm sector receipts, expenses, debt, assets, and costs of producing crops and livestock. Or visit the *Farm Sector Performance Briefing Room*, where you will find links to the latest farm income forecasts, other farm financial data, and related research reports.

Food Consumption and Prices. How much of their personal income do Americans spend on food these days? (Answer: 10 percent) How much of their food expenditures are on "food away from home"? (Answer: 47 percent) For direct access to data on retail food prices, food expenditures, and food costs, and access to numerous publications on America's eating habits, visit the *Food Markets Briefing Room* on the ERS Web site.

Resource Trends and Indicators. How much cropland is being lost to urban uses? The answer—it turns out that acres in cropland have remained quite stable over time, varying from 440 to 460 million acres since 1945—can be found in the ERS *Land Use and Value Briefing Room*. Are farmers using more or fewer chemicals today than in the past? For the answer to this and many other questions about how natural resources (land and water) and commercial inputs (energy, nutrients, pesticides, and machinery) are used in the agricultural sector, see the *Agricultural Resources and Environmental Indicators* report, which is posted on ERS' Web site.

Rural Economic Indicators. Which rural counties are experiencing population growth? What is the median household income in your county? What proportion of your State's rural jobs are in farm and farm-related industries? Does commercial bank restructuring impair local rural economic growth? The *Rural Development Briefing Room* provides a rich source of information about rural population dynamics, employment change, jobs by industry, and credit and finance. You can also learn about Federal funds going to



rural America simply by going to the ERS Web site.

Staying on Top of Special Topics

At ERS you can get more than just the economic facts. ERS' unique contribution in USDA is to bring the perspective of economic analysis to many critical issues facing farmers, agribusinesses, consumers, and policymakers. For example, ERS can tell you the economic benefits to society and the costs to the food industry of implementing food safety protections. Or ERS can tell you which sectors of the economy have gained the most economically, and by how much, from implementation of the North American Free Trade Agreement. Many special topics are highlighted on the ERS Web Site Briefing Rooms. Among the topics covered are:

New Farm Bill Legislation. Find out what the Farm Security and Rural Investment Act of 2002 will mean for farmers, ranchers, the food industry, and consumers in America. Learn about new provisions concerning commodity programs, rural development, nutrition, farm credit, and conservation.

Domestic Conservation and Environmental Policies. Find out what policy instruments are available to encourage farmers to adopt conservation and environmental practices, and how effective they have been.

Food Safety. Learn that foodborne illnesses from a few selected pathogens cost society at least \$6.9 billion annually in medical costs and lost productivity. Find out what your government is doing to improve the safety of the Nation's food supply, and what you as a consumer can do to keep your family's food safe.

Food Security and Hunger. Find out that although most households (nearly 90 percent) in the United States are food secure, during 2000 some 11 million U.S. households (10.3 percent of total) were food insecure—that is, they did not always have access to enough food to meet basic needs.

World Trade Organization. Find discussions of the three pillars of agricultural trade negotiations: export subsidies, domestic support, and tariffs as well as other trade negotiation issues. The Web site also contains an analysis of China's potential membership in the WTO; for example, did you predict that the largest increases in China's agricultural imports after full accession are likely to be for corn (\$587 million), wheat (\$543 million), and cotton (\$359 million)?

Research Reports: Indepth Understanding of Complex Issues

ERS underpins its contributions to understanding the topics of the day with peer-reviewed social science research. The results of many research projects are published as ERS research reports as well as in professional journals. All ERS reports are available in PDF format on the ERS Web site at <http://www.ers.usda.gov>. The following is a selection of indepth research reports published in 2001:

Changing Structure of Global Food Consumption and Trade, ERS, WRS No. 01-1, May 2001. Higher income, urbanization, other demographic shifts, improved transportation, and consumer perceptions regarding quality and safety are changing global food consumption patterns. Shifts in food consumption have led to increased trade and changes in the composition of world agricultural trade. Given different diets, food expenditure and food budget responses to income and price changes vary between developing and developed countries. In developing countries, higher income results in increased demand for meat products, often leading to increased import of livestock feed. Diet diversification and increasing demand for better quality and labor-saving products have increased imports of high-value and processed food products in developed countries. Consumer groups in developed countries have also brought attention to organic production of food and the topic of animal welfare. One way in which the public and private sectors have responded to consumer demand for these quality attributes has been by developing and implementing mandatory and voluntary quality control, management, and assurance schemes.

Structural and Financial Characteristics of U.S. Farms: 2001 Family Farm Report, ERS, Agriculture Information Bulletin No. 768, May 2001. Family farms vary widely in size and other characteristics, ranging from very small retirement and residential farms to establishments with sales in the millions of dollars. The farm typology developed by ERS categorizes farms into groups based on the primary occupation of the operator and sales class of the farm. The typology groups

reflect operators' expectations from farming, position in the life cycle, and dependence on agriculture. The groups differ in their contribution to agriculture production, degree of specialization, extent of participation in commodity and conservation programs, and dependence on farm income. These (and other) differences are discussed in this report.

Economic Issues in Agricultural Biotechnology, ERS, Agriculture Information Bulletin No. 762, March 2001. Agricultural biotechnology has been advancing very rapidly, and while it presents many promises, it also poses many questions. Many dimensions to agricultural biotechnology need to be considered to adequately inform public policy. Policy analysis is made more difficult by the fact that agricultural biotechnology encompasses many policy issues addressed in very different ways. We have identified several key areas—agricultural research policy, industry structure, production and marketing, consumer issues and future world demand—where agricultural biotechnology is dramatically affecting the public policy agenda. This report focuses on the economic aspects of these issues and addresses some current and timely issues as well as longer term issues.

Household Food Security in the United States, 2000, ERS, Food and Nutrition Research Report No. 21, March 2002. This report, based on data from the September 2000 food security survey, provides the most recent statistics on the food security of U.S. households, as well as on how much they spent on food and the extent to which food-insecure households participated in Federal and community food assistance programs. Between 1998 and 2000, food insecurity fell by 11 percent and hunger by 16 percent. The declines were widespread, affecting most regions and types of households. For the year ending September 2000, nearly 90 percent of American households were food secure for the entire year. The rest were food insecure at least some time during the year, meaning they did not always have access to enough food for active, healthy lives for all household members.

How Will the Phaseout of Federal Estate Taxes Affect Farmers?, ERS, Agriculture Information Bulletin No. 751-02, March 2002. Concern among policymakers that the Federal estate tax might force the liquidation of some family farms has resulted in the enactment of a variety of special provisions over the years. Providing relief to farmers and other small business owners was the primary impetus for the 1997 changes to Federal estate and gift tax policies and a major objective of the 2001 law that will phase out and eventually repeal the Federal estate tax. While only about 4 percent of all farm estates owe Federal estate taxes, a much larger percentage of farm estates must file an estate tax return, make use of special farm provisions, alter their business practices, or engage in costly estate planning to reduce the impact of the estate tax on their farm business. Thus, the phaseout and repeal of the Federal estate tax will affect a much broader group of farmers than just those who owe tax.

What Does ERS Look Like?

Located in Washington, D.C., ERS has approximately 500 employees. The agency's work is structured among three program divisions: Food and Rural Economics, Market and Trade Economics, and Resource Economics.

For more information about the agency, visit the ERS Web site:

<http://www.ers.usda.gov>

National Agricultural Statistics Service

The National Agricultural Statistics Service (NASS), "The Fact Finders for U.S. Agriculture," is USDA's official source of comprehensive agricultural statistics. The only way to "tell the story" of the phenomenal success of American agriculture is by having data available that measure productivity.

The NASS mission is to provide timely, accurate, and useful statistics in service to U.S. agriculture. These statistics are not only important to tell the success story of American agriculture, but they are vital to support the efficient handling and marketing of commodities in today's global market. This mission, which serves both producers and consumers by allowing for informed decisions, is accomplished through the collection and dissemination of official USDA statistics through weekly, monthly, quarterly, and annual surveys and the 5-year census of agriculture.

Agricultural statistics have been vital to providing for stable markets and serving public interests since 1791, when George Washington personally conducted the Nation's first agricultural survey and compiled the results. Seventy-two years later, in 1863, the newly established USDA, named the "People's Department" by its founder, Abraham Lincoln, issued the first USDA crop report.

Why Are Ag Statistics Important?

Besides helping producers get a fair market price for the goods produced on their farms and ranches, agriculture statistics help Americans plan for a future sustained by a safe and secure food supply. The data allow a growing multitude of people from various sectors of the agricultural industry to make decisions affecting agriculture that are based on fact, not opinion. NASS has successfully met many challenges over the last 138 years to provide data to meet the changing demands of data users. These data are geared toward producers to help them plan planting, feeding, breeding, and marketing programs. Other major uses of these statistical data include the following:

Associated with, but distinct from, scientific research and development is the continued need for public sector provision of objective, consistent data and information to level the basis for decisionmaking among participants in the food and agricultural system.

- Producers and buyers rely on timely, accurate data to conduct business on an even playing field, within a market place where price is determined by real facts rather than speculation and rumors.
- Farm organizations and government use these sound statistics to resolve environmental issues, rather than basing decisions on worst-case scenarios.
- Exporters of American farm products rely on accurate supply information.
- Producers use the data to determine emerging markets for new and existing commodities or to decide when to change their enterprises.
- Transportation and storage companies rely on the statistics to efficiently move agricultural products to market.
- Suppliers use the data to allocate the necessary inputs farmers need to grow their crops or raise livestock.
- Local and Federal government policymakers rely on accurate data to address natural disasters, crop insurance, and depressed farm prices.
- Other USDA agencies use the statistical data to accomplish important programs for the Department, whether it be carrying out agricultural policy concerning farm program legislation, commodity programs, agricultural research, or rural development.

Statistics Based Primarily on Producer Reports

Most estimates are based on information gathered from producers surveyed through personal and telephone interviews or through mailed questionnaires.

Other estimates are based on surveys of grain elevators, hatcheries, and other agribusinesses, and on administrative data such as slaughter records. Their voluntary cooperation is absolutely vital to a workable and meaningful statistical program. The success of this cooperative relationship can be attributed to producers' recognition of the importance of the survey results and to the confidential treatment NASS accords all reported information. Other estimates are based on surveys of grain elevators, hatcheries, and other agribusinesses, and on administrative data such as slaughter records. In addition, NASS relies on actual field counts and measurements for some crop forecasts.

Data collected from these varied sources are summarized by the NASS State Statistical Offices and then sent to the Agency's Agricultural Statistics Board in Washington, DC, whose members determine and issue State and national official statistics. Reports are released to the public according to a published calendar.

A Model of Federal-State Cooperation

The NASS network of 45 State Statistical Offices, serving all 50 States, and the Puerto Rico Field Office operate through cooperative agreements with State departments of agriculture or universities. This enables NASS to be responsive to "grassroots" data needs, while eliminating duplication of effort and ensuring statistical products are consistent with national-level standards.

What Data Are Available?

Current Ag Surveys

An abundance of current and historical agricultural information, covering 120 crops and 45 livestock items across the 50 States, is available from NASS' 400 national reports and 9,000 State reports on topics including:

- Crop acreage, yield, production, and grain stocks;
- Livestock, dairy, and poultry production and prospects;
- Chemical use in agriculture, including post-harvest applications on selected crops;
- Labor use and wage rates;
- Farms and land in farms; and,
- Prices, costs, and returns.

In addition to the information above, statistics on more specialized commodities including hop stocks, mink, cherries, cranberries, lentils, and peppermint oil are also available. Enhanced statistics for the nursery, equine, and aquaculture industries have been enthusiastically received by data users.

2002 Census of Agriculture

You Make it Known—Agriculture Counts!

Thanks to America's farmers and ranchers who supply the answers needed to produce a reliable, accurate, and timely picture of our Nation's agriculture.

The above slogan carries an important message to over 2 million farms and ranches across America, as the National Agricultural Statistics Service began the enormous task for the Department of Agriculture of the mailout of the census of agriculture questionnaires in December 2002. Farmers and ranchers, the cornerstone of the Nation's food and fiber system, are the only ones who can provide the information needed to compile the 5-year complete accounting of American agricultural production demographics, structure, economics, and other characteristics.

Response to the 2002 Census of Agriculture is required by law (Title 7, U.S. Code) to ensure all operations, large and small, are properly counted and represented. That same law requires that individual producer information is safeguarded and strictly confidential. High-quality census data depend on a complete response from everyone receiving a form.

Results from the 2002 Census of Agriculture will be released on the NASS Web site (www.usda.gov/nass/) in early February 2004. The census of agriculture is the only source for uniform, comprehensive agricultural data for every county in the Nation.

What Will the Picture Reveal for 2002?

The 2002 Census of Agriculture will give us a complete statistical picture of America's diverse farming and ranching industry, and it will help provide new information to analyze trends.

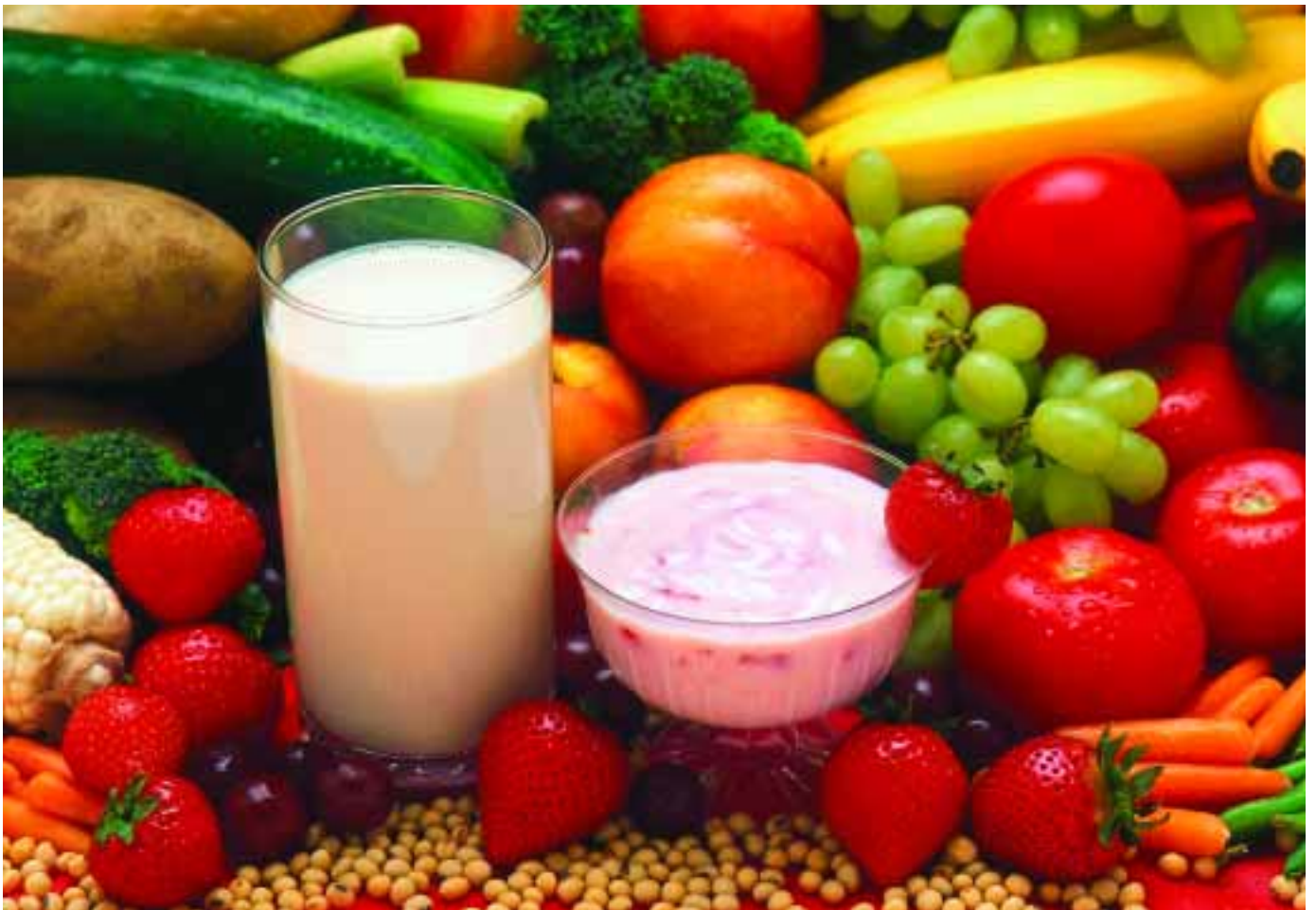
The Census of Agriculture results provide data on the number of farms, land in farms, land use and ownership, operator characteristics, crops, machinery and equipment, livestock, fertilizer, poultry, chemicals, market value of products, irrigated land, production expenditures, type of organization, farm programs, and corporate structure. Data are also published for Puerto Rico, Guam, the Virgin Islands, the Northern Mariana Islands, and the American Samoa.

Where Can You Find Current Survey and Census of Agriculture Data?

NASS reports are released at scheduled times on the Internet, in print, and on CD-ROM. All census and survey reports are accessible free of charge from the NASS Web site at www.usda.gov/nass/. You can also find census of agriculture data through local NASS State Statistical Offices, depository libraries, universities, and other State government offices. For questions, contact the Agricultural Statistics Hotline at 800-727-9540.

CHAPTER 12

Marketing and Regulatory Programs



Agricultural Marketing Service

When you visit the grocery store, you know you'll find an abundance and variety of top-quality produce, meats, and dairy products. If you're like most people, you probably don't give a second thought to the marketing system that brings that food from the farm to your table. Yet, this state-of-the-art marketing system makes it possible to pick and choose from a variety of products, available all year around, tailored to meet the demands of today's lifestyles. Millions of people—from grower to retailer—make this marketing system work. Buyers, traders, scientists, factory workers, transportation experts, wholesalers, distributors, retailers, advertising firms—in addition to the Nation's farmers—all help create a marketing system that is unsurpassed by any in the world. And USDA's Agricultural Marketing Service (AMS) helps make sure the U.S. marketing system remains world-class.

Services to Promote Quality: Grading, Quality Standards, and Certification

Wherever or whenever you shop, you expect good, uniform quality and reasonable prices for the food you purchase. AMS quality grade standards, grading, certification, auditing, inspection, and laboratory analysis are voluntary tools that industry can use to help promote and communicate quality and wholesomeness to consumers. Industry pays for these services and since they are voluntary, their widespread use by industry indicates they are valuable tools in helping market their products.

In the grocery store, USDA quality grade marks are usually seen on beef, lamb, veal, chicken, turkey, butter, and eggs. For many other products, such as fresh and processed fruits and vegetables, the grade mark isn't always visible on the retail product. For these commodities, the grading service is used by wholesalers, and the final retail packaging may not include the grade mark. However, quality grades are widely used—even if they are not prominently displayed—as a “language” among traders.

Grading is based on standards, and standards are based on measurable attributes that describe the value and utility of the product. Beef quality standards, for instance, are based on attributes such as marbling (the amount of fat interspersed with lean meat), color, firmness, texture, and age of the animal, for each grade. In turn, these factors are a good indication of tenderness, juiciness, and flavor of the meat—all characteristics important to consumers. Prime, Choice, and Select are all grades familiar to consumers of beef.

Standards for each product describe the entire range of quality for a product, and the number of grades varies by commodity. There are eight grades for beef, and three each for chickens, eggs, and turkeys. On the other hand, there are 45 grades for cotton, 32 grade standards and specifications for dairy products, and more than 312 fruit, vegetable, and specialty product standards.

The food testing side of the AMS program has six user-funded laboratories performing numerous microbiological, chemical, and physical analyses on a host of food and fiber commodities, including processed dairy products, meat, poultry, egg products, and fruits and vegetables. This testing supports AMS purchases for the National School Lunch Program and other domestic feeding programs, troop ration specifications for the Department of Defense, export of U.S. food to foreign countries, laboratory quality control and assurance programs, and testing for aflatoxin in peanut products.

AMS has developed quality assurance (QA) services that include Hazard Analysis Critical Control Point (HACCP) and International Organization for Standardization (ISO)-based programs. These programs ensure and document that companies' operations are in compliance with provisions of contracts and/or their own standards and procedures. QA services are voluntary, hourly-fee-based, and value-added. HACCP concepts and procedures have been recommended by the National Academy of Sciences for application in the food industry, and ISO procedures

U.S. agriculture successfully delivers abundant, affordable, safe, and nutritious food to markets worldwide. Nothing has been more important to this success than an extensive physical and institutional infrastructure—in effect, the backbone of the food and agricultural system.

are becoming an international norm for some processes.

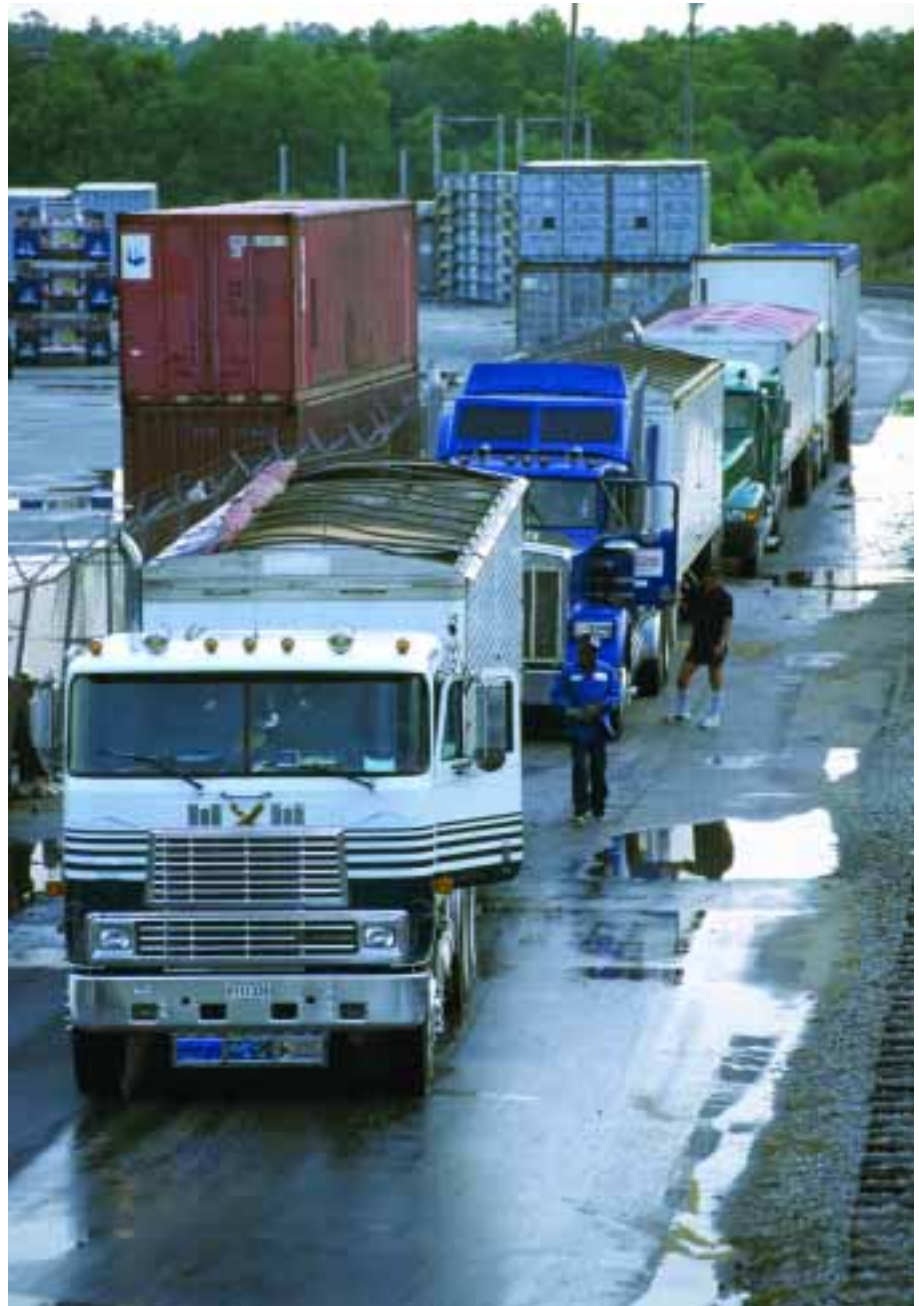
One such service AMS has developed is the Process Verification Program, which provides livestock and meat producers, along with other businesses in the agricultural industry, an opportunity to assure customers of their ability to provide consistent quality products by having their written manufacturing processes confirmed through independent, third-party audits. AMS Process Verified suppliers are able to have marketing claims, such as breed, feeding practices, or other raising claims verified by the USDA and marketed as “USDA Process Verified.”

AMS’ Dairy Programs conducts comprehensive evaluations of dairy and related products, manufacturing plant facilities, and equipment to assure their eligibility to receive grading service and display the grade shield on products. Associated with this service is a sanitary design evaluation service for processing equipment. Under this service, processors can have the sanitary aspects of the design and the cleanability of a machine or process evaluated prior to installation in their facility. A similar service is also offered by AMS for the meat and poultry industry.

Spreading the News

Farmers, shippers, wholesalers, and retailers across the country rely on AMS Market News for up-to-the-minute information on commodity prices and shipments. Market News helps industry make the daily critical decisions about where and when to sell, and what price to expect. Because this information is made so widely available, farmers and those who market agricultural products are better able to compete, ensuring consumers a stable and reasonably priced food supply.

In 2001, AMS launched the Livestock Mandatory Price Reporting (LMPR) program as required by the Livestock Mandatory Price Reporting Act of 1999. As a leading example of electronic government in USDA, the LMPR program requires packers to electronically submit purchase and sale information to AMS.



The resulting data, reported by AMS, supplies the agricultural industry with multiple daily and weekly reports covering new transaction data for slaughter cattle, swine, lamb, beef and lamb meat.

Overall, AMS Market News reporters generate approximately 700 reports each day, collected from more than 100 U.S. locations. Reports cover local, regional, national, and international markets for dairy, livestock, meat, poultry, eggs, grain, fruit, vegetables, tobacco, cotton, and specialty products. Weekly, biweekly, monthly, and annual reports track the



longer range performance of cotton, dairy products, poultry and eggs, fruits, vegetables, specialty crops, livestock, meat, grain, floral products, feeds, wool, and tobacco. Periodically, AMS issues special reports on such commodities as olive oil, pecans, peanuts, and honey.

Buying Food: Helping Farmers, School Children, and Needy Persons

AMS serves both farmers and those in need of nutrition assistance through its commodity procurement programs. By purchasing wholesome, high-quality food products that are in abundance, AMS helps provide stable markets for producers. The Nation's food assistance programs benefit from these purchases, because these foods go to low-income individuals who might otherwise be unable to afford them.

Some of the programs and groups that typically receive USDA-purchased food include: children in the National School Lunch, Summer Camp, and School Breakfast Programs; Native Americans participating in the Food Distribution Program on Indian Reservations; older Americans through the Nutrition Program for the Elderly; and low-income and homeless persons through the Commodity Supplemental Food Program and the Emergency Food Assistance Program. In addition, USDA helps provide disaster relief by making emergency purchases of commodities for distribution to disaster victims.

Pesticides: Information and Records

The U.S. food supply is one of the safest in the world, but the public is still concerned about the effects of agricultural pesticides on human health and environmental quality. The Pesticide Data Program (PDP), which is administered by AMS, provides statistically reliable information on chemical residues found on agricultural commodities such as fresh and processed fruits and vegetables, grain, and milk. PDP is a Federal-State partnership where 10 participating States using uniform procedures collect and test these commodities. The information gained helps form the basis for conducting realistic dietary risk assessments and evaluating pesticide tolerances as required by the Food Quality Protection Act of 1996. The Environmental Protection Agency uses PDP data to address reregistration of pesticides.

Helping Farmers Promote Their Products

“The Touch...the Feel of Cotton...the Fabric of Our Lives,” “Beef...It’s What’s for Dinner,” “Got Milk?,” “If It Ain’t Eggs, It Ain’t Breakfast.” If you’ve watched television or read magazines lately, you’ve probably heard or read these slogans and others for a host of agricultural commodities. All of these promotional campaigns are part of the Research and Promotion Programs that AMS oversees.

Federal research and promotion programs, authorized by Federal legislation, are designed to strengthen the industry’s position in the marketplace and to maintain and expand domestic and foreign markets. The programs are all fully funded by industry assessments. Board members are nominated by industry and appointed officially by the Secretary of Agriculture. AMS oversees the activities of the boards or councils and approves budgets, in order to assure compliance with the legislation.

Currently, there are research and promotion programs for beef, lamb, pork, cotton, fluid milk, dairy products, eggs, honey, mushrooms, potatoes, soybeans, watermelons, popcorn, peanuts, and cultivated blueberries.

But, while advertising is one part of these programs, product research and development is also a major focus. Wrinkle-resistant cotton and low-fat dairy products are just two examples of how these programs have benefited consumers and expanded markets for producers.

Marketing Orders: Solving Producers’ Marketing Problems

Marketing agreements and orders help dairy, fruit, and vegetable producers come together to work at solving marketing problems they cannot solve individually. Marketing orders are flexible tools that can be tailored to the needs of local market conditions for producing and selling. But, they are also legal instruments that have the force of law, with USDA ensuring an appropriate balance between the interests of producers looking for a fair price and consumers

who expect an adequate, quality supply at a reasonable price.

Federal milk marketing orders, for example, establish minimum prices that milk handlers or dealers must pay to producers for milk, depending on how that milk is used—whether fluid milk, ice cream, cheese, or other storable product. Federal milk orders help build more stable marketing conditions by operating at the first level of trade, where milk leaves the farm and enters the marketing system. They are flexible in order to cope with market changes. They assure that consumers will have a steady supply of fresh milk at all times.

Marketing agreements and orders also help provide stable markets for fruit, vegetable, and specialty crops like nuts and raisins, to the benefit of producers and consumers. They help farmers produce for a market, rather than having to market whatever happens to be produced. A marketing order may help an industry smooth the flow of crops moving to market, to alleviate seasonal shortages and gluts. In addition, marketing orders help maintain the quality of produce being marketed; standardize packages or containers; and authorize advertising, research, and market development. Each program is tailored to the individual industry’s marketing needs.

Ensuring Fair Trade in the Market

AMS also administers several programs that ensure fair trade practices among buyers and sellers of agricultural products.

The Perishable Agricultural Commodities Act (PACA) program promotes fair trading in the fresh and frozen fruit and vegetable industry. Through PACA, buyers and sellers are required to live up to the terms of their contracts, and procedures are available for resolving disputes outside the civil court system.

Fruit and vegetable buyers and sellers need this assurance because of the highly perishable nature of their products. Trading in produce is considerably different than trading for a car, a computer, or even grain. When a vegetable grower

doesn’t get paid, the product usually can’t be reclaimed before it spoils—or before it has already been consumed.

The Federal Seed Act (FSA) protects everyone who buys seed by prohibiting false labeling and advertising of seed in interstate commerce. The FSA also complements State seed laws by prohibiting the shipment of seed containing excessive noxious weed seeds. Labels for agricultural seed must state such information as the kinds and percentage of seed in the container, percentages of foreign matter and weed seeds, germination percentage and the date tested, and the name and address of the shipper. USDA also tests seed for seedsmen and seed buyers on a fee-for-service basis to determine quality.

The Plant Variety Protection Act provides intellectual property rights protection to breeders of plants that reproduce both sexually, that is, through seeds, and through tubers. Developers of new plant varieties can apply for certificates of protection. This protection enables the breeder to market the variety exclusively for 20 years and, in so doing, creates an incentive for investment in the development of new plant varieties. Since 1970, AMS’ Plant Variety Protection Office has issued more than 5,000 certificates of protection.

The Agricultural Fair Practices Act allows farmers to file complaints with USDA if a processor refuses to deal with them because they are members of a producers’ bargaining or marketing association. The Act makes it unlawful for handlers to coerce, intimidate, or discriminate against producers because they belong to such groups. USDA helps to institute court proceedings when farmers’ rights are found to be so violated.

The Shell Egg Surveillance Program protects consumers and producers from those who would pack eggs for consumers with more low-quality shell eggs, such as dirty, cracked, and leaking eggs, than permitted by U.S. Consumer Grade B standards. Producers that would do so, intentionally or otherwise, are able to gain a financial advantage over other



producers who do not. When mixed in with high-quality eggs, these low-quality eggs can be sold at a higher price, instead of being diverted for production of liquid and frozen egg products. Also consumers suffer by receiving lower quality eggs at high-quality prices.

Organic Certification

AMS is responsible for implementing and overseeing the organic certification program. The final rule containing national standards for production, handling, and labeling of organic agricultural products was published in December 2000.

The final rule went into effect October 2002. Consumers can now be assured that all organic food sold in the United States meets the same high standards and the new labels will help them to know the organic content of the food they buy.

Consumers should also look for the USDA Organic Seal, which may appear on all food, processed or raw, that is at least 95 percent organic.



Direct Marketing and Market Development

AMS continually seeks ways to help farmers and marketers improve the U.S. food marketing system. For example, AMS' Federal-State Marketing Improvement Program (FSMIP) provides matching funds on a competitive basis to State Departments of Agriculture or other State agencies to conduct studies or develop innovative approaches to the marketing of agricultural products. The aim of the program is to improve the marketing system or identify new market opportunities for producers, ultimately benefitting consumers through lower food costs and more food choices. Pro-

jects include research on innovative marketing techniques, taking those research findings into the marketplace to "test market" the results, and developing State expertise in providing service to marketers of agricultural products. In FY 2001, the FSMIP funded 34 projects in 25 States for nearly \$1.35 million.

Efficient Transportation for Agriculture

An efficient transportation system allows consumers access to a wide variety of agricultural products and commodities produced beyond their own localities.

AMS, through its Transportation and Marketing Programs, conducts research and issues periodic reports on the logistical requirements and constraints involved in transporting and distributing U.S. agricultural products to destination markets by railroads, trucks, inland barges, and ocean vessels, and monitors the adequacy of existing infrastructure to support efficient commerce. The research reports provided by AMS transportation and marketing specialists are designed to help agricultural growers, processors, shippers, and exporters respond more effectively to emerging changes in both the domestic and international marketplace and are specifically targeted to help the smaller grower, processor, shipper, or exporter who may lack easy access to relevant market data and research. AMS also provides funding to academic institutions and nonprofit organizations for the purpose of investigating alternative marketing channels for agricultural items produced by limited-resource farmers and processors.

Produce Locally, Think Globally

Agricultural product markets are increasingly international in scope, and AMS is a strong partner in enhancing the competitiveness of American agriculture. AMS' roles include quality grading and certification for export marketings, reporting international market news, and participation in trade-oriented international forums that develop international agricultural product standards.

Grading involves determining whether a product meets a set of quality standards. Certification ensures that contract speci-

fications have been met—in other words, that the buyer receives the product in the condition and quantity described by the terms of the contract. AMS commodity graders frequently support other USDA agencies involved in export assistance, including the Farm Service Agency and the Foreign Agricultural Service.

U.S. companies often request certification services when exporting to a country that has specific import requirements. Certification services provided by AMS help avoid rejection of shipments or delay in delivery once the product reaches its foreign destination. Delays lead to product deterioration, shipper losses, and, ultimately, affect the image of U.S. quality. AMS' Quality Systems Verification Program, a user-funded service for the meat industry, provides independent, third-party verification of a supplier's documented quality management system. The program was developed to promote world-class quality and to improve the international competitiveness of U.S. livestock and meat. AMS also certifies that all dairy products exported to the European Union (EU) meet the requirements of a trade agreement between the United States and the EU.

AMS provides laboratory testing for exporters of U.S. food commodities on a fee basis in keeping with sanitary and phytosanitary requirements of foreign countries. To date, this service has been requested by exporters of products destined for Japan, South Korea, and other Pacific Rim countries, South Africa, European Union member countries, and countries of the former Soviet Union. AMS also provides a seed testing service used by U.S. seed exporters. Seed analysis certificates containing test results have been issued for seed exported to more than 50 countries.

For selected fruits, vegetables, nuts (including peanuts), and specialty crops, the grading of imports is mandatory. For the most part, however, firms importing agricultural products into the United States use grading services voluntarily. AMS graders are also often asked to demonstrate commodity quality to foreign firms and governments.



In addition to export grading and certification services, AMS Market News offices provide information on sales and prices of both imports and exports. Today, U.S. market participants can receive market information on livestock and meat from Venezuela, New Zealand, Japan, Poland, and other Pacific Rim markets, Mexico, Canada, Australia, and New Zealand; poultry from Canada, Mexico, Japan, Germany, and the Netherlands; fruits, vegetables, and ornamentals from Argentina, Bulgaria, France, Canada, Chile,

Columbia, the Caribbean Basin, Germany, Great Britain, Japan, Mexico, The Netherlands, Poland, South Africa, and Spain; dairy products from Eastern and Western Europe and Oceania; and a host of products from Ukraine, Kazakhstan, and Russia.

FOR MORE INFORMATION

Additional information is available at <http://www.ams.usda.gov>

Animal and Plant Health Inspection Service: Protecting Agricultural Health and Productivity

Why are the farmers and ranchers of the United States able to produce so much food for the tables of America's consumers?

Of course, there's no simple answer. But one key to this plentiful supply of food can be summed up in a single phrase: "Healthy crops and livestock."

And this is no accident. America's agricultural health is a result of a team effort—good husbandry by farmers and ranchers plus an organized effort to exclude foreign pests and diseases and control and eradicate those agricultural threats that make their way past our defenses.

If agriculture is the foundation of manufacture and commerce, there is perhaps no greater mission than making sure that foundation remains healthy and strong. With the advent of free trade initiatives, a global network of countries has agreed that valid agricultural health concerns—not politics nor economics—are the only acceptable basis for trade restrictions. In this environment, our country's agricultural health infrastructure will be our farmers' greatest ally in seeking new export markets.

Safeguarding U.S. Agriculture

Agriculture, America's biggest industry and its largest employer, is under constant threat of attack by invasive species. Invasive species are countless and often microscopic, and they gain access to our country in surprising ways. Their potential allies are every traveler entering the United States and every American business importing agricultural products from other countries.

Invasive species are nonindigenous organisms that cause, or are likely to cause, harm to the economy, the environment, plant and animal health, or public health if introduced into the country. Organisms considered to be invasive species can include terrestrial or aquatic plants, animals, and disease

agents. The estimated economic harm to the United States from these biological invaders runs in the tens of billions of dollars and may exceed \$120 billion annually.

Problems associated with invasive species are national in scope and are becoming more and more widespread. For instance, conservation experts estimate that an average of 3 million acres of land throughout the United States are lost to invasive plants each year.

While the United States faces an ever-increasing challenge in managing invasive species that are currently thriving across our Nation, preventing the introduction of new invasive species also has become more challenging in today's global environment. Worldwide opportunities for international commerce and travel have reached unprecedented levels. Unfortunately, this global activity has increased greatly the number of pathways for the movement and introduction of foreign, invasive agricultural pests and diseases.

The Animal and Plant Health Inspection Service (APHIS) historically has worked hard to safeguard American agricultural resources and prevent damage to our natural ecosystems from the introduction and establishment of those invasive species that threaten the health and vitality of domestic plants and animals.

Over the last several years, APHIS has refined and modernized its agricultural safeguarding system, especially at U.S. border crossings and other international ports of entry. This system is a combination of regulatory, inspection, and anti-smuggling programs designed to keep plant and animal products that could carry pests or diseases out of the United States. Since the outbreak of foot-and-mouth disease in Great Britain in 2001, APHIS has hired additional inspection personnel at major U.S. ports of entry and ensured heightened vigilance against this disease and other serious pest and disease risks to U.S. agriculture.

Science, technology, and intergovernmental cooperation are key to keeping crop and animal pests and diseases out of the United States, and to managing the pest and disease challenges we face inside our borders...

Invasive crop insects, weeds, and diseases are particularly elusive in this age of extensive international trade.

APHIS has also further intensified agency biosecurity efforts as a result of the events of September 11, 2001. In combination with earlier efforts to bolster the Nation's defenses against foot-and-mouth disease (FMD), APHIS, now more than ever, is confident in its ability to detect and respond to the accidental or intentional introduction of animal or plant pest and diseases. Below is a summary of the numerous short- and long-term measures APHIS has taken to strengthen its infrastructure and safeguarding programs.

- By the close of fiscal year (FY) 2003, APHIS intends to have increased its safeguarding personnel to approximately 3,870, a 50-percent increase over FY 2000 hiring levels.
- Starting in FY 2001, APHIS hired 18 additional veterinarians to its comprehensive agricultural quarantine inspection program to strengthen the United States' agriculture infrastructure.
- The early detection of smuggled agricultural products that may contain foreign pests or diseases is also extremely important. In order to ensure this detection takes place and pathways are immediately shutdown, APHIS created the Smuggling Interdiction and Trade Compliance unit. APHIS employs 92 Smuggling Interdiction and Trade Compliance officers and supervisors. This unit conducts approximately 20 blitzes, or intensified inspections, at U.S. ports of entry each year.
- To formalize a method for activating private veterinarians across the country to assist with a foreign animal disease outbreak, APHIS has created a National Animal Health Reserve Corps. This organization is currently made up of more than 275 private veterinarians from around the United States who would become temporary Federal employees to assist APHIS veterinarians in field and laboratory operations during a foreign animal disease situation.
- In late September 2001, APHIS provided nearly \$2 million to 32 States to bolster emergency animal disease prevention,

preparedness, response, and recovery systems. Funding provided will be used for training, purchasing equipment, and conducting exercises to simulate animal health emergencies.

Two key pieces of legislation recently passed into law have also augmented APHIS' authority—and ability—to safeguard U.S. agriculture. The Plant Protection Act of 2000 and the Animal Health Protection Act of 2002 provide greater protection for our Nation's agricultural commodities.

The Plant Protection Act gives APHIS new tools for enforcing the plant quarantine laws by establishing more effective deterrents against smuggling. Agency officials can now assess larger fines, secure subpoenas, and prosecute serious offenders in Federal Court. In addition, an amendment to the Plant Protection Act under the 2002 Farm Bill provides for a felony provision, which increases criminal penalties from misdemeanors to felonies if an individual knowingly imports, enters, exports, or moves for distribution or sale in violation of the Act.

Congress passed the Animal Health Protection Act as part of the 2002 Farm Bill. The Act consolidates more than 20 animal quarantine and related laws. In addition, it increases APHIS' authority to deter people from deliberately bringing into the United States prohibited animals, animal products, and even animal disease agents. The maximum fines for deliberate violations of APHIS' import regulations have increased from \$1,000 per violation to \$50,000 per violation for individuals and up to \$500,000 for companies.

In addition to its safeguarding mission, APHIS also helps facilitate trade by ensuring that both U.S. agricultural products exported throughout the world and foreign agricultural imports are free of plant and animal pests and diseases. In fiscal year 2000, APHIS helped to resolve 67 foreign trade disputes that centered around plant and animal health issues. These efforts, in turn, permitted trade to occur worth over \$2.5 billion to U.S. farmers and producers.

The Components of APHIS' Safeguarding System

Agricultural Quarantine Inspection

Many passengers entering the United States do not realize that one piece of fruit packed in a suitcase has the potential to cause millions of dollars in damage to U.S. agriculture. Forbidden fruits and vegetables can carry a whole range of invasive plant diseases and pests. Oranges, for example, can introduce diseases like citrus canker or pests like the Mediterranean fruit fly.

Similarly, sausages and other meat products from many countries can contain animal disease organisms that can live for many months and even survive processing. Meat scraps from abroad could end up in garbage that is fed to swine. If the meat came from animals infected with a disease, such as African swine fever or hog cholera, it could easily be passed to domestic swine, and a serious epidemic could result. An outbreak of African swine fever in U.S. hogs would drive up the price of pork to consumers, cost hundreds of millions of dollars to eradicate, and close many U.S. export markets.

APHIS safeguards U.S. borders against the entry of foreign agricultural pests and diseases. At 187 U.S. ports of entry, about 3,300 Plant Protection and Quarantine (PPQ) employees inspect international conveyances and the baggage of passengers for plant and animal products that could harbor pests or disease organisms. At some of these international ports, detector dogs in APHIS' Beagle Brigade help find prohibited agricultural materials. PPQ officers also inspect ship and air cargoes, rail and truck freight, and package mail from foreign countries. At animal import centers, APHIS veterinarians check animals in quarantine to make sure they are not infected with any foreign pests or diseases before being allowed into the country.

In fiscal year 2001, APHIS officials inspected about 52,000 maritime vessels, 540,000 aircraft, 85,000,000 airplane and cruise ship passengers, 2,200,000 cargo shipments, and 454,000 rail cars for prohibited or infested agricultural products that could threaten the health of U.S. agriculture. APHIS officials intercepted and impounded prohibited materials over 1.7 million times while carrying out inspection duties. APHIS also issued approximately 16,000 civil penalties to international travelers in baggage areas at U.S. airports for failing to declare prohibited agricultural products from abroad. In confiscating these prohibited products, APHIS detected an estimated 71,000 pests that could have seriously damaged America's agricultural and natural resources, if left unchecked.

International Programs

Through direct overseas contacts, International Services (IS) employees gather and exchange information on plant and animal health; work to strengthen national, regional, and international agricultural health organizations; and cooperate in international programs against certain pests and diseases that directly threaten American agriculture. Two of the latter are the MOSCAMED program—which combats Medfly infestations in Mexico and Guatemala—and a program to eradicate screwworms, a parasitic insect of warm-blooded animals.

Screwworms were eradicated from the United States through the use of the sterile insect technique. With this method, millions of screwworm flies are reared in captivity, sterilized, and then released over infested areas to mate with native fertile flies. Eggs produced through such matings do not hatch, and the insect literally breeds itself out of existence.

To provide further protection to U.S. livestock, starting in 1972, eradication efforts were moved southward from the U.S.-Mexican border, with the eventual goal of establishing a barrier of sterile flies across the Isthmus of Panama.

Coping With Invasions

If, despite our best efforts, foreign pests or diseases do manage to slip past our defenses, APHIS establishes appropriate quarantine and eradication programs. Current examples include: 1) citrus canker eradication in Florida; 2) plum pox eradication in Pennsylvania, and 3) Asian longhorned beetle eradication in metropolitan Chicago and New York City.

Early detection of exotic animal diseases by alert livestock producers and practicing veterinarians who contact specially trained State and Federal veterinarians is the key to the quick detection and elimination of a foreign animal disease of concern. More than 300 such trained veterinarians are located throughout the United States to investigate suspected foreign diseases. Within 24 hours of diagnosis, one of two specially trained task forces in VS can be mobilized at the site of an outbreak to implement the measures necessary to eradicate the disease.

Currently, APHIS officials are actively working to prevent the entry of bovine spongiform encephalopathy (BSE)—sometimes referred to as “mad cow disease.” BSE has never been diagnosed in the United States. Since 1989, APHIS has restricted the importation of live ruminants and ruminant products—including animal feed made with ruminant protein—from Great Britain and other countries where BSE is known to exist. In 1997, APHIS extended these restrictions to include all of the countries of Europe. As of December 2000, APHIS prohibited all imports of rendered animal protein products, regardless of species, from Europe. In addition, APHIS has conducted a BSE surveillance program since 1989. Specialists have examined brain specimens from more than 21,000 cattle and have found no evidence of BSE.

Plant Health Safeguarding Review

In an effort to evaluate and ultimately improve pest exclusion efforts, APHIS contracted with the National Plant Board several years ago to conduct a thorough review of all components of the agency's safeguarding system. The review group, which was comprised of State, industry, and university representatives, reviewed

APHIS' pest exclusion efforts, international pest information systems, pest permits, and detection and response efforts. After concluding its review, the group made approximately 300 recommendations that the group believes will assist APHIS in adapting its safeguarding efforts to better manage drastic increases in trade and international travel.

Animal Health Safeguarding Review

The National Association of State Departments of Agriculture concluded a review of APHIS' animal health safeguarding programs and published a report of the review's findings in October 2001. The review confirms that the United States has been successful in preventing, detecting, and eradicating animal diseases, and it outlines steps that APHIS can take to further strengthen domestic safeguarding systems.

The safeguarding review's recommendations focus on, among other things, APHIS' domestic and international disease monitoring programs; the critical nature of cooperative emergency response planning; and improvements to the agency's information collection and dissemination strategies.

Import-Export Regulations

APHIS is responsible for enforcing regulations governing the import and export of animals and plants and certain agricultural products.

Importation requirements depend on both the product and the region of origin. Certain restrictions, ranging from testing or processing to total import prohibition, are placed on both animals and animal products if they originate in countries that have a different disease status from the United States. Livestock and poultry must be accompanied by a health certificate issued by an official of the exporting country.

Imports of livestock and poultry from most countries must enter the United States through APHIS-approved quarantine facilities. Animals from Mexico and Canada may cross at land ports along the borders as long as they have met certain specified requirements and are accom-

panied by the appropriate paperwork. Personally owned pet birds of foreign origin can enter through one of four USDA-operated bird quarantine facilities: New York, NY; Miami, FL; San Ysidro, CA; and Hidalgo, TX.

Imported plants must be accompanied by a phytosanitary certificate issued by an official of the exporting country. APHIS maintains 16 plant inspection stations, the largest of which is in Miami, FL, for commercial importation of plant materials. Smaller stations are at Orlando, FL; San Juan, PR; John F. Kennedy International Airport, Jamaica, NY; Linden, NJ; Houston, El Paso, and Los Indios (Brownsville), TX; Nogales, AZ; San Diego, Los Angeles, and San Francisco, CA; Seattle, WA; Honolulu, HI; Beltsville, MD (used strictly for importations of plants for research purposes); and New Orleans, LA.

To facilitate agricultural exports, APHIS officials certify the health of both plants and animals that are shipped to foreign countries. APHIS PPQ provides assurance that U.S. plants and plant products meet the plant quarantine import requirements of foreign countries.

It is in the area of foreign animal health requirements that APHIS is of greatest help to the U.S. livestock industry. Through direct negotiations with foreign governments, APHIS has established approximately 450 livestock, semen, embryo, and poultry health agreements with more than 100 countries in the world. These negotiations are a continuous process wherever APHIS finds opportunities to open new markets and to reduce unnecessary impediments or changing disease conditions require adjustments.

Domestic Plant Health Programs

In most cases, plant pest problems are handled by individual farmers, ranchers, and other property owners and their State or local governments. However, when an insect, weed, or disease poses a particularly serious threat to a major crop, the Nation's forests, or other plant resources, APHIS may join in the control work.

"Deliver Us From Weevil"—Boll Weevil Eradication

One major domestic program PPQ is coordinating is the effort to eradicate boll weevils from the United States. The boll weevil entered this country from Mexico in the late 1890s and soon became a major pest of cotton. Boll weevil is estimated to cost U.S. farmers \$300 million in control costs and yield losses.

The current boll weevil eradication effort judiciously applies pesticides based on the number of adult weevils trapped around cotton fields. The traps contain a pheromone and a small amount of insecticide that kills all captured weevils. In eradication program areas, traps are placed at a rate of one trap per 1 to 3 acres and are checked weekly. Pesticide is applied only to fields that reach a predetermined number of trapped weevils. This selective use of pesticides results in fields requiring minimal pesticide applications—sometimes none—during the growing season. After several seasons, the weevils are eradicated within the defined program area, eliminating any further need to spray for this pest.

The National Boll Weevil Eradication Program is one-third complete with total eradication projected by the end of 2005 or beginning of 2006. Approximately 5.9 million acres of cotton spread over nine States are now weevil-free. These States include Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Kansas, Arizona, and California. Eradication efforts are underway on 9.7 million additional acres, which include nearly all other areas of the country affected by the boll weevil.

Asian Longhorned Beetle (ALB)

Since 1996, infestations of the ALB, a destructive pest of hardwood in China, have been detected in and around New York City, and near Chicago, IL. APHIS began an ALB eradication program in conjunction with State and local officials in both areas in FY 1997. Since then, aggressive efforts to detect and eradicate this pest have drastically reduced ALB populations and helped protect forest resources across the United States.

The programwide implementation of the insecticide imidacloprid in Chicago and New York has increased confidence that ALB can be eradicated through an aggressive combination of chemical treatment, survey, quarantine, and tree removal. Imidacloprid is a systemic insecticide approved for the eradication of ALB and is found in many common lawn and garden pesticides and dog and cat flea control products. Each noninfested tree to be treated is inoculated via small capsules containing imidacloprid that is absorbed naturally through the tree's vascular system. The process takes approximately 4 hours per tree and can remain effective up to 1 year. Over 70,000 trees in New York City and 55,000 trees on Long Island were treated with imidacloprid in the spring of 2002.

Citrus Canker

Citrus canker is a devastating bacterial disease that greatly reduces production in citrus trees by causing fruit and leaves to drop prematurely. It was first detected in residential trees in Florida's Dade County in 1995; since then, it has been detected in commercial and residential trees in five other counties: Manatee, Collier, Broward, Hendry, and Hillsborough. APHIS has worked with Florida officials to conduct a citrus canker eradication program since 1996. This program consists of a statewide survey of residential properties and commercial citrus groves, regulatory action, removal of infected and exposed trees within 1,900 feet of an infection site, where legally allowable, a commercial compliance program, statewide eradication activities, and an intensive inspection-based barrier program.

Since the citrus canker eradication program's inception, APHIS and the State of Florida have spent approximately \$300 million combating the disease. This figure excludes compensation funds provided to commercial citrus growers.

Domestic Animal Health Programs

Protecting the health of the Nation's livestock and poultry industries is the responsibility of APHIS' Veterinary Services (VS).

VS veterinary medical officers and animal health technicians work with their State counterparts and with livestock producers to carry out cooperative programs to control and eradicate certain animal diseases. The decision to begin a nationwide campaign against a domestic animal disease is based on a number of factors, the most important of which is: "Are producers and the livestock industry a leading force in the campaign?"

To date, 13 serious livestock and poultry diseases have been eradicated from the United States. They are:

Diseases Eradicated from the United States

| Year | Disease |
|-------------|------------------------------------|
| 1892 | Contagious bovine pleuropneumonia |
| 1929 | Foot-and-mouth disease |
| 1929 | Fowl plague |
| 1934 | Glanders |
| 1942 | Dourine |
| 1943 | Texas cattle fever |
| 1959 | Vesicular exanthema |
| 1959 & 1966 | Screwworms (Southeast & Southwest) |
| 1971 | Venezuelan equine encephalitis |
| 1973 | Sheep scabies |
| 1974 | Exotic Newcastle disease |
| 1978 | Hog cholera |
| 1985 | Highly pathogenic avian influenza |

Current VS disease eradication programs include cooperative State-Federal efforts directed at cattle and swine brucellosis, bovine tuberculosis, and pseudorabies in swine.

Disease control and eradication measures include quarantines to stop the movement of possibly infected or exposed animals, testing and examination to detect infection, destruction of infected (sometimes exposed) animals to prevent further disease spread, treatment to eliminate parasites, vaccination in some cases, and cleaning and disinfection of contaminated premises.

APHIS animal health programs are carried out by a field force of about 250 veterinarians and 360 inspectors working out of area offices. Laboratory support for these programs is supplied by APHIS' National Veterinary Services Laboratories (NVSL) at Ames, IA, and Plum Island, NY, which are centers of excellence in the diagnostic sciences and an integral part of APHIS' animal health programs.

Under the Virus-Serum-Toxin Act of 1913, APHIS enforces regulations to assure that animal vaccines and other veterinary biologics are safe, pure, potent, and effective. Veterinary biologics are products designed to diagnose, prevent, or treat animal diseases. They are used to protect or diagnose disease in a variety of domestic animals, including farm animals, household pets, poultry, fish, and fur bearers.

APHIS also regulates the licensing and production of genetically engineered vaccines and other veterinary biologics. These products range from diagnostic kits for feline leukemia virus to genetically engineered vaccines to prevent pseudorabies, a serious disease affecting swine. Since the first vaccine was licensed in 1979, a total of 79 genetically engineered biologics have been licensed; all but 20 are still being produced.

Monitoring Plant and Animal Pests and Diseases

In order to combat invasive plant pests and animal diseases, it is important to know their number and where they are located. To monitor plant pests, APHIS PPQ works with the States in a project called the Cooperative Agricultural Pest Survey. Survey data on invasive species such as weeds, insects, and plant diseases and pests are entered into a nationwide database, the National Agricultural Pest Information System (NAPIS).

By accessing NAPIS, users can retrieve the latest data on pests. NAPIS data can assist pest forecasting, early pest warning, quicker and more precise delimiting efforts, and better planning for plant pest eradication or control efforts.

Regulating Biotechnology in Agriculture

Scientists use agricultural biotechnology with a variety of laboratory techniques, such as genetic engineering, to improve plants, animals, and micro-organisms. Recent discoveries have led to virus-resistant crops such as cucumbers, tomatoes, and potatoes; to better vaccines and diagnostic kits used for diseases of horses, chickens, and swine; and even to new and improved varieties of commercial flowers.

Since 1987, APHIS' role in agricultural biotechnology has been to manage and oversee regulations to ensure the safe and rapid development of the products of biotechnology. Under APHIS' effective regulations and practical guidelines, applicants can safely field test—outside of the physical containment of the laboratory—genetically engineered organisms.

APHIS officials issue permits or acknowledge notification for the importation, interstate movement, or field testing of genetically engineered plants, micro-organisms, and invertebrates that are developed from components of plant pathogenic material.

Since 1987, APHIS has issued more than 8,700 release permits and notifications at more than 30,000 sites in the United States. The biotechnology regulations also provide for an exemption process

once it has been established that a genetically engineered product does not present a plant pest risk. Under this process, applicants can petition APHIS for a determination of nonregulated status for specific genetically engineered products. Over the past 10 years, 53 new engineered plant lines in 15 crops have been proven safe and no longer need to be regulated by APHIS. One was the first genetically engineered sugar beet, which is herbicide tolerant.

Managing Wildlife Damage

The mission of APHIS' Wildlife Services (WS) program is to provide Federal leadership in managing problems caused by wildlife. Wildlife is a significant public resource that is greatly valued by the American public. But by its very nature, wildlife also can damage agricultural and industrial resources, pose risks to human health and safety, and affect other natural resources. WS helps solve problems that occur when human activity and wildlife are in conflict with one another. In doing so, WS attempts to develop and use wildlife management strategies that are biologically, environmentally, and socially sound.

The need for effective and environmentally sound wildlife damage management is rising dramatically. There are several reasons for this. Increased suburban development is intruding upon traditional wildlife habitats. Population explosions among some adaptable wildlife species—such as coyotes, deer, and geese—pose increasing risks to human activities. At the same time, advances in science and technology are providing alternative methods for solving wildlife problems.

More than half of U.S. farmers experience economic loss from damage caused by wildlife. WS plays a leadership role in cooperative efforts with the States and agriculture producers across the country to protect farm crops, livestock, aquaculture, and forest resources from damage caused by wildlife. Annual wildlife depredation losses to selected agricultural commodities in the United States have been documented by USDA's National Agricultural Statistics Service

(NASS). The losses for 2001 include estimated losses of more than \$178 million to livestock and poultry resources; over \$146 million in losses for producers of vegetables, fruits and nuts; and more than \$14 million in losses for producers of farm-raised catfish and trout. Wildlife damage to U.S. agriculture as a whole is estimated at approximately \$944 million each year.

WS deals with a wide variety of wildlife problems, ranging from reducing the threat of wildlife-borne diseases to managing hazards caused by wildlife at airports, to protecting endangered species from predation by other wildlife. Here are a few examples of WS recent efforts to manage the damage caused by wildlife in the United States:

- West Nile virus (WNV) is a disease that has enormous potential to impact public health, livestock, and wildlife. In 2001, West Nile virus was detected in 27 States and the District of Columbia. This represents a significant geographic expansion of the disease from when it was first discovered in New York. Birds serve as a natural host for the virus, which is transmitted to people and animals through mosquito bites. WS has played an integral part in detecting the spread of WNV through the collection of blood samples from wild birds.

- Wildlife collisions with aircraft cost the civil aviation industry in the United States more than \$300 million annually and pose a serious safety hazard to flight crews and passengers. WS is recognized internationally for its scientific expertise in reducing wildlife hazards at airports and military bases across the United States. Nearly 6,000 wildlife collisions with civil aircraft were reported in 2000. Currently, WS works at more than 350 airports around the country to provide information and equipment to airport managers to reduce the presence of wildlife, especially birds, around runways and airport operations areas. WS also provides hands-on assistance to trap and remove wildlife that are a threat to air safety. At airports and military airfields where WS operational projects

were conducted, the presence of wildlife was reduced by up to 95 percent.

- Beavers are one of the most destructive wildlife species, causing millions of dollars in damage to roads, bridges, dikes and dams, sewer and water treatment facilities, and landscape plants. In Mississippi and North Carolina, the problem is so severe that WS conducts Statewide beaver damage management programs that receive major funding from State agencies. In North Carolina alone, the beaver population is estimated at 500,000. WS also conducts large-scale beaver damage management programs in more than a dozen additional States, and responds to individual requests for assistance on a case-by-case basis.

APHIS' National Wildlife Research Center (NWRC), the world's only research facility devoted entirely to the development of methods for managing wildlife damage, accounts for about one-fourth of WS' budget. In existence since the 1940s, NWRC has an integrated, multidisciplinary research program that is uniquely suited to provide scientific information and solutions to wildlife damage problems.

Humane Care of Animals

APHIS administers two laws that seek to ensure the humane handling of animals: the Animal Welfare Act (AWA) and the Horse Protection Act (HPA).

For more than a quarter century, USDA has enforced the AWA and its standards and regulations to prevent trafficking in lost and stolen pets and protect covered animals from inhumane treatment and neglect. The AWA prohibits staged dog-fights, bear and raccoon baiting, and similar animal fighting ventures. It also requires that minimum standards of care and treatment be provided for most warmblooded animals bred for commercial sale, used in research, transported commercially, or exhibited to the public. This includes animals exhibited in zoos, circuses, and marine mammal facilities, as well as pets transported on commercial airlines.

Compliance Inspections, FY 1998–2000

| FY | Total facilities (sites) | Total compliance inspections |
|------|-----------------------------|---------------------------------|
| 1998 | 7,773 (10,393) | 10,709 |
| 1999 | 7,958 (9,897) | 9,096 |
| 2000 | 8,773 (10,207) | 8,727 |

Sanctions Imposed, FY 1998–2000

| FY | Fines Imposed | Revocations, suspensions, and disqualifications |
|------|---------------|--|
| 1998 | \$378,900 | 34 |
| 1999 | \$585,162 | 16 |
| 2000 | \$343,301 | 23 |

Individuals who operate regulated businesses must be licensed or registered with USDA and provide their animals with adequate care and treatment in the areas of housing, handling, sanitation, nutrition, water, veterinary care, and protection from extremes of weather and temperature. They must also keep accurate acquisition and disposition records and a description of every animal that comes into their possession.

In enforcing the AWA, APHIS conducts prelicensing inspections of licensees. Before issuing a license, applicants must be in compliance with all standards and regulations under the AWA. APHIS also conducts randomly scheduled unannounced inspections to ensure that all regulated facilities continue to comply with the Act.

In FY 2000, APHIS pursued numerous cases against individuals who were not in compliance with the AWA. The tables above provide data on APHIS' inspection and enforcement efforts for FY 1998–00.

USDA also enforces the HPA, which prohibits horses subjected to a process called soring from participating in exhibitions, sales, shows, or auctions. In addition, the act prohibits drivers from hauling sored horses across State lines to compete in shows. The law was first passed in 1970 and amended in 1976.

Aquaculture

APHIS provides services to the aquaculture industry in a number of areas. Aquaculture is the fastest growing segment of U.S. agriculture, surpassing in value most domestic fruit, vegetable, and nut crops.

Current APHIS services include licensing of fish vaccines and other biologics under the Virus-Serum-Toxin Act; managing bird and mammal depredation to commercial fish stocks; and providing health certification services for exports. We are currently working to expand our aquatic animal health activities and underlying authority to support industry efforts to increase exports of aquacultural products around the world and for coordinating interstate regulation.

FOR MORE INFORMATION

Additional information about the agency is available through the World Wide Web: <http://www.aphis.usda.gov>

Grain Inspection, Packers and Stockyards Administration

The Grain Inspection, Packers and Stockyards Administration (GIPSA) facilitates the marketing of livestock, poultry, meat, cereals, oilseeds, and related agricultural products and promotes fair and competitive trading practices for the overall benefit of consumers and American agriculture.

Federal Grain Inspection Program

Through its Federal Grain Inspection Service, GIPSA facilitates the marketing of grain, oilseeds, pulses, rice, and related commodities. This program serves American agriculture by providing descriptions (grades) and testing methodologies for measuring the quality and quantity of grain, rice, edible beans, and related commodities.

GIPSA also provides a wide range of inspection and weighing services, on a fee basis, through the official grain inspection and weighing system, a unique partnership of Federal, State, and private agencies. In fiscal year 2001, the official system performed over 2 million inspections on 235 million metric tons of grain.

Specifically, under the U.S. Grain Standards Act, and those provisions of the Agricultural Marketing Act of 1946 (AMA) that relate to inspection of rice, pulses, lentils, and processed grain products, the Federal Grain Inspection Service:

- Establishes official U.S. grading standards and testing procedures for eight grains (barley, corn, oats, rye, sorghum, triticale, wheat, and mixed grain), four oilseeds (canola, flaxseed, soybeans, and sunflower seed), rice, lentils, dry peas, and a variety of edible beans.
- Provides American agriculture and customers of U.S. grain around the world with a national inspection and weighing system that applies the official grading and testing standards and procedures in a uniform, accurate, and impartial manner.

- Inspects and weighs exported grain and oilseeds. Domestic and imported grain and oilseed shipments, and crops with standards under the AMA, are inspected and weighed upon request.

- Monitors grain handling practices to prevent the deceptive use of the grading standards and official inspection and weighing results, and the degradation of grain quality through the introduction of foreign material, dockage, or other non-grain material to grain.

GIPSA also is developing standard testing procedures to identify grain quality traits desired by world markets and to better measure end-use functionality. By serving as an impartial third party, and by ensuring that the Official U.S. Standards for Grain are applied and that weights are recorded fairly and accurately, GIPSA and the official grain inspection and weighing system advance the orderly and efficient marketing and effective distribution of U.S. grain and other assigned commodities from the Nation's farms to destinations around the world.

Packers and Stockyards Programs

GIPSA's Packers and Stockyards Programs administers the Packers and Stockyards Act of 1921 (P&S Act), a fair trade practice and payment protection law that promotes fair and competitive marketing environments for the livestock, meat, and poultry industries.

Payment Protection

The P&S Act requires prompt payment for livestock and poultry purchased by firms and individuals subject to the Act. Purchase of livestock and poultry in cash sales must be paid before the close of the next business day. Poultry obtained under a poultry growing arrangement must be paid before the close of the 15th day following the week of slaughter. Packers, market agencies, and livestock dealers are required to maintain financial solvency and to have a surety bond to secure livestock purchases. As of May 21, 2002, bonds totaling \$572 million were in place to cover livestock purchases. In addition, sellers of livestock at auction are further protected by requirements that the markets have and maintain a custo-

dial (trust) account for consignor's proceeds. The custodial audit program has been very successful in protecting funds due livestock sellers.

Packer and Poultry Trust Activities

If a meat packer fails to pay for livestock in a cash sale, or a live poultry dealer fails to pay for live poultry from a poultry growing arrangement, then receivables, inventories, and proceeds held by the packer or poultry dealer become trust assets. These assets are held by the meat packer or live poultry dealer for the benefit of all unpaid cash sellers and/or poultry growers. Cash sellers of livestock and poultry growers receive priority payment in bankruptcy or in claims against trust assets in the event of business failure.

Competition

GIPSA works to eliminate unfair, unjustly discriminatory, or deceptive practices, and anti-competitive activities in the meat and poultry industries. Practices such as apportioning of territories, price manipulation, and arrangements not to compete are potential violations of the P&S Act. GIPSA deploys rapid response teams to immediately investigate any practice that could constitute unfair, unjustly discriminatory or deceptive practice under the P&S Act.

Scales and Weighing Activities

GIPSA is concerned with two different elements that affect the integrity of weights: (1) the accuracy of scales used for weighing livestock, meat, and poultry, and (2) the proper and honest operation of scales to assure that the weight on which a transaction is based is accurate. The major emphasis is on detecting improper and fraudulent use of scales. An investigative program uses several different procedures to determine whether weighing activity is proper and honest. Agency investigators routinely visit livestock auction markets, buying stations, and packing plants for the purpose of checkweighing livestock, carcasses, and live poultry, and examining weight records and equipment.

Trade Practices

Fraudulent trade practices, such as price manipulation, weight manipulation of livestock or carcasses, manipulation of carcass grades, misrepresentation of livestock as to origin and health, and other unfair and deceptive practices continue to be concerns in the livestock, meat, and poultry industries. GIPSA investigates these practices when complaints are received, or when such practices are uncovered during other investigations. GIPSA carries out enforcement of the trade practice provisions of the P&S Act relating to live poultry dealers. Its investigative program examines the records of poultry integrators to determine the existence of any unfair, unjustly discriminatory, or deceptive practices in its dealings with poultry growers and sellers. Complaints alleging unfair termination of growing contracts are investigated on a priority basis.

Analysis of Structural Change

GIPSA examines structural changes in the livestock, meatpacking, and poultry industries, and analyzes the competitive implications of these structural changes. The analyses assist in enforcing the P&S Act and in addressing public policy issues relating to the livestock and meat industries.

Clear Title

The Clear Title provisions of the Food Security Act of 1985 permit States to establish central filing systems to inform parties about liens on farm products. The purpose of this program is to remove an obstruction to interstate commerce in farm products. GIPSA certifies that a State's central filing system complies with the Act.

Violation Hotline

GIPSA has instituted a hotline for reporting potential violations and abuses in the grain, livestock, meat, and poultry industries. GIPSA's toll-free telephone number is 1-800-998-3447.

Homepage

For further details about GIPSA, visit the homepage at <http://www.usda.gov/gipsa>.

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