



***Final Results
of the***

**Third Biennial
National Organic Farmers' Survey**

by
Erica Walz, Program Coordinator

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Survey Advisory Committee

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Prescott Bergh — Minnesota Dept. of Agriculture, St. Paul, MN
Cathy Greene — USDA Economic Research Service, Washington, DC
Tom Pavich — (ex officio) Pavich Family Farms, Terra Bella, CA
Ron Rosmann — Rosmann & Sons Farms, Harlan, IA
Keith Richards — Southern Sustainable Agriculture Working Group, Elkins, AR
Michael Sligh — Rural Advancement Foundation, Int'l, Chapel Hill, NC
Ed Sparling — Dept. of Agricultural Economics, Colorado State University, Ft. Collins, CO
Laura Tourte — Dept. of Agricultural and Resource Economics, University of California-Davis, CA
Ann Woods — Midwest Organic Alliance, St. Louis Park, MN

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Survey Designer, Project Manager: Erica Walz

List Development: Rondalin Bramwell

Data Entry: Eatherley Hood, Jennie Sioux Hopkins, Rebecca King and Carolyn Parks.

Returns Organizing: Kathi Colen

Data Review: Cathy Greene, Rebecca King, Mark Lipson, Daniel Rice, Ron Rosmann, Bob Scowcroft, Laura Tourte, Erica Walz

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Artwork: Dianne Carter

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Introduction

These are the results of OFRF's third national survey of certified organic farmers. During December 1997 and January 1998, a fifteen page survey was mailed to 4,638 certified organic farmers throughout the United States, which asked for information about a variety of topics corresponding to their farms and their 1997 production year. OFRF's two previous surveys requested information corresponding to farm status and production during the years 1993 and 1995. A limited comparison with responses from the 1993 and 1995 surveys is provided in these results; the full results of the 1993 and 1995 surveys may also be obtained by contacting OFRE.

The results of the ***Third Biennial National Organic Farmers' Survey*** are extensive: 1,192 surveys were returned (a response rate of 26%), each consisting of 815 "fields" of data. Sixty-five data fields were composed of fill-in (open-ended) response categories in which farmers answered questions in their own words. Respondents have told us the survey required one to several hours to complete (in spite of our more optimistic time estimate). In short, these survey results provide the most comprehensive picture currently available about the state of organic farming in the United States, ***from the organic farmer's perspective.***

The quantity of information provided by the survey data created a variety of presentation challenges. Professional social researchers would likely (and perhaps appropriately) distill such large quantities of information into a smaller package for public consumption. However, there are not many professional social researchers (including those within the USDA and agricultural universities) asking direct questions about organic farmers and farming, and no other individual or institution has conducted similar work at this scale. As advocates of organic farming practices, and because organic farming is little understood by the research community, these results include not just highlights, but virtually the full complement of information provided by respondents. And this is just the tip of the iceberg: many further data cross-tabulations are possible, and as we continue to work with this information ourselves, we welcome inquiries to further utilize the many components of data that are available within this large database.

Who will be interested in the survey results? OFRF's first priority is to sponsor research related to organic farming, and in addition, to advocate for an expansion of organic farming research programs. As such, the survey's most important audience includes the USDA, agricultural researchers, Cooperative Extension agents, farm policy makers, growers' associations, organic certification agencies and family farm advocates of all stripes. Other members of the organic industry, including wholesalers, distributors, processors and retailers will likely have an interest in some components of the survey results, in particular the production and marketing sections. We expect farmers will have an interest in the results themselves, and all survey respondents will receive a complimentary copy upon request. And lastly, but not least, individual consumers (eaters!) who want to learn more about organic farming, will certainly find a lot to chew on, here.

At this time, in January 1999, we face a number of turning points as organic farmers and consumers who rely on them to provide an alternative to a chemical-based and environmentally destructive food supply. A Proposed Organic Rule administered through the USDA awaits major overhaul prior to becoming acceptable to the organic farming and consuming public. Large organic retail markets continue to push a welcome national expansion of the organic marketplace, while at the same time organic farmers continue to struggle to develop local, direct-to-consumer, and direct-to-retail sales. “Organic” eggs exist, but as yet, no “organic” chickens—an organic meat label remains elusive. Certified organic products currently serve as the only alternative to an industrial food supply that is increasingly dependent upon products containing genetically modified organisms. We hope the survey results provide information that will help to address these challenges and further improve organic farming systems for the benefit of farmers and consumers alike.

Thank you to all the farmers who have, both this time around and in the past, poured your time and energy into your survey responses. Your efforts are evident in every survey—each individual survey received represents a farm of distinct character and a farmer with a particular point of view. We seek to present your responses as honestly as possible.

National Organic Farmers’ Survey Overview

OFRF was founded in 1989 by certified organic farmers, with the following mission: *to sponsor research related to organic farming to disseminate research results to organic farmers and to growers interested in adopting organic production systems; and to educate the public and decision-makers about organic farming issues.* OFRF funds projects nationwide, and accepts proposals from individual farmers of any scale, from university and private researchers, and from individuals or organizations serving as organic farming advocates. Since OFRF was founded, we have awarded \$460,000 to 92 organic farming research and education projects.

1990 Organic Farmers’ Survey

OFRF began surveying farmers in 1990. The survey was intended to serve as a primary tool to identify organic farmers’ research and information priorities. OFRF’s first survey, sent to farmers certified by CCOF, Oregon Tilth and the Washington Dept. of Agriculture, was modest in size and scope—a two-page questionnaire consisting of research priority rankings, with room for farmers to share their ideas about useful research and educational projects. From the 1990 survey we learned that organic farmers felt it very important to include farmer involvement in design and execution of research projects, and that projects should take place on working organic farms.

1993 National Organic Farmers’ Survey

As an organization of national focus, the next logical step for OFRF was to expand the survey beyond the western region and gather information from organic farmers across the country. In 1993 OFRF received funding from the Clarence E. Heller Charitable Foundation to conduct this much larger project. Fortunately, the nature of organic certification, whereby growers annually renew certification status with a particular certifying agency, lends itself well to the development of an accessible target population. Unfortunately, (and of historical note), in 1993, a complete, comprehensive and accurate list of U.S. organic certification entities did not exist. We began from square one, compiling a complete list of U.S. certification organizations as we contacted them to obtain their certified growers’ lists. (OFRF continues to compile an updated *U.S. Organic Certifiers Directory*, which is available to the public free of charge.)

Because of this unique and unprecedented access to organic farmers on a national scale, the survey was expanded to eight pages and 35 questions, including sections on Research and Education Priorities, Information Resources, Commodities Produced and Marketed, Farm Management and Labor, and Demographics.

The 1993 survey was mailed to 2,700 certified organic farmers from the fifty-four organic verification organizations and chapters that would share their lists with OFRF. 550 surveys (a 20% response rate) were returned from growers in 39 states. Their number one priority for research was **consumer demand for organic products**, followed by the **relationship of growing practices to crop quality and nutrition and the relationship between plant nutrition and resistance to pests**. Organic farmers chose **other farmers** as their most useful source of information, followed closely by **newsletters and magazines**. We learned that the vast majority of organic farms are family farms (84%).

1995 National Organic Farmers' Survey

The rapid growth in sales of organic products during the ensuing two years corresponded to an increase in the number of farmers seeking organic certification. For the 1995 survey, OFRF was able to reach 3,480 certified organic farmers from 61 (out of 70 known) organic verification organizations or their chapters who would share their grower lists with OFRF. A ten page survey consisting of 50 questions was mailed to growers in 44 states. 945 (a 27% response rate) surveys were returned.

Respondents' highest ranked research priority was the **relationship of growing practices to crop quality and nutrition** followed by **crop rotations for fertility and pest management**. **Consumer demand for organic products** dropped to third in importance (after ranking first in 1993), reflecting perhaps an improvement in consumer awareness (and hence sales) in organic products (responses varied regionally, however, with growers in the southwest and mountain west still ranking **consumer demand**...as highest).

We also learned about organic farmers attitudes toward continued expansion. Fully 92% expected to either maintain (52%) or expand (40%) their number of commodities produced. Forty-nine percent of respondents planned to increase their organic acreage. Organic growers' average age of 46 years old was also approximately ten years younger than USDA's estimated average age for the entire population of U.S. farmers, indicating the attraction of organic farming to a younger set of farmers. Sixty-three percent identified **uncooperative or uninformed extension agents** as a barrier to beginning organic production.

Third Biennial National Organic Farmers' Survey

OFRF's fourth survey, and third national survey, expanded again to include eight sections and sixty questions. The survey was sent to 4,638 certified organic farmers from 55 organic certification organizations (out of 64 identified), and included two new topic areas: Organic Certification, and Organic Management Strategies. 1,192 surveys were returned from organic farmers in 44 states. These results are presented in the following pages.

Executive Summary

BACKGROUND

Over the past six years, OFRF has conducted three nationwide surveys of certified organic farmers. The *National Organic Farmers' Surveys* have collected data about organic agriculture during the years 1993, 1995 and 1997. Each survey has developed a unique body of information about organic farms and farming, *from the organic farmers' perspective*. Each survey's primary objective has been to identify organic farmers' priorities for research and education projects that will help to improve organic farming practices and systems. In addition to research priorities, the surveys have focused in detail upon organic commodities produced, marketing, information resources, management, labor and demographics.

Each biennial *National Organic Farmers' Survey* has been developed out of OFRF's objective to serve organic farmers' research and information needs. Founded by certified organic farmers in 1990, OFRF's primary mission is to fund research and education projects that benefit organic farmers, and to cultivate a broader network of support for organic farming systems research. OFRF's landmark report, *Searching for the "O-Word," Analyzing the USDA Current Research Information System for Pertinence to Organic Farming* (1997), quantifies what organic farmers have known from experience: USDA and land grant institutions responsible for agricultural research have largely ignored organic systems research and information development. *Out of 30,000 agricultural research projects analyzed by OFRF on USDA's CRIS system, only 34 projects were rated as "Strong Organic."* In the United States, organic farming systems research remains largely uncharted territory, with institutional support lagging far behind individual farmer innovation and the growth curve of the industry. There is evidence, however, that attention to this issue on several fronts is beginning to lead to the development of organic research agendas at a variety of institutional levels.

The results of the *Third Biennial National Organic Farmers' Survey*, along with earlier survey results, provide a baseline of information which may be used by researchers and organic farming advocates—or anyone wanting to learn more about organic farms and farming—to further their understanding about the current state of organic farming practices and the demographics of the organic "farm-gate," and to identify organic farmers' key areas of interest and concern.

METHODOLOGY

In late 1997 and early 1998, OFRF mailed a 15-page, sixty-question survey to 4,638 certified organic farmers throughout the United States. These farmers belonged to the 55 organic certification organizations or their chapters (out of a total of 64 identified entities) that would share their grower certification lists with OFRF. Of these, 1,192 surveys (a 26% rate of return) were returned from farmers in forty-five states.

OFRF developed the 1997 survey in conjunction with an eight-member advisory committee (please

refer to Acknowledgments for a list of advisory committee members). For purposes of consistency and identifying trends, the 1997 survey format has remained similar to previous versions, with many questions, particularly in the area of research priorities and demographics, remaining the same or largely so. The 1997 survey includes a new section on organic management strategies, and in many areas has expanded previously asked questions to include more information (for example, our request for acreage figures under separate categories of production is new). Comparisons with the results of previous years' surveys are also provided where applicable.

The results of the *Third Biennial National Organic Farmers' Survey* are organized into eight topic areas: Organic Farming Research Priorities; Information Resources; Products Grown and Marketed; Organic Marketing; Organic Management Strategies; Organic Production; Constraints and Challenges; Organic Certification; and Farm Management and Demographics. Following are some of the highlights derived from each topic area.

SECTION 1 ORGANIC FARMING RESEARCH PRIORITIES

Rankings of Organic Production Research Topics

Farmers were asked to rank thirty-two topics in terms of their priority for research. Respondents' top rankings mostly correspond with the findings of OFRF's earlier surveys, with some differences based in part on changes in the rankings list, and in part on changes that have occurred in agriculture at large. Rankings of note are as follows:

- Respondents overall ranked **weed management** as their number one research priority.
- Ranked second and third (also highly ranked in past surveys), were: **relationship between fertility management and crop health, pest & disease resistance**, and; **relationship of organic growing practices to nutritional value of product**.
- **Soil biology, crop rotations** and **cover cropping** remain high on organic farmers' priorities for research (ranked fourth, fifth and sixth, respectively).
- Ranking numerically the lowest on the research priorities list were most of the livestock production issues: **alternative animal production systems, breed selection & genetics for organic livestock systems** and **alternative animal shelter systems**.

Research Priorities—In Farmers' Own Words

Farmers also had the opportunity to write **in their own words** their top priorities for research. Responses were organized into categories, with the largest number of responses falling within the following areas of priority:

- **weed controls** (122 responses);
- **whole farm planning/design/ecosystem integration/permaculture** (122 responses), followed by:

- **applied organic fertility management** (104 responses),and;
- **nutritional quality in relationship to growing practices** (100 responses).

Interest in Collaborative Research

Sixty-one percent of survey respondents said they would like to collaborate in organic farming research projects,with 694 respondents (58% of all respondents) providing specific topics they would like to study. Twenty-three percent said they already have had experience in a collaborative research effort,and 80% of these are interested in further collaborative research.

SECTION 2 INFORMATION RESOURCES

For Organic Production Information

Farmers were asked to rank the “usefulness”of a broad range of production information resources. Under the category of “personal contacts,” respondents ranked **other farmers** as their “most useful” resource for organic production information, followed by **field consultants, suppliers and growers associations**. According to respondents,the “least useful”personal contacts for organic farming information are **Cooperative Extension advisors, state agricultural departments and USDA national or regional offices**. For production information from various other “places and things” (non-personal contacts) respondents ranked **farming & gardening books, conferences & seminars** and **farming & gardening periodicals** as their most useful resources. Ranked as least useful in this category were **email groups & subscriptions, radio, and broadcast TV**.

When asked to indicate in their own words what organic production information would be most useful,the greatest number of respondents indicated **weed management/control**, followed by **insect pest management, soil fertility building** and **best organic cultural practices**. As to where they would prefer to get this information (given the opportunity),the greatest number of respondents indicated they would like to get this information from: **periodicals, other farmers, books, conferences, seminars and workshops** and from their **Cooperative Extension service**.

For Organic Marketing Information

Farmers were also asked to rank a list of marketing information resources for their “usefulness.” According to respondents,the “most useful”sources for organic marketing information are **buyers**, followed by **other farmers** and **individual consumers/customers**. **Non-government market information services, state or federal agencies** and **websites** were ranked as the “least useful.”

When asked to indicate in their own words what organic marketing information would be most useful,the greatest number of respondents indicated **organic prices and pricing**, followed by **buyers** (e.g. lists of buyers,or how to find buyers), **consumer demand for organic products** and **locating markets**. As to where they would prefer to get this information (given the opportunity),the greatest number of respondents indicated that they would like to get this information from: **magazines, newspapers or other periodicals**, followed by **other farmers, buyers or brokers** and **internet websites**.

SECTION 3
PRODUCTS
GROWN AND
MARKETED

Commodities Produced

Out of 1,192 survey respondents, 57% are organic **vegetable, flower and ornamental crop producers** (with all respondents in this production category recording a total of 19,907 acres in production in 1997), 40% are organic **fruit, nut and tree crop producers** (with respondents recording a total of 16,449 acres in production in 1997), 52% produce organic **field crops** (with respondents recording a total of 102,699 acres in production in 1997), and 27% produce **livestock or livestock products** organically (livestock acreage figures are included under the field crop production figure as pasture—respondents recorded total organic pasture acreage of 11,595 acres).

SECTION 4
MARKETING

Marketing Outlets

Farmers were asked to indicate from a list of categories where their products were marketed in 1997. Overall, 13% of respondents' organic commodities (measured by weight or volume) were marketed **direct to the consumer**; 7% were marketed **direct-to-retail** and 80% were marketed **wholesale**. By far the majority of respondents (63%) indicated that their products **did not reach foreign markets**. Twenty percent of respondents did have products that reached a foreign buyer in 1997, either through **direct sales** or through a **U.S. intermediary**. When farmers were asked what markets they'd like to get into that they've experienced difficulty entering, the greatest number of respondents (25%) indicated **direct-to-retail market** categories. This was followed by **field crop markets** in general (19%), **consumer-direct markets** (15%), and **meat and livestock markets** (12%).

Marketing and Production: Interests and Trends

Farmers were asked to indicate what changes they would like to make in their marketing strategies over the next several years. The greatest number of survey respondents (77%) indicated they would like to **increase their sales at the local level**. Seventy-four percent plan to **increase direct-to-consumer marketing**. The lowest number of respondents (39%) indicated that they would like to **increase export sales**. Seventy-four percent of respondents plan to **increase their volume of organic product marketed** over the next two years. Sixty-three percent plan to **increase their number of markets/buyers**, and 56% plan to **increase their number of acres in organic production**.

The survey results also provide a compendium of 1997 production yields and prices received by farmers on more than 125 products. Yield and price figures include the following:

- The median reported price received among 151 organic soybean producers was \$16.50 per bushel;
- A median reported yield among 13 organic apple producers was 400 bushels per acre;
- Organic tomato producers reported a median yield of 10 tons per acre, and median price of \$1.20 per pound;
- Among 29 organic milk producers, a median of reported prices received was \$17.10 per cwt.

SECTION 5
ORGANIC
MANAGEMENT
STRATEGIES

Soil Fertility

Farmers were asked to list in their own words up to four soil fertility and/or soil tillage management issues of greatest concern on their farms. Forty-six percent of respondents stated that **building and maintaining organic matter levels** is one of their greatest concerns. This was followed by **developing soil biological activity** (20% of respondents), **reducing soil compaction** (17%), **balancing soil pH** (17%), and **balancing soil nutrients** (17%).

Pest Management

Farmers were given an opportunity to list in their own words their worst weed, insect/arthropod pest, disease, and/or animal pest problems and were asked to indicate their level of difficulty in managing these particular problems.

Weeds received the greatest attention, with 2,146 responses identifying 241 weeds or classes of weeds as difficult to manage. **Foxtail, pigweed** and **quackgrass** were listed the most frequently as weed problems. **Bermuda grass, Johnsongrass** and **bindweed** were indicated as the most difficult weeds to manage.

Insects and other arthropods received 1,782 responses identifying 212 insects or arthropods. **Cucumber beetles** (striped and spotted combined) were listed the most frequently as a difficult pest, followed by **flea beetles, aphids, Colorado potato beetles, codling moth, leafhoppers** and **grasshoppers**. **Plum curculio, tarnished plant bug, squash bug, potato leafhopper**, and **symphylans** were indicated as the most difficult to manage.

Animal pests received 1,305 responses identifying 81 animals or animal types. **Deer** were listed the most frequently, followed by **gophers, raccoons, woodchucks, rabbits** and **mice**. **Voles, coyotes, squirrels** and **slugs** leading as the most difficult to manage.

Diseases received 1,005 responses, which identified 239 diseases or disease classes. **Powdery mildew, Phytophthora** (late blight), **blight** (in general), and **Alternaria** (early blight) were listed the most frequently as disease problems. **Bacterial wilt, mosaic viruses, Phytophthora** and **Verticillium** were indicated as the most difficult to manage.

Management Strategies and Materials

Farmers were asked to indicate, from a list of management approaches, which strategies and materials they use to manage their pest problems, and their frequency of use.

Insect pest management—**Crop rotations** were indicated as the strategy most frequently or regularly used (by 74% of respondents) to control insects. Other most frequently or regularly used insect management strategies are **beneficial insect habitat** (38% of respondents) and **beneficial vertebrate habitat** (21% of respondents). **Bt** is used by 45% of respondents either **frequently** or **regularly** or **on occasion**.

Disease and nematode management—*Crop rotations* also lead as the most **frequently or regularly** used disease management and nematode control strategy (by 80% of respondents), followed by the use of **disease resistant varieties** (53% of respondents).

Weed control—methods most **frequently or regularly** used are **mechanical tillage** (by 75% of respondents), **weeding by hand or with hand implements** (75% of respondents), and **crop rotations** (75% of respondents). When looked at in conjunction with insect pest and disease management strategies, these results underscore that crop rotations are a cornerstone of organic farmers' methods for achieving a variety of management objectives.

Fertilization and fertility management—**Cover crops** were indicated as the strategy **most frequently or regularly** used (by 72% of respondents) for fertility management. This was followed by **compost applications** (57% of respondents), **gypsum or lime** (34% of respondents), and **animal by-products** (33% of respondents).

Livestock management—Livestock producers rely **most frequently or regularly** on **pasture foraging and grazing** (72% of respondents), **rotational grazing** (61% of respondents) and **mineral or vitamin supplements** (47% of respondents) as livestock management strategies.

Genetically Modified Organisms as Materials-Compatibility with Organic Systems

Farmers were asked to indicate to what extent they agree or disagree with the following statement:

Genetically engineered (recombinant-DNA) inputs are compatible with organic farming systems.

Seventy-two percent of respondents indicated that they **somewhat** or **strongly disagree** with this statement. Ten percent indicated that they **somewhat** or **strongly agree** with this statement, and 16% indicated that they are **undecided** or **do not know** whether they agree or disagree with this statement.

SECTION 6 ORGANIC PRODUCTION, CONSTRAINTS AND CHALLENGES

Barriers to Transitioning

We asked farmers who transitioned to organic farming from conventional systems to state in their own words their greatest barriers to transitioning to organic methods. The greatest number of respondents, (28%) indicated that **weeds** were their greatest barrier to transitioning to organic. This was followed by a **lack of information and experience** regarding organic production (17% of respondents) and an **inability to identify markets for organic products** (11% of respondents).

Current Barriers to Organic Production

Regarding current constraints to organic production for all producers, the greatest number of respondents (24%) ranked **uncooperative or uninformed extension agents** as a **serious constraint or problem**. Twenty percent indicated that the **cost of organically allowable inputs** is a **serious constraint**, and 18% indicated the **distance or transport of organically allowable inputs is a serious constraint**.

Current Barriers to Organic Marketing

Regarding current constraints to organic marketing, the greatest number of respondents (21%) indicated that **lack of consumer understanding about organic food** is a **serious constraint**. This was followed by **lack of organic marketing networks** (16%) and **the distance between producer and market or delivery point** (14%).

Barriers to Organic Livestock Production

Fifty-nine percent of respondents who produce livestock conventionally on their farms indicated that the **price and or availability of organic feed** is a barrier to producing livestock organically, followed by 56% indicating that **the lack of organic production regulations and a developed market** are an organic livestock production barrier.

SECTION 7 ORGANIC CERTIFICATION

Farmers' "Ratings" of their Organic Certifiers

Farmers were given an opportunity to rate their own certification agency's performance in a number of categories. Seventy-two percent gave their certification agency the highest possible score of **excellent** for their **adherence to certification standards**. Certifiers were not rated as well in the area of **quality of member services** (66% of respondents rated their own certifier as **good or poor** in this category). Although the **cost of certification** received the lowest ratings of all categories provided, the majority of respondents (57%) rated their own certifier as **good** in this category, while 28% rated the **cost of certification** as **excellent**. Certifiers received high ratings for their **credibility as a certification agency** (70% of respondents rated their certifier as **excellent**) and for their **quality of inspections** (58% of respondents rated their certifier as **excellent**).

Farmers' "Ratings" of the Organic Certification Industry

Looking at organic farmers' confidence in the certification "industry" as a whole, respondents indicated a relative level of comfort with the manner in which organic certifiers currently uphold certification standards at the **small farm level**. Thirty-three percent of respondents who had an opinion gave the certification industry the highest possible score of "5" (on a 0-5 scale where 0 = "don't know," 1=poor and 5=excellent) for the overall integrity of organic certification at this level. However, respondents were much less certain about organic standards enforcement at the **large farm, imported product, processor** and **distributor/handler** levels. In each of these categories, the majority of respondents (more than 50%) indicated that they **don't know** how well certifiers uphold organic standards at these levels.

Concerns About the Proposed National Organic Program Standards

Farmers were asked to indicate in their own words their greatest concerns regarding implementation of the federal organic standards required by the U.S. Organic Foods Production Act. The greatest number of respondents (302) said they were the most concerned about promulgation of **weakened organic standards**. 223 respondents indicated they **do not want genetically modified materials** to be allowed in the national organic program, 159 indicated **concern over higher costs and fees**, and 107 respondents indicated **opposition to allowing the organic label on irradiated foods**.

SECTION 8
FARM
MANAGEMENT
AND
DEMOGRAPHICS

Fifteen survey questions focused on farm management and demographics:

- Seventy-five percent of respondents indicated that their operations are **all organic**, 24% have **mixed organic and conventional operations**.
- Eighty-seven percent of respondents indicated that their farms are **single family operations** or **family partnerships**.
- Sixty-two percent of respondents farm **full time**.
- Respondents reported farming a **total of 164,966 acres organically**, and an **average of 140 acres organically**, per farm.
- Forty-eight percent of respondents' farming operations received a **gross income** of less than \$15,000 from organic production in 1997; 34% received a gross income between \$15,000 and \$100,000, and the remaining 14% grossed more than \$100,000 in organic product sales.
- For 68% of respondents, organic production income represents one-half or less of their **net family income**.
- For 20% of respondents, organic production income represents three quarters to 100% of their **net family income**.
- The **average age** of respondents is 47.5 years, and 25% are under 40 years of age.
- Fifty-six percent of respondents have **college degrees** and 18% have pursued **graduate degrees**.
- Twenty-one percent of survey respondents are **female**.

APPENDICES

The appendices to the results of the **Third Biennial National Organic Farmers' Survey** include complete listings of respondents' favorite sources of information for organic production and marketing. In addition to these information resource listings, OFRF has included directories of the events, suppliers, organizations, university researchers and Cooperative Extension contacts noted by respondents as the most useful sources of information about organic farming.

SUPPLEMENTS

Two additional survey supplements are available to anyone interested in further information about respondents' previous collaborative research projects, or about their topic areas of interest for future collaborative research. These are: **Supplement A: Collaborative Research Projects—Topics of Previous Research** and **Supplement B: Collaborative Research Projects—Topics of Interest to Organic Farmers**. These include organic farmers complete responses "in their own words," and may be obtained by contacting OFRE.

Methodology

OVERVIEW

Following is a presentation of the **survey methodology** (how the survey was developed and implemented), the **results analysis methodology** (the processes used to compile and present the data), and an evaluation of the survey's **data limitations**.

SURVEY METHODOLOGY

Target Population

Our survey's target population is **certified** organic farmers. For surveying purposes, OFRF is able to take advantage of a key structural aspect of organic certification, whereby certification agencies (which consist of a variety of **types** of entities, including not-for-profit organizations, state agricultural departments and private companies) inspect and certify farms annually, thereby regularly updating their membership rolls. OFRF contacts these organizations directly to request grower certification lists or to make other arrangements with the certification group to deliver the survey into certified organic growers' hands.

Throughout summer and fall of 1997 OFRF contacted all identified agencies conducting organic certification in the U.S. to obtain their 1997 organic grower certification lists. Any contact omissions that may have occurred (we are not aware of any as of publication) were unintentional. Fifty-five certification organizations, out of sixty-four identified certification entities, agreed to share their lists so that their farmer-members could participate. Through this process, OFRF received access to 4,638 certified organic farms. OFRF received the addresses of 4,123 farmers, which were mailed to directly. The remaining 515 surveys were mailed to certification groups, who in turn mailed or otherwise delivered the surveys to farmers themselves. Participating organizations and chapters are listed in our Acknowledgments.

We estimate that the survey reached 90% or more of certified organic farmers in the U.S. in good standing for the 1997 production year. We base this estimate on the number of surveys mailed, in addition to information about certification membership from organizations that **did not** participate. The circumstances concerning each of the non-participating organizations can be categorized as follows:

- 1) The organization was contacted and declined participation by choosing not to share either their **entire list** (individual OCIA chapters, for example) or **portions** of their list (OCIA "at large" members and Farm Verified Organic contractors to certified organic licensees.) In all such cases we received a report of the numbers of growers we were unable to reach.

- 2) We were unable to reach the organization directly due to changes in staffing, location or some other availability factor (but had reason to believe the organization remained operational). In these cases we've based our estimates of grower numbers on 1996 certification data, which was available in all circumstances but the following;
- 3) In the case of one certification agency, Quality Assurance International (QAI), we were unable to obtain either grower numbers or growers lists. QAI has not divulged this information for any one of our three national surveys. We have no accurate estimate of their certified organic grower numbers.

Certification organizations or chapters *not* participating in the ***Third Biennial National Organic Farmers' Survey***:

Farm Verified Organic (contractors to certified licensees)	OCIA — Montana #4
Kauai Organic	OCIA — North Dakota #2
Mountain States Organic Growers and Buyers Assoc.	OCIA — Pennsylvania #3
OCIA — Arkansas #1	OCIA ("at-large" members)
OCIA — Montana #2	Quality Assurance International
	Tennessee Land Stewardship Association

The estimated number of organic farms certified by the above organizations, based on known 1997 membership figures and/or upon 1996 certification figures, comes to a total of 386 farms. With this information, we have concluded that we "know" that there were about 5,024 organic farms certified as organic in 1997 ($4,638 + 386 = 5,024$). This figure, again, does not include farmers certified by QAI, nor any possible omissions of organic certification agencies we were unable to identify as operational in the U.S. for the 1997 production year.

Survey Development

The survey was developed by Erica Walz, OFRF Program Coordinator, in collaboration with the ***Third Biennial National Organic Farmers' Survey*** Advisory Committee, (please refer to Acknowledgments for a list of committee members). This team was comprised of nationally recognized organic farmers, organic farming/marketing advocates, agricultural researchers and representatives of state and federal agricultural agencies. Committee members were selected for their knowledge in a variety of areas concerning organic farming practices, marketing, research, the movement, and/or the industry. Survey drafts were developed in part upon OFRF's previous surveys for the years 1993 and 1995. The committee participated in the development and review of three survey drafts. Final survey drafts were tested among individual certified organic farmers.

Survey Implementation

Surveys were mailed during the months of December 1997 and January 1998. Each survey was numerically identified and referenced to an individual farm recipient. Survey responses remain confidential with the exception of those cases where permission is given by respondents to release their names to researchers for the purpose of developing collaborative organic farming research projects. A prize drawing for farming goods and services was offered to respondents as an incentive to return the survey. One follow-up postcard was sent to each of the 4,123 survey recipients that were mailed to directly from the OFRF office. Returns were accepted through March 30, 1998. Data entry occurred during the months of February through June 1998.

RESULTS
ANALYSIS
METHODOLOGY

The ***Third Biennial National Organic Farmers' Survey*** was composed of sixty questions, most of which contained several or many sub-components. Data was entered manually into a Paradox database, and reviewed for accuracy during the data entry process. The data was re-evaluated after data entry was completed, and incomplete or inconsistent data was omitted from the results tabulation.

Closed-ended Responses

The survey results database consists of 815 “fields” of data. Most of these fields (750) consist of responses from “closed-ended” questions, where respondents could select or match categories, or fill-in a response of finite value. These responses are easily manipulated within the database program to determine averages, totals, medians, overall rankings, etc.

Open-ended Responses

Sixty-five data fields were “open-ended,” whereby a respondent could fill-in a response in his or her own words. Tabulating these open-ended responses involved a process whereby a “data reviewer” read the response and assigned it to one or several categories. This is a partially subjective process, and the results of these questions should be considered “softer” than those of the closed-ended responses. For example, when farmers were asked, “What kinds of experimentation do you find yourself doing most on your farm?”, a respondent might indicate that they experiment with “green manures.” This response would be assigned to the category ***green manures/cover crops***. Another respondent might indicate that they experiment with “different combinations of hairy vetch, clovers and ryegrass for soil fertility and compost.” This response would be tabulated under ***green manures/cover crops***, and under ***soil fertility*** and also under ***compost production***.

When reviewing open-ended response tabulations, it should be considered that:

- 1) The context of more complex responses is broken down by this process into component parts.
- 2) The assignment of responses into categories is often subject to a decision-making process by the reviewer.

Open-ended response tables are followed by selected responses in growers’ own words, to provide examples of the types of responses received. Responses were chosen that were “representative” of the group overall, from a variety of geographic areas.

Obtaining a copy of the *National Organic Farmers' Survey*

For readers interested in evaluating the survey results with the original survey text, a copy of the original ***Third Biennial National Organic Farmers' Survey*** is available on OFRF’s website (www.ofrf.org) or may be obtained via mail by contacting the OFRF office.

DATA LIMITATIONS

There are four basic types of “error” that any survey is subject to. These are outlined briefly below, followed by an evaluation of how each might affect the *Third Biennial National Organic Farmers’ Survey* results, based on what we know about our sample population and rate of response.¹

Coverage error. Coverage error occurs when the list from which a sample is drawn does not include all elements of the population being studied. As stated previously, the survey’s target population is certified organic farmers. It is estimated that the survey’s sampling frame reached 90% of U.S. certified organic farmers in good standing for the year 1997. A question to ask in evaluating this type of error, is: ***Would organic farmers from the non-participating certification agencies differ in any way from those from the participating agencies?***

Sampling error: Sampling errors occur when only a subset or sample of an entire population being studied is surveyed, instead of conducting a census. Generally, the larger the sample size, the smaller the sampling error. The survey sample size is almost as large as the entire population being studied, (again, estimated at 90% of the actual population being studied).

Measurement error: Measurement error occurs when a respondent’s answer to a given question is inaccurate, imprecise, or cannot be compared in any useful way to another respondent’s answers. Measurement error can be a result of the survey itself (a confusing or poorly designed question) or the respondent (deliberately or inadvertently answering incorrectly). All responses were reviewed for possible response errors, and where responses were clearly inaccurate (e.g. where response percentages that needed to total 100% failed to do so), they were excluded from the results. In these results, original survey questions and response methods are provided to help readers evaluate the relationship between the question and the response.

Non-response error: Nonresponse error occurs when a significant number of people in the survey sample do not respond to the questionnaire and are different from those who do in a way that is important to the study. The *Third Biennial National Organic Farmers’ Survey* received a 26% response rate, representing approximately one quarter of all certified organic growers in the U.S. Questions to ask when evaluating this type of error, are: ***Does this population accurately represent the entire population of certified organic growers? How might the respondents differ from the non-respondents?*** For example, almost 20% of our respondents indicated that they have graduate degrees. Are individuals with graduate degrees more likely to respond to this survey? Possibly, but not necessarily. Is weed management as important to non-respondents as it is to those responding?

In addition to **overall** non-response error, **item** non-response must also be considered. For all questions, and in most cases for individual categories and sub-categories within each question, the number of responses received is indicated.

¹ Error definitions are from: Salant, Dillman, *How to Conduct Your Own Survey* (Wiley, 1994).

SECTION 1 Organic Farming Research Priorities

INTRODUCTION

Objectives

The objectives of the **Organic Farming Research Priorities** section are:

- 1) To identify organic farmers' priorities for research; and
- 2) Assess the research capacities of organic farmers as both practitioners of and collaborators in on-farm investigations.

These priorities reflect the dual role of farm/ranch operators: they are "consumers" as well as "producers" of information about farming systems and their management. Thus, the data presented here is intended to advance applications that will:

- 1) Provide research that is useful to organic farmers; and
- 2) Utilize farmers as a research resource.

A premise of the Organic Farming Research Foundation is that the first application cannot be accomplished effectively without diligently implementing the second. Organic farmers will be best served as research clientele if they are also involved as research collaborators.

Formats

A variety of formats are used in this section, to provide several angles on farmers' research priorities and capacities. Closed-ended questioning (the research priority ranking list) provides a quick way to separate high and low priority topics, and to help generate some thoughts and ideas among respondents for the open-ended questions that follow. Open-ended questions (answers in growers' own words) develop a broader picture of priorities. In presenting these results, we are interested not just in those topics and issues that receive the highest overall rankings or the greatest number of responses, but with the entire range of responses and the diversity of organic farmers' interests. Every response category has been presented, down to single individual responses (this results in large tables of information). Categories throughout the survey are generally arranged in descending order of number of responses, however this does not imply that those responses at the end of a list are "unimportant." The categories at the beginning of a list are a higher priority to a larger number of farmers—this information is useful when seeking to serve the interests of a larger population—but the full extent of responses presents a more interesting, and complete, view of organic farmers' interests and needs.

INTRODUCTION

Supplemental Data

For anyone interested in further information about respondents' previous collaborative research projects, or about their topic areas of interest for future collaborative research, the following supplements to these survey results are available: ***Supplement A: Collaborative Research Projects—Topics of Previous Research and Supplement B: Collaborative Research Projects—Topics of Interest to Organic Farmers***. These include organic farmers complete responses “in their own words,” and may be obtained by contacting OFRE.

1.1
RANKINGS OF
ORGANIC
FARMING
RESEARCH
TOPICS

Q — **What areas of organic farming research are most important to you? Following is a list of potential research topics. Please rank these categories based on your own farming and information needs.** —1,179 respondents.

Thirty-two research topic categories were provided. Available ranking choices were from 1 through 7, where 1 = lowest priority, and 7 = highest priority.

1.1A Results of research priority rankings for all respondents.

The number of respondents for each category are provided below, right. Topics are assigned priority based on average ranking.

Priority ranking	Research topic	1997 average ranking (1-7 scale)	Research priority rankings in		% of respondents ranking as 6 or 7 (highest priority)	# of respondents per research topic
			1995 (out of 27 categories)	1993 (out of 28 categories)		
1 st	Weed management	5.56	— *	—	62%	1,163
2 nd	Relationship between fertility management and crop health, pest & disease resistance	5.49	4 th	3 rd	57%	1,160
3 rd	Relationship of organic growing practices to nutritional value of product	5.30	1 st	2 nd	54%	1,138
4 th	Soil biology (e.g. microbiology, soil organisms, earthworms, etc.)	5.25	7 th	5 th	47%	1,159
5 th	Crop rotations for fertility and pest management	5.23	2 nd	4 th	54%	1,163
6 th	Cover cropping, green manures	5.23	5 th	9 th	50%	1,155
7 th	Management of insect pests, other arthropods, or nematodes	5.08	—	—	44%	1,165
8 th	Management of plant diseases	5.03	—	—	42%	1,155
9 th	Habitat management for pest management	4.94	12 th	8 th	40%	1,158
10 th	Food safety issues (e.g. E. coli, salmonella...)	4.80	17 th	17 th	41%	1,136
11 th	Compost, compost teas, vermiculture	4.75	15 th	14 th	39%	1,155
12 th	Tillage systems (including no-till)	4.71	—	—	37%	1,156
13 th	Soil conservation and restoration	4.67	11 th	12 th	34%	1,153
14 th	Farm equipment for organic production practices	4.67	14 th	15 th	38%	1,149
15 th	Whole farm systems design (e.g. beneficial cropping, livestock relationships, water & energy conservation, reducing off-farm inputs)	4.62	—	—	41%	1,126
16 th	Intercropping, companion planting, plant guilds	4.36	16 th	16 th	28%	1,153
17 th	Whole farm systems research, interdisciplinary approaches	4.34	20 th	13 th	31%	1,137
18 th	On-farm value-added processing systems	4.31	—	—	33%	1,146
19 th	Mulching systems	4.29	—	—	27%	1,151
20 th	Post-harvest handling methods	4.23	25 th	23 rd	26%	1,148
21 st	Plant breeding & varietal testing for organic systems	4.08	22 nd	18 th	25%	1,147
22 nd	Irrigation & water use	4.00	—	—	24%	1,147
23 rd	Greenhouse production methods	3.64	26 th	27 th	23%	1,142
24 th	Animal preventive health	3.52	6 th	21 st	25%	1,128
25 th	Homeopathic and other natural animal medication	3.47	10 th	19 th	23%	1,130
26 th	Detection of pesticide residues in soil/water/plant material	3.44	23 rd	22 nd	15%	1,145
27 th	Rotational grazing & management intensive grazing	3.39	—	—	21%	1,125
28 th	Animal nutrition, feed and supplements	3.30	18 th	26 th	19%	1,135
29 th	Humane animal production practices	3.04	21 st	28 th	14%	1,129
30 th	Alternative animal production systems	3.00	—	—	13%	1,120
31 st	Breed selection & genetics for organic livestock systems	2.97	—	—	15%	1,118
32 nd	Alternative animal shelter systems	2.95	—	—	13%	1,128

* — topics not included in ranking list for the indicated year

1.1
RANKINGS OF
ORGANIC
FARMING
RESEARCH
TOPICS

1.1B Rankings of Organic Farming Research Topics: Grouped by Production Type

Following are break-outs of the top twelve research priority rankings based on respondents type of production: **vegetable, herb, flower or ornamental crops; fruit, nut or tree crops; field crops, and livestock or animal products.** Please refer to **Section 3, Products Grown and Marketed**, for a complete description of production types.

Within each table, the number of respondents for each research topic are provided in the right hand column. Topics are assigned priority based on average ranking.

1.1B.1 *Vegetable, herb, flower or ornamental crop growers.* —675 respondents.

Priority ranking	Research topic	Average ranking (1-7 scale)	% of respondents ranking as 6 or 7 (highest priority)	# of respondents per research topic
1 st	Relationship between fertility management and crop health, pest & disease resistance	5.51	57%	660
2 nd	Crop rotations for fertility and pest management	5.48	56%	658
3 rd	Weed management	5.47	58%	661
4 th	Relationship of organic growing practices to nutritional value of product	5.33	55%	653
5 th	Management of insect pests, other arthropods, or nematodes	5.30	49%	663
6 th	Cover cropping, green manures	5.25	50%	658
7 th	Management of plant diseases	5.21	46%	656
8 th	Soil biology (e.g. microbiology, soil organisms, earthworms, etc.)	5.20	45%	661
9 th	Habitat management for pest management	5.11	43%	658
10 th	Compost, compost teas, vermiculture	4.97	40%	659
11 th	Farm equipment for organic production practices	4.87	43%	657
12 th	Food safety issues (e.g. E.coli, salmonella...)	4.83	42%	650

1.1B.2 *Fruit, nut or tree crop producers.* —474 respondents.

Priority ranking	Research topic	Average ranking (1 - 7 scale)	% of respondents ranking as 6 or 7 (highest priority)	# of respondents per research topic
1 st	Relationship between fertility management and crop health, pest & disease resistance	5.58	60%	464
2 nd	Weed management	5.48	58%	459
3 rd	Management of plant diseases	5.34	52%	462
4 th	Management of insect pests, other arthropods or nematodes	5.50	57%	464
5 th	Habitat management for pest management	5.26	49%	463
6 th	Soil biology (e.g. microbiology, soil organisms, earthworms, etc.)	5.26	47%	460
7 th	Relationship of organic growing practices to nutritional value of product	5.24	54%	455
8 th	Cover cropping, green manures	5.13	47%	457
9 th	Compost, compost teas, vermiculture	5.01	45%	461
10 th	Food safety issues (e.g. E.coli, salmonella...)	4.85	44%	455
11 th	Crop rotations for fertility and pest management	4.68	44%	456
12 th	Mulching systems	4.57	34%	460

1.1B
RANKINGS OF
ORGANIC
FARMING
RESEARCH
TOPICS

Rankings of Organic Farming Research Topics: Grouped by Production Type

1.1B.3 *Field crop producers.* —622 respondents.

Priority ranking	Research topic	Average ranking (1-7 scale)	% of respondents ranking as 6 or 7 (highest priority)	# of respondents per research topic
1 st	Weed management	5.81	69%	612
2 nd	Crop rotations for fertility and pest management	5.65	62%	611
3 rd	Relationship between fertility management and crop health, pest & disease resistance	5.47	56%	609
4 th	Relationship of organic growing practices to nutritional value of product	5.44	55%	600
5 th	Cover cropping, green manures	5.38	52%	610
6 th	Soil biology (e.g. microbiology, soil organisms, earthworms, etc.)	5.27	48%	610
7 th	Whole farm systems design (e.g. beneficial cropping/livestock relationships, water & energy conservation, reducing off-farm inputs)	5.05	46%	600
8 th	Tillage systems (including no-till)	4.89	39%	609
9 th	Food safety issues (e.g. E.coli, salmonella)	4.87	41%	600
10 th	Soil conservation and restoration	4.85	36%	607
11 th	Farm equipment for organic production practices	4.85	42%	604
12 th	Management of insect pests, other arthropods, or nematodes	4.82	37%	609

1.1B.4 *Producers of livestock or animal products.* —321 respondents.

Priority ranking	Research topic	Average ranking (1-7 scale)	% of respondents ranking as 6 or 7 (highest priority)	# of respondents per research topic
1 st	Weed management	5.59	63%	314
2 nd	Crop rotations for fertility and pest management	5.48	59%	312
3 rd	Relationship of organic growing practices to nutritional value of product	5.46	57%	305
4 th	Relationship between fertility management and crop health, pest & disease resistance	5.44	55%	314
5 th	Whole farm systems design (e.g. beneficial cropping/livestock relationships, water & energy conservation, reducing off-farm inputs)	5.29	54%	306
6 th	Cover cropping, green manures	5.19	48%	311
7 th	Soil biology (e.g. microbiology, soil organisms, earthworms, etc.)	5.15	44%	312
8 th	Animal preventive health	5.01	47%	306
9 th	Food safety issues (e.g. E.coli, salmonella)	4.98	42%	306
10 th	Homeopathic and other natural animal medication	4.87	45%	307
11 th	Management of insect pests, other arthropods or nematodes	4.84	37%	314
12 th	Habitat management for pest management	4.80	37%	314

1.2
MOST
IMPORTANT
AREAS OF
RESEARCH TO
ORGANIC
FARMERS

Q — ***If you could name a single most important area of research, either from the category listing or in your own words, what would that be? (Fill-in response.)***
 —1,046 respondents.

Respondents provided written responses, which have been assigned to the following nine categories (categories and sub-categories were chosen by data reviewer, see Methodology; Results Analysis). Multiple responses were received from a number of respondents—even though only “one” was requested. Arranged in descending order of number of responses, as assigned to each category and sub-category.

1.2A Most Important Areas of Research

Soil and Crop Management —328 responses assigned to the following sub-categories:	
104	fertility management, fertilization: techniques, rates, nutrient levels, organic matter
80	soil health, soil quality indicators, micro/biology, soil biological activity
39	crop rotations (cropping systems/ intensive croppings)
32	cover cropping, green manures
19	greenhouse production
19	tillage systems, no-till, soil conservation and restoration
19	plant breeding/genetics—not for pest or disease resistance (e.g. yields)
9	plant breeding/genetics—for pest or disease resistance
6	plant nutrition
1	plant physiology
1	vermiculture
Pest Management —295 responses assigned to the following sub-categories:	
Non-specific	
122	weed controls (mulching/tillage/competition)
55	general organic pest control (natural, least cost)
24	insects in general
19	systemic pest management (rotations/ habitats/nutrition/foliar feeds, etc.)
19	plant diseases in general
8	fungal diseases in general
3	beneficial organisms
2	post-harvest diseases
Specific	
6	vertebrates, in general
3	codling moth
3	flea beetle
3	flies
3	gastropods
3	late blight
3	nematodes/microarthropods
Specific, cont'd	
2	corn earworm
2	plum curculio
2	tarnished plant bug
1	ants
1	birds
1	citrus scale
1	carrot rust fly
1	Colorado potato beetle
1	cranberry fruit worm
1	currant worms
1	European corn borer
1	fireblight
1	medfly
1	pear psylla
1	rosy apple aphid
1	scab
Interdisciplinary/Systems —148 responses assigned to the following sub-categories:	
122	whole farm planning/design/ecosystem integration/permaculture
8	sustainability/diversification
5	holistic resource /range management (“HRM”)
5	comparison trials/demos
4	biodynamics
2	transitional strategies/incentives
1	IFOAM research
1	information access
Product Quality —131 responses assigned to the following sub-categories:	
100	nutritional quality vs. growing practices (residues/health effects/etc.)
26	food safety (quantity/prevention/proper handling)
5	management for top quality

cont'd...

1.2
MOST
IMPORTANT
AREAS OF
RESEARCH TO
ORGANIC
FARMERS

cont'd...

Social, Economic & Market-Related Issues

—64 responses assigned to the following sub-categories:

25	consumer demand/market analysis/ consumer education/alternative marketing systems	3	politics of organics
		3	rural community-building/development
		2	spirituality
16	economic research (profitability, returns on labor, social measurements)	1	balanced lifestyle
		1	social crisis in agriculture
13	on-farm processing/value-added products		

Livestock Systems & Management —63 responses assigned to the following sub-categories:

29	animal health (prevention/homeopathy/ natural medicines and wormers)	7	husbandry systems (confinement, humane treatment)
10	animal nutrition (feed/supplements)	4	animal breeding/genetics
9	grazing (pasture mgt., hogs, rotations)	2	livestock processing & marketing
		2	manure management

Technology Development —35 responses assigned to the following sub-categories:

19	equipment for organic/small farms, appropriate technology	2	plastic mulches/alternatives
		1	materials review
8	compost production/science, waste recycling	1	pollination
3	analytical product testing (for certification)	1	worker safety

Environment/Resources —29 responses assigned to the following sub-categories:

9	irrigation/water use	3	biodiversity/conservation of heirlooms, natives, open-pollinated varieties
8	pesticide and fertilizer effects		
4	environmental impacts of organic systems	1	marine nutrient sources
3	effects and dangers of biotechnologies	1	meteorology

Specific Cropping Systems —24 responses assigned to the following sub-categories:

6	medicinal herbs (qualities, standardization)	1	blueberries
4	orchards/treefruit	1	buckwheat
2	grapes	1	field crops
2	mushrooms	1	garlic
2	seed production	1	sweet potatoes
1	apples (thinning)		

1.2B In Their Own Words

Selected responses to: *If you could name a single most important area of research...*

Best ways to stimulate biological activity, maintaining nitrogen levels sustainably. —Colorado

Breed selection and genetics for organic livestock systems. —Connecticut

Information that documents the nutritional and safety value of organically produced crops. —Georgia

Soil structure, fertility, biological activity, cropping equipment, composts, inoculant. —Maryland

Relation of soil health to animal, soil and human health. —Iowa

Crop rotations for fertility and weed control, amendment application (e.g. humic acid, etc.) —Illinois

The preservation of open-pollinated varieties. —Indiana

Bacterial balance in soils for better weed control, higher yields. —Minnesota

Varieties of pastures, ways to fatten animals without use of corn, etc. —Missouri

Effects of preceding crops in a diverse crop rotation. —Nebraska

Combining appropriate technology and crop production in a cost-effective way. —New Jersey

Whole farm systems design, farm nutrient budgets and nitrogen leaching. —New York

Whole farm systems design, permaculture. —Texas

Management of plant diseases, relationship between fertility and insect pests and diseases. —Washington

Water and energy conservation, reducing off-farm inputs while building fertility. —Wisconsin

1.3
WHAT ORGANIC
FARMERS
EXPERIMENT
WITH MOST
ON-FARM

Q — **What kinds of experimentation (in crops and/or livestock) do you find yourself doing most on your farm? (Fill-in response.)** —1,039 respondents.

Respondents provided written responses, which have been assigned to the following eight categories (categories and sub-categories were chosen by data reviewer, see Methodology; Results Analysis). Multiple responses were received from a number of respondents. Arranged in descending order of number of responses, as assigned to each category and sub-category.

1.3A **Topic Areas of On-Farm Experimentation**

Soil and Crop Management —1,142 responses assigned to the following sub-categories:			
221	variety trials, alternative crops	14	suiting crops to needs (market or climate)
144	cover crops, green manures	11	yields
122	crop rotations	11	pruning
101	soil fertility, fertilizers, fertilization	8	plant health
66	compost, composting	7	open-pollinated seed trials
62	companion planting, intercropping	5	beneficial soil organisms
53	tillage systems, low or no-till	5	succession planting
45	mulches, mulching	4	dry-farming, drought
36	amendments, inputs	4	heirloom trials
48	soil in general, soil health, soil building	4	raised beds
29	general crop production, techniques	4	row covers
27	cultivation	3	nitrogen management
25	timing adjustments (planting, cultivation)	3	plant breeding
22	season extension	3	tilth
17	foliar sprays, foliar feeding	3	underplanting, undersowing
17	seed saving, propagation, seed general	2	fruit thinning
16	greenhouse production		
Pest Management —346 responses assigned to the following sub-categories:			
163	weed management	3	IPM
118	pest management, in general	3	biological control
34	disease management	3	trap crops
16	habitat for beneficial organisms	2	flame weeding
9	vertebrate pest control		
6	beneficial insects		
Livestock Systems & Management —129 responses assigned to the following sub-categories:			
21	animal feeds	9	forage varieties
19	animal-plant integration, rotations	5	parasite control
19	rotational grazing	5	pasture management
16	breed selection, livestock genetics	3	animal shelters
16	nutrients, nutrition	3	free range livestock
11	animal health	2	fencing, pens
Social, Economic and Market-Related Issues —94 responses assigned to the following sub-categories:			
18	marketing	13	produce quality
16	economic viability	11	animal health
15	animal homeopathy, natural medicine	5	medicinal benefits of herbs, produce
14	grazing (general, intensive grazing)	2	food safety

cont'd...

1.3
WHAT ORGANIC
FARMERS
EXPERIMENT
WITH MOST
ON-FARM

cont'd...

Specific Cropping Systems —92 responses assigned to the following sub-categories:

28	vegetables	8	wild/native plants
14	herbs	3	berries
13	livestock	3	flowers
10	grains	3	mushrooms
10	fruits		

Interdisciplinary/Systems —34 responses assigned to the following sub-categories:

10	whole farm systems design	8	low-input, "closed circle" systems
9	developing farm diversity	7	biodynamic farming methods

Technology & Equipment —29 responses assigned to the following sub-categories:

11	equipment modification, hand tools	8	processing, value-added product development, handling methods
10	labor-saving, efficiency		

Environment/Resources —29 responses assigned to the following sub-categories:

17	irrigation, water usage	2	energy usage
10	manure management		

1.3B In Their Own Words

Selected responses to: *What kinds of experimentation do you find yourself doing most..*

Habitat for beneficial insects, owls and bats. —California

Cover cropping, cultivation techniques, wind row composting. —Colorado

New produce crops and marketability. —Connecticut

Variety trials, cultural methods, fertilization, weed control, companion planting. —Idaho

Crop rotations, green manures, building fertility. —Illinois

Controlling pests and diseases in crops, finding proper feed and natural medications for livestock. —Maryland

Compost recipes, breeding plants and animals for hardiness and disease resistance. —Maine

Sources of protein in our dairy ration. —New York

Whole farm design to reduce labor and input, irrigation and water conservation, rotational grazing plans. —Nevada

Mechanical weed control, rotational weed control, raising livestock free of hormones and antibiotics. —North Dakota

Attracting and providing habitat for native beneficials. —Ohio

Finding the best seed and plants for my area. —Oregon

Rotational grazing of cattle, cropping diversity and tillage and timing of crops for weed control. —South Dakota

Adjusting crop planting times to extend season. —Washington

Companion planting, rates of application of fertilizer, side-by-side comparisons of different varieties of seeds. —Wisconsin

1.4
PREVIOUS
INVOLVEMENT IN
COLLABORATIVE
RESEARCH

Q — *Have you ever been involved in a collaborative experimental research effort (e.g with a private company, university, cooperative extension agency, etc.) on organic growing practices? (Select category.)* — 1,165 respondents.

Results from the **1993** and **1995 National Organic Farmers' Surveys** are also provided for comparison.

Response	1997 # of respondents	1997 n =1,192 %	1995 n=945 %	1993 n=550 %
Yes	277	23%	19%	31%
No	888	75%	79%	66%
No response	27	2%	2%	2%

1.5
INVOLVEMENT OF
COLLABORATORS

Q — *If you answered “yes” to the previous question, which of the following best describes the role of the persons or institutions involved in this research? If you have been involved in more than one study, please apply to your most recent project.* — 266 respondents.

Respondents matched a list of collaborators with a list of types of collaborator involvement.

1.5A Number of Projects

The number of projects that each of the collaborators was involved with:

Collaborators	# of research projects involved with (out of 266 projects)
The farm/farmer	224
A college/university	154
A government agency	54
A private non-profit organization	53
A private company	50
A private research institution	13

1.5B Roles of Each of the Collaborators

Collaborator Involvement	Collaborators					
	The farm/ farmer	A College university	A private company	A non-profit organization	A research institution	A gov't agency
Provided land	179	15	4	2	1	3
Helped define problem for study	59	57	11	6	4	8
Provided financial support	31	41	8	16	2	15
Provided materials and/or equipment	64	40	15	6	1	9
Provided staff and/or labor	62	41	6	5	1	8
Helped publish research results	17	70	13	10	4	12
Distributed results	12	66	9	14	4	14

1.6
PREVIOUS
COLLABORATIVE
RESEARCH—
TOPICS OF
INQUIRY

Q — **What was the topic of this research? If you have participated in more than one project, please describe your most recent project. (Fill-in response.)**
—266 respondents.

Respondents provided written responses, which have been assigned to the following seven categories (categories and sub-categories were chosen by data reviewer, see Methodology;Results Analysis).Multiple responses were received from a number of respondents.Arranged in descending order of number of responses,as assigned to each category and sub-category.A full listing of these research projects is published in a supplement to these survey results,and is available by contacting OFRF. (refer to **Supplement A: Collaborative Research Projects-Topics of Previous Research**)

1.6A Topics of Previous Research

Soil and Crop Management —150 responses assigned to the following sub-categories:			
74	crop improvement systems and variety trials	2	brix studies
		1	mulching systems
22	cover crop trials	1	pollinators
16	soil amendments, fertility management, fertilizers	1	no-till cropping
		1	soil compaction study
16	compost production,application	1	trichoderma seed treatment
7	soil quality studies	1	pseudomonas
3	manure application	1	drainage
3	plant breeding and development		
Pest Management —97 responses assigned to the following sub-categories:			
75	insect pest management	6	beneficial insect habitat
8	weed control/management	1	vertebrate pest management
7	disease management		
Environment/Resources —11 responses assigned to the following sub-categories:			
3	water quality studies	1	earthworm study
3	irrigation management	1	nitrates in groundwater
2	dryland farming	1	stream restoration
Livestock Management —10 responses assigned to the following sub-categories:			
4	rotational/intensive grazing	1	feed
2	animal/herd health	1	laying hens
1	lamb parasites	1	pastured poultry
Technical/Equipment —8 responses assigned to the following sub-categories:			
1	biodigester	1	oat mill
1	chipper	1	solar electric vehicle
1	cold frames	1	solar pods
1	cooling systems	1	season extension

cont'd...

1.6
PREVIOUS
COLLABORATIVE
RESEARCH—
TOPICS OF
INQUIRY

cont'd...

Social, Economic, Marketing Issues —6 responses assigned to the following sub-categories:

3	cropping profitability comparisons	1	cooperative marketing
1	farm system profitability comparisons	1	greenhouse management

Interdisciplinary/Systems —2 responses assigned to the following sub-categories:

2	farm waste management	1	biodynamic farming
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1.6B In Their Own Words

Selected responses to: *What was the topic of this research...please describe your most recent project...*

- Whole farm organic livestock and vegetable row crop production* —California
- Organic foliar sprays for brown rot protection.* —California
- Longevity of alfalfa on a mixed farm with different organic and biodynamic treatments* —Colorado
- Increasing profitability using sustainable methods.* —Idaho
- Weed count comparison in different tillage systems* —Iowa
- Role of spiders in organic fields and gardens.* —Kentucky
- Organic controls for corn borer and earworm in sweet corn.* —Maryland
- Species of trees, shrubs and bushes with commercial value in a buffer zone.* —Maryland
- Role of parasitization of cranberry fruitworm eggs by trichogramma wasps.* —Massachusetts
- Alternative internal parasite medication for lambs.* —New York
- Control of foliar diseases in processing tomatoes with compost.* —Ohio
- Aerated compost teas and disease suppression in broccoli and lettuce.* —Oregon
- Pastured chickens for control of Colorado potato beetle in potatoes* —Vermont
- Effects of Neemix on pest insects (pear psylla).* —Washington
- Use of buckwheat for plowdown fertilization and weed control.* —Wisconsin

1.7
FURTHER
INTEREST IN
COLLABORATIVE
ORGANIC
FARMING
RESEARCH

Q — *Would you like to participate in organic farming research? If resources (such as research design support, funding for implementation, record-keeping and analysis, or support for lab work or testing equipment were available, would you be interested in participating in a structured on-farm organic research project? (Select category.)* —1,144 respondents.

Results from the **1993** and **1995 National Organic Farmers' Surveys** are also provided for comparison.

Response	1997 # of respondents	1997 n =1,192 %	1995 n=945 %	1993 n=550 %
Yes	732	62%	67%	81%
No	412	34%	28%	12%
No response	48	4%	5%	7%

80% of respondents who have been involved in previous collaborative research indicated they would like to do it again.

1.8
 TYPES OF
 COLLABORATIVE
 RESEARCH OF
 INTEREST TO
 ORGANIC
 FARMERS

Q — *If you answered “yes” to the above, what type of research would you like to be involved in, and what resources or assistance would be of value to you to accomplish this? (Fill-in response.)* —694 respondents.

Respondents provided written responses, which have been assigned to the following nine categories (categories and sub-categories were chosen by data reviewer, see Methodology, Results Analysis). In addition to research topics of interest, many respondents listed resources that would be of value to accomplish a project, as well as resources they would be willing to provide.

Multiple responses were received from a number of respondents. Arranged in descending order of number of responses, as assigned to each category and sub-category. A complete listing of these research projects is published in a supplement to these results, and is available by contacting OFRE (Refer to **Supplement B: Collaborative Research Projects-Topics of Interest to Organic Farmers.**)

1.8A Research Areas of Interest

Soil and Crop Management —501 responses assigned to the following sub-categories:			
78	fertilization, fertility	10	season extension
68	cover cropping/green manures	9	yields
48	variety trials, new crops	8	animal/vegetable rotations
42	soil biology, soil health, soil microbes	5	compost teas
40	compost production, application	5	soil conservation, erosion
28	soil building, structure, organic matter, till	5	animal traction
27	crop rotations	5	harvesting
26	soil amendments, nutrients	4	pH management
20	greenhouse, hoop house production	3	native plants
19	crop production, generally	3	post-harvest handling
18	mulches	3	fruit thinning
16	tillage systems	2	pollinators
14	plant nutrition, plant health	2	interseeding
Pest Management —357 responses assigned to the following sub-categories:			
113	non-specific pest management issues	10	beneficial insects
94	weed control/management	9	biological control methods
47	disease control/management	6	flame weeding
20	habitat for beneficials (insects, birds, bats, wildlife, etc.)	4	hedgerow development
20	companion planting, intercropping	3	resistant varieties
13	fungus control/management	3	vertebrate control (deer, gophers)
11	trap crops	2	plant allelopathy

cont'd...

1.8
TYPES OF
COLLABORATIVE
RESEARCH OF
INTEREST TO
ORGANIC
FARMERS

cont'd...

Livestock Systems & Management —217 responses assigned to the following sub-categories:

52	livestock in general	6	aquaculture
25	forage,pasture, grass grazing	5	sheep
15	cattle production	5	bees,honey production
18	livestock feed	5	carcass finishing
16	animal health,parasites	3	animal shelter systems
12	poultry, eggs	3	goats
11	dairy production	2	hogs
9	livestock nutrition	1	fiber production
8	homeopathy,herbal veterinary treatments	1	rabbits
8	rotational,management intensive grazing	1	alternative animals (elk)
6	meat,animal products in general		

Specific Cropping Systems —182 responses assigned to the following sub-categories:

35	vegetable crops,in general	4	mushrooms
31	fruit/nut crops	4	garlic
22	field crops,in general	3	ginseng
18	orchard crops,in general	2	alfalfa
15	herbs (medicinal)	2	ornamentals
12	berries (blueberries,strawberries,etc.)	2	citrus
9	vineyards	1	flowers
6	specialty crops	1	oats
5	small grains	1	rice
5	forestry		

Interdisciplinary/Systems —108 responses assigned to the following sub-categories:

42	whole farm systems	6	biodynamic farming systems
23	nutritional and medicinal value of crops	6	local, regional production & marketing
10	comparison studies	3	diversity/diversification
8	transitioning to organic	2	paramagnetism
7	organic vs.conventional		

Social, Economic, and Marketing-Related Issues —51 responses assigned to the following sub-categories:

24	financial,economic aspects	3	cooperatives
24	marketing		

General —50 responses assigned to the following sub-categories:

45	any, all	5	it depends,maybe
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Technology Development —46 responses assigned to the following sub-categories:

21	equipment,in general	3	hydroponics
15	value-added,processing	1	bug-vacs
6	open pollinated seed,seed saving		

Environment/Resources —14 responses assigned to the following sub-categories:

11	manure/animal by-products management	3	dry land,low water production
7	water,irrigation management	1	salinity
3	chemical overspray, residue testing		

1.8
 TYPES OF
 COLLABORATIVE
 RESEARCH OF
 INTEREST TO
 ORGANIC
 FARMERS

1.8B Resources Farmers Need or Are Willing to Provide for a Research Project

Resources and/or assistance that respondents indicated would be of value to conduct a collaborative research project, and resources that respondents indicated they would be willing to provide:

Resources Needed —264 assigned responses assigned to the following sub-categories:			
65	funding	10	labor
41	experimental and system design	8	production information, techniques
27	technical assistance (univ. researcher)	7	any, all support
30	data collection and record keeping	6	information, ideas
16	equipment	3	organizational support
16	data analysis	1	publication of results
13	materials	1	land
12	lab work, testing		
Resources Willing to Provide —76 responses assigned to seventeen sub-categories:			
14	land	3	lab work
11	labor	2	technical expertise
8	funding	1	publishing
8	equipment	1	distribution of results
7	record keeping	1	information
5	data analysis	1	time
4	ideas on areas of research	1	monitoring
4	materials	1	seed
3	experimental and system design		

1.8C In Their Own Words

<p>Selected responses to: <i>What type of research would you like to be involved in?...</i></p> <p><i>Weed control in perennial row crops, between-row intercropping</i> —California</p> <p><i>On-farm composting, weed control, double cropping, systems approaches</i> —Illinois</p> <p><i>Greenhouse pest management, orchard management</i> —Indiana</p> <p><i>Cover crops and rotations as a component of soil building systems</i> —Kansas</p> <p><i>Reeds yellow-dent corn; breeding better open-pollinated corns</i> —Kansas</p> <p><i>Allelopathic responses, conditions between plant species and plant behavior</i> —Massachusetts</p> <p><i>Fertility management from transition to certification; economics and yield</i> —Michigan</p> <p><i>Testing cultivators, such as a flame cultivator</i> —Nebraska</p> <p><i>Carcass evaluation of forage feeding in livestock</i> —New York</p> <p><i>Organic no-till methods</i> —North Carolina</p> <p><i>Late blight control in tomatoes using beneficial fungi</i> —Oregon</p> <p><i>Whole farm assessment; developing nutrient and energy budget for our farm</i> —Pennsylvania</p> <p><i>Variety trials, whole farm systems, alternative energy</i> —Vermont</p> <p><i>Insect pest control, fruit thinning</i> —Washington</p> <p><i>Fly control in dairy cattle; use of dung beetles, fly repellents</i> —Wisconsin</p>

SECTION 1
REVIEW

Overview

In our introduction to **Organic Farming Research Priorities**, we suggest that organic farmers are both *consumers* and *producers* of information about organic farming systems. In reviewing organic farmers' research priorities, we will examine the information provided by respondents in two ways: 1) what organic farmers have indicated are their research needs, and 2) organic farmers' inclinations as informal experimenters, as well as collaborators in more formalized projects.

We asked organic farmers to rank a list of potential research topics as priorities for research, and to answer several open-ended questions about their research experiences and interests. The following review discusses and compares key results that occur within the priority rankings and open-ended questions.

Summary Results and Discussion

Research Priority Rankings: Respondents of All Production Types (Sec. 1.1A)

From a list of thirty two possible research categories, **weed management** received the highest priority ranking by all respondents. The possibilities for research in organic weed management are manifold, and cross-over into many other topic areas. These include (but are not limited to): the development of further information about weed ecology, soil fertility, plant allelopathy, rotation strategies, cultivation equipment and techniques, tillage, reduced tillage or no-till methods, mulching, and composting. Respondents also indicate that **weed management** is one of their most common areas of experimentation on-farm, (Sec. 1.3) and is among their top areas of interest in potential collaborative research (Sec. 1.8). Weed management is also a major focus at almost all agricultural research institutions, although rarely in an organic context. This is fertile territory for the development of organic farmer/researcher cooperative efforts.

Respondents ranked the **relationship between fertility management and crop health, pest & disease resistance and the relationship of organic growing practices to nutritional value of product** as their second and third priorities for research. These topics represent a "frontier" in research and information development, and farmers indicate that they've had few resources and little experience in evaluating these relationships on their own. When we look at the open-ended questions (Secs. 1.3, 1.6, 1.8) respondents do not indicate that they have conducted this kind of experimentation on-farm, or have had past involvement in collaborative research projects, nor do they express an interest in future collaborative research on these topics. Farmers are looking to the academic research community to tackle these more complex but very important issues.

Filling out the "top five" research priorities are **soil biology** and **crop rotations**. Knowledge about **soil biology** is key to the development of healthy soils, which is at the heart of organic production systems. As is evident from other areas of the survey results (Section 5: Organic Management Strategies) **crop rotations** are a cornerstone of organic farm management, and are utilized by organic farmers for a variety of purposes, from disease and weed control to fertility management.

SECTION 1
REVIEW

Research Priority Rankings: Grouped by Production Type (Secs. 1.1 B.1 - B.4)

When looking at research priorities grouped by respondents' types of production, **vegetable, herb and ornamental crop growers**, and **fruit, nut and tree crop producers** ranked **relationship between fertility management and crop health, pest & disease resistance** as their top research priority. Field **crop** and **livestock** producers ranked **weed management** as their number one research priority. Livestock and animal products producers as a subset showed greater interest (not surprisingly) in livestock management issues—**animal preventive health** shows up among their top priorities, as does **homeopathic and other natural animal medication**. **Field crop** and **livestock and/or animal product** producers appear to share a greater interest in **whole farm systems design**, ranking this topic 7th and 5th, respectively. **Vegetable, herb and ornamental crop** producers, and **fruit, nut and tree crop** growers appear to share a greater level of interest in **habitat management for pest management**.

Most Important Research Area (Sec. 1.2—Open-ended Response)

Common themes emerged between the research priority rankings and the open ended research priority responses, where respondents were asked to name a single most important area of research. **Weed management**, for example, was listed most often as the most important research topic. However there were some interesting departures from the closed-ended research priority rankings. One of particular interest: when asked to write in a single most important area of research, respondents named as many topics that are logically assigned within the category of **whole farm planning** as they did that are logically assigned within the category of **weed management**. Whereas, within the ranking list, **whole farm planning** was ranked 15th priority, and **weed management** was ranked 1st. This apparent disparity may in fact indicate that organic farmers tend to perceive specific “problems” in terms of overall systems management, rather than as isolated issues.

On-Farm Experimentation and Collaboration Research (Secs. 1.3 - 1.8)

A series of open-ended questions assessed respondents' experiences with and interests in on-farm experimentation and research: What kinds of experimentation do organic farmers conduct on their own? What kinds of more formal, collaborative projects, if any, have they been involved in? What, if any, further collaborative research would they like to be involved in **and** what resources would they need to engage in such efforts? Some highlights of these responses are displayed below in Table 1A.

In general, responses to questions about on-farm research pursuits depict an organic farmer population that is highly capable of participating in experimental research, and anxious to do so. 87% of all survey respondents indicated that they pursue some type of on-farm experimentation. 62% indicated that they would like to participate in some type of collaborative research. 80% of those who have previously been involved in such collaboration would like to do so again. In short, there is a broad range of experimental knowledge residing on organic farms, and an even greater accumulation of research “questions” awaiting consideration by research professionals.

Comparison Of “Research Needs” vs. “Research Activities”

The following table condenses the top responses from each of the four open-ended questions, and presents some intriguing comparisons between what research organic farmers feel is most important, what they experiment with on their own farms, and what kinds of projects they'd like to be involved in. Results section numbers are provided in the table header for reference.

Table 1A: Comparison of Top Response Categories from the Open-ended Research Questions:

SECTION 1
REVIEW

Table 1A: Comparison of Top Response Categories from the Open-ended Research Questions:

Category	1.2 What areas of organic research are most important? (1,046 respondents)	1.3 What experimentation do you do most on your own farm? (1,039 respondents)	1.6 What kind(s) of research have you collaborated in? (266 respondents)	1.8 What kind of research would you like to be involved in? (694 respondents)
weed mgm't, control	1st (tied) (122 responses)	2nd (163 responses)	5th (8 responses)	2nd (94 responses)
whole farm planning	1st (tied) (122 responses)	**	**	9th (40 responses)
fertility management	2nd (104 responses)	6th (101 responses)	4th (tied) (16 responses)	3rd (78 responses)
fertilization	3rd (100 responses)	**	**	**
growing practices in relation to nutritional quality	4th (80 responses)	**	6th (7 responses)	8th (42 responses)
soil biology, soil quality and health	5th (55 responses)	5th (118 responses)	1st (97 responses)	1st (113 responses)
pest management, in general	6th (39 responses)	4th (122 responses)	**	**
crop rotations	7th (32 responses)	3rd (144 responses)	3rd (22 responses)	4th (68 responses)
cover cropping, green manures	8th (29 responses)	**	**	6th (52 responses)
livestock disease mgm't, animal health	9th (19 responses)	9th (53 responses)	**	**
tillage	**	1st (221 responses)	2nd (74 responses)	5th (48 responses)
cropping systems and variety trials	**	7th (66 responses)	4th (tied) (16 responses)	9th (40 responses)
composting, compost production, application	**	8th (62 responses)	**	**
companion planting	**	**	**	**

Towards an Organic Farming Research Agenda

It is important to note that a specific definition of “research” was not provided in the survey itself. In some cases it is possible that pertinent research has already been conducted on a topic, but that organic farmers lack this information. Thus, in some cases, meeting farmers’ needs may be more a matter of information collation and dissemination rather than of generating new experimental research. However, the overall lack of experimental research within the context of organic systems suggests that for most subjects, the original work is still waiting to be done.

The relative ranking of research priorities displayed in the survey results provides an initial guide for targeting research and extension resources. The broad, general quality of these priority areas begs many immediate questions. For example, which aspects of the *relationship between fertility management and crop health, pest & disease resistance* require further definition and investigation? The next step is to assemble specific hypotheses and problem statements within each priority area. To begin, we can explore farmers’ priority statements, examine the results of organic on-farm experiments, and further utilize farmers as a direct resource for hypothesis-building. In addition, the systematic observation and analysis of working organic farm operations will provide extensive material for investigators to develop research agendas.

SECTION 1
REVIEW



Commentary

Organic weed research—some preliminary questions

It appears that there is some possible correlation between farm size and research priorities. **Weed management** is the highest ranked research priority with field crop and livestock farmers. I would suspect that this group as a whole has larger farms to tend and would have to rely more on mechanical tillage and other means to control weeds. Vegetable growers with smaller acreage as a whole can rely on hand weeding as an available option. The second-highest priority item, **relationship between fertility management, crop health, pest & disease resistance** may also relate to weed management because of the words “pest resistance” within the category.

At any rate, that **weed management** scored highest as a production research priority underscores the need for more fundamental organic research in this area. Some basic questions are:

- 1) Are there cyclical patterns of weed severity from year to year based on environmental and climatic conditions?
- 2) If these cyclical patterns exist, how can they be managed by the farmer?
- 3) What is the viable life-span of different weed species in the soil?
- 4) What strategies involving cover crops, crop rotations, tillage systems, etc., in the context of a whole-farm system, will affect weed management?
- 5) What effect does the “weed seed bank” have on weed management strategies from year to year, field by field?

—Ron Rosmann

Ron Rosmann is a farmer of organic grains and livestock in Harlan, Iowa, a member of the OFRF Board of Directors, and a member of the **Third Biennial National Organic Farmers’ Survey** advisory committee.

SECTION 2 Information Resources

INTRODUCTION

Objectives

The objectives of the **Information Resources** section are:

- 1) To assess organic farmers' information needs regarding organic production and marketing;
- 2) Identify ways to better meet organic farmers' information needs; and
- 3) Identify information resources that are useful to organic farmers.

Formats

We begin by identifying, in general terms, respondents' Farming Experiences and Resources (Sec.2.1), and cross-referencing these results with information from Section 6.1, Transitional & Beginning Organic Farmers and from Section 8.14, Level of Formal Education. We've sought to identify respondents most (and least) useful information resources by allowing them to rank a list of information source categories. Respondents could also list a "favorite" resource within each category (whether they ranked it highly or not). Respondents were asked to rank how well their production and marketing information needs are met. Open-ended questions gave respondents an opportunity to state in their own words their production and marketing information needs, and to identify their preferred sources of information (where they would like to get this information, even if this source doesn't exist, currently). Examples of these open-ended responses in growers' own words are provided.

Appendices A and B

In Sections 2.2 and 2.4, respondents were asked to indicate the "usefulness" of a variety of "information source" categories for organic production and marketing information. ***In addition*** to this, respondents could name their favorite sources of information within each category. Collating these responses has led to an extensive list of information resources used by organic farmers—a compilation of the "world" of information that organic farmers use.

OFRF has listed each of the sources named by respondents (those that were legible) within ***Appendices A (Production) and B (Marketing)***, where they are presented in order of their "usefulness" ranking by survey respondents. Also, where feasible, OFRF has researched contact information for most of the sources named within the following categories: **field consultants, suppliers, certification organizations, growers associations, non-profit organizations, university-based researchers, Cooperative Extension advisors (while Extension as a whole did not rank well, many helpful individual advisors were named), and conferences and seminars** (including dates for 1999 events). We encourage you to refer to the Appendices for these resources and more. Corrections and additions to the resource information are welcome, in particular, where we were unable to find specific contact information.

2.1
FARMING
EXPERIENCES
AND RESOURCES

Q — **How important have the following experiences and resources been toward shaping your knowledge and understanding about farming? (Select a single category.)**

Responses arranged in descending order of level of importance.

2.1A All respondents

Experience	Level of importance			# of responses
	Very important	Moderately important	Not important	
Observation of, and experimentation with natural systems and farming elements	76%	21%	3%	1,161
“Scouting” for information from “external” resources: books, other farmers, researchers, etc.	70%	26%	4%	1,156
Discussions with farm partners and workers	49%	39%	12%	1,144
Family history of farming-information passed through family or community	39%	29%	32%	1,148
Formal schooling in agriculture	12%	27%	61%	1,131

2.1B Experience of transitioning farmers compared with farmers who were organic from the start (Cross-referenced with Sec. 6.1)

Experience	Respondents indicating that the following experiences are <i>very important</i>		
	All respondents (from 2.1A)	Transitioning farmers (n=475)	Organic farmers from the start (n=686)
Observation of, and experimentation with natural systems and farming elements	76%	70%	77%
“Scouting” for information from “external” resources: books, other farmers, researchers, etc.	70%	63%	72%
Discussions with farm partners and workers	49%	50%	48%
Family history of farming-information passed through family or community	39%	50%	28%
Formal schooling in agriculture	12%	14%	9%

2.1C Experience compared with level of formal education (Cross-referenced with Sec. 8.14)

In 2.1A and 2.1B, respondents indicated that formal schooling was the least important of their “experiences,” overall. For respondents within each of the response categories (very important, moderately important or not important), what type of schooling did they indicate they’ve received?

For respondents for whom formal schooling was...	Type of formal education
Very important	131 respondents (12%) indicated that formal schooling was <i>very important</i> . Of these, 98 respondents (75%) received bachelors or graduate degrees. Of these, 36% (47 respondents) received agriculture-related bachelors degrees, in areas such as <i>soil science, agronomy, entomology, animal nutrition, plant pathology, agroecology, horticulture, agricultural engineering</i> . Thirteen respondents received graduate degrees in similar agriculture-related fields.

cont'd...

2.1
FARMING
EXPERIENCES
AND RESOURCES

cont'd...

Moderately important 303 respondents (27%) said formal schooling was **moderately important**. Of these, 174 (57%) received bachelors or graduate degrees. Of these, 62 (36%) received associates or bachelors degrees in agriculture-related fields. Eighteen respondents received ag-related graduate degrees.

Not important 696 respondents (61%) said formal schooling was **not important** to their understanding of farming systems. Of these, 369 (53%) received college degrees. Eight respondents received ag-related bachelors degrees, and two received ag-related graduate degrees (one in “ag extension education”).

150 respondents (13%) indicated having some form of agriculture-related undergraduate or graduate degree.

2.2
ASSESSMENT OF
ORGANIC
PRODUCTION
INFORMATION
SOURCES

Q — **When you seek information regarding organic production practices, what resources do you utilize most often, and which are most useful to you?**

Ranked in two separate categories: **Personal Contacts** and **Places and Things**

2.2A Personal Contacts

Responses ranked by and arranged in descending order of usefulness to users.

Ranking	Information source	Usefulness 4=very, 1=never		% of respondents using (n=1,192)	Among users, average of frequency used (# of times per year)
		All users	All respondents		
1 st	Other farmers	3.44	3.37	83%	13.8
2 nd	Field consultants	3.00	1.99	31%	2.6
3 rd	Suppliers (seed, equip, materials)	2.99	2.69	62%	5.3
4 th	Growers' associations	2.97	2.35	43%	3.2
5 th	Organic certification personnel	2.96	2.80	75%	3.0
6 th	Buyers	2.88	2.35	44%	6.8
7 th	Other government agencies (ATTRA, etc.)	2.79	1.69	21%	1.2
8 th	University-based researchers	2.73	2.09	44%	2.1
9 th	Other non-profit organizations	2.69	1.75	25%	1.9
10 th	Cooperative extension advisor(s)	2.64	2.16	58%	2.1
11 th	State agriculture departments	2.45	1.58	24%	1.4
12 th	USDA national or regional office(s)	2.28	1.32	13%	.8

2.2B Places and Things

Responses ranked by and arranged in descending order of usefulness to users.

Ranking	Information source	Usefulness 4=very, 1=never		% of respondents using (n=1,192)	Among users, average of frequency used (# of times per year)
		All users	All respondents		
1 st	Farming & gardening books	3.27	3.06	71%	20.4
2 nd	Conferences & seminars	3.19	2.83	64%	2.1
3 rd	Farming & gardening periodicals	3.17	2.98	74%	18.0
4 th	Field days & on-farm demonstrations	3.10	2.61	55%	1.9
5 th	Video & audiotapes	2.77	1.70	22%	2.0
6 th	Internet websites	2.69	1.55	19%	9.9
7 th	Email groups & subscriptions	2.64	1.39	12%	7.5
8 th	Radio	2.52	1.40	14%	7.8
9 th	TV (Broadcast)	2.37	1.40	16%	6.4

Favorites for Organic Production Information

For each of the previous information sources, respondents were given an opportunity to list their “favorite” examples of resources they like to use. A complete listing of respondents’ favorite sources for organic production information is provided in **Appendix A**.

2.3
PRODUCTION
INFORMATION:
RATING HOW
WELL ORGANIC
FARMERS' NEEDS
ARE MET

Q — **On a scale of 1 (very poorly) through 10 (very well), how well do existing information resources meet your needs concerning organic production practice?** —1,167 respondents.

	Very poorly ← → Very Well									
	1	2	3	4	5	6	7	8	9	10
# of respondents	35	46	107	119	153	149	205	226	69	59
% of respondents	3%	4%	9%	10%	13%	13%	18%	20%	6%	5%
Average ranking on a scale of 1-10: 6.0										

2.4
ASSESSMENT
OF ORGANIC
MARKETING
INFORMATION
NEEDS

Q — **When you seek information regarding organic markets and marketing, where do you get it from?**

Marketing Information Sources

Responses ranked by and arranged in descending order of usefulness to users.

Rank	Information source	Usefulness 4=very, 1=never		% of respondents using (n=1,192)	Among users, average of frequency used (# of times per year)
		All users	All respondents		
1 st	Buyers	3.3	2.9	55%	14.0
2 nd	Other farmers	3.2	3.0	67%	12.2
3 rd	Individual consumer/customers	3.0	2.6	47%	25.8
4 th	Periodicals (newsletters & magazines)	2.9	2.4	45%	10.1
5 th	Conferences & workshops	2.9	2.3	42%	2.3
6 th	Books	2.8	2.0	26%	8.0
7 th	Non-profit organizations	2.7	1.8	23%	4.5
8 th	Market information services (non-gov't)	2.7	1.6	14%	6.6
9 th	State or federal agencies	2.4	1.4	45%	4.0
10 th	Websites	2.4	1.3	9%	15.8

Favorites for Organic Marketing Information

For each of the previous categories, respondents were given an opportunity to list their “favorite” examples of resources they liked to use. A complete listing of respondents’ favorite personal contacts for organic marketing information is provided in **Appendix B**.

2.5
MARKETING
INFORMATION:
RATING HOW
WELL ORGANIC
FARMERS' NEEDS
ARE MET

Q — **On a scale of 1 (very poorly) through 10 (very well), how well do existing information resources meet your needs concerning organic markets and marketing?** —1,135 respondents.

	Very poorly ← → Very Well									
	1	2	3	4	5	6	7	8	9	10
# of respondents	71	86	140	125	186	122	147	132	62	64
% of respondents	6%	8%	12%	11%	16%	11%	13%	12%	6%	6%
Average ranking on a scale of 1-10: 5.38										

2.6
ORGANIC
PRODUCTION
INFORMATION
NEEDS

Q — *What are the best ways your information needs could be better met concerning organic production practices? Please consider what information you need, and what resources would serve you best to obtain this information.*

2.6A **Organic Production Information Most Needed**

Respondents provided written responses, which have been assigned to the following five categories (categories and sub-categories were chosen by data reviewer, see Methodology; Results Analysis). Multiple responses were received from a number of respondents. Arranged in descending order of number of responses, as assigned to each category and sub-category. — 958 respondents.

Pest Management — 372 responses assigned to the following sub-categories:			
136	weed management or control	17	disease identification/diagnosis
90	insect pest management	6	fungus management
47	pest management, generally	6	weed ecology
45	disease management	4	vertebrate pest control (esp. humane)
21	insect ecology and identification		
Production Methods/Systems — 320 responses assigned to the following sub-categories:			
69	better or best organic practices	10	production and yield consistency and improvement
47	local, regional and climate-specific production	9	greenhouse production
29	better or best crop rotations	9	harvest methods
27	machinery, especially small scale	9	post-harvest handling and storage
25	information pertinent to scale of operation (usually small scale, but sometimes large scale)	7	new and/or alternative crops
21	variety selection and testing	6	agro-ecological systems
20	improvements in cost, production efficiency	6	herb production
16	whole farm systems	5	season extension
		2	no-till production systems
		2	CSA production
		1	food safety
Soil Management — 220 responses assigned to the following sub-categories:			
86	soil fertility building	4	plant nutrition requirements
37	fertilization, in general	3	soil health
19	cover cropping, green manures	2	soil remineralization
14	soil balancing	1	animal traction
13	cultivation and/or tillage	1	nitrogen fixation
13	soil management, in general	1	soil tillage
12	soil biology, ecology	1	vermiculture
8	soil amendments	1	mycorrhizal relationships
4	compost production		
Information Resources/Networks — 114 responses assigned to the following sub-categories:			
32	organic farming research results, or farm-based research results	6	production case studies
26	materials lists and use information	4	technical studies, as opposed to anecdotal information
23	materials sourcing, where to find materials locally, regionally	3	comparative organic/conventional production practices
9	allowable standards, practices and/or materials	2	organic seed sourcing
6	lists of organic books, periodicals, library sources	1	how to conduct small-scale field trials
		1	fertilizer hauling networks
		1	farmer to farmer networks

cont'd...

2.6
ORGANIC
PRODUCTION
INFORMATION
NEEDS

cont'd...

Livestock Production —48 responses assigned to eight sub-categories:

19	livestock nutrition and health	3	control of parasites in livestock
8	livestock production, in general	3	grazing and forage management
7	dairy production	2	egg production
5	care of sick livestock, medicines and/or veterinary practices	1	availability of organic feed for livestock

2.6B Preferred Sources for Organic Production Information

(Where farmers would like to get organic production information.) —794 respondents

228	periodicals-magazines, newspapers, newsletters	42	field days, on-farm demonstrations	11	library
186	other farmers	39	university researchers	10	radio
104	books	32	field consultants	6	central information source, a hotline or 1-800 number
66	conferences, seminars/workshops	27	growers associations	6	state dept. of agriculture
62	Cooperative Extension	26	suppliers/vendors	6	buyers/customers
55	certification agencies	22	videos	5	catalogues/directories
48	publications, in general	21	research-university, organic, on-farm; results of field trials	5	email
48	websites, the internet	19	personal observation or experience	3	audio tapes

2.6C In Their Own Words

Selected Responses to: *What production information do you need most?*

Livestock health, experimental results of organic production tests, organic feed availability. —Idaho

Information about organic health care for livestock. —Iowa

Brand names of products accepted by organic certifiers. —Illinois

Legality of meat sales, livestock parasite control, large-scale production. —Kentucky

Comparative cultural practices and equipment use. —Maryland

Information geared to farmers as opposed to organic gardeners, such as cost/benefit analysis of farm equipment. —Maine

Improving levels of organic matter; retaining organic matter once incorporated. —Massachusetts

Creative applications of existing technology to control weeds without chemicals or tillage. —Missouri

A better understanding of soil life and forces of nature. —Montana

Holistic approaches, more whole-farm information. —Nebraska

IPM, mycorrhizal relationships, nitrogen fixation. —New Mexico

Crop rotations and impacts on future weeds, pests, soil quality and yields. —New York

Weed control, specific cultivator settings, ridge tillage, etc. —Pennsylvania

Low energy soil building methods for small farms, mechanical cultivation, cultivation tools and techniques. —Washington

2.6

ORGANIC
PRODUCTION
INFORMATION
NEEDS

2.6D In Their Own Words

Selected Responses to: ***What resources would serve you best to obtain organic production information?***

Prefer county ag. Not very helpful for organic practices. —California

Would like to use county Extension. —California

ATTRA (very good source) —Illinois

New Farm when it was in print. —Indiana

Extension agent is closest and easiest, but has limited knowledge. —Kentucky

Need some type of newsletter. Existing info is hit or miss. —Kentucky

Extension Service, publications, field days. Currently hardly any organic info —Maine

Periodicals and an organic growers association. Extension-if educated about organic. —Michigan

If ag Extension was into organics. —Minnesota

Farm magazines concerning organic practices and markets. —Missouri

OCIA-NE Chapter One field days. —Nebraska

Access to the internet. Internet discussion groups needed. —New York

Other certified organic farmers, a Cooperative Extension service strictly for organics. —New York

Anywhere except Monsanto, DuPont, Phizer, etc —Ohio

Wish state Extension would learn organics. —Ohio

Growing for Market (the best), Organic Gardening. —Oregon

Periodicals. Would like to call Extension Service for organic consultation. —Oregon

Acres, USA monthly and their books. —Pennsylvania

Local farming co-op extension if there were more growers and better extension. —Pennsylvania

Books, NOFA-Rhode Island conference. State Division of Agriculture inspector. —Rhode Island

Hands-on experience. A good organic periodical with consolidated information. —Texas

Books, magazines, a no-nonsense, no ad periodical. —Vermont

Field days, farm improvement clubs (haven't tried this but would like to). —Washington

It would be nice to see Cooperative Extension take this on. —Washington

An organic-minded Extension agent would be nice. —Wisconsin

The New Farm was great, but no more. A good organic publication. —Wisconsin

2.7
ORGANIC
FARMING
INFORMATION
NEEDS

Q — *What are the best ways your information needs could be better met concerning organic markets and marketing? Please consider what information you need, and what resources would serve you best to obtain this information.*

2.7A **Marketing Information Most Needed**

Respondents provided written responses, which have been assigned to the following five categories (categories and sub-categories were chosen by data reviewer, see Methodology;Results Analysis).Multiple responses were received from a number of respondents.Arranged in descending order of number of responses,as assigned to each category and sub-category. —828 respondents.

Finding Markets —207 responses assigned to the following sub-categories:			
115	finding buyers-lists and directories with profiles	16	finding reputable and/or reliable buyers who will make payments either at all or on time
65	locating markets, finding available markets		
Pricing —176 responses assigned to the following sub-categories:			
151	prices and pricing-how to find out about organic market prices and determine good/fair/highest price for product	25	market quotes (national, weekly, monthly)
Specific Markets —166 responses assigned to the following sub-categories:			
37	local markets,in particular	7	world/foreign markets,information about
29	wholesale markets and marketing	6	direct marketing
15	CSA marketing and recruitment	4	finding markets for transitional product
14	farmers markets	5	processors,information about
13	marketing cooperatives,the existence or development of	2	alternative markets, about
11	regional markets	2	distributors,information about
10	restaurant marketing	1	mail order marketing
9	retail markets and marketing	1	farm stand marketing
Consumer Education/Demand —118 responses assigned to the following sub-categories:			
61	determining consumer demand for organic products	13	which particular products,crops, varieties are in demand
37	consumer information and education about organic	7	consumer or buyer demand in relation to supply on the market
Niche/Specialty Marketing —41 responses assigned to the following sub-categories:			
11	marketing small quantities	5	popular, high-value crops
9	marketing specialty crops	4	marketing large quantities
9	value added products and product development	3	niche markets
Preparing Product for Market —30 responses assigned to the following sub-categories:			
14	quality standards and regulations	3	labeling
6	presentation,display of products	2	post-harvest handling
3	advertising	2	grading or sizing product for market

cont'd...

2.7
ORGANIC
FARMING
INFORMATION
NEEDS

cont'd...

Distribution Systems —16 responses assigned to the following sub-categories:

8	transport, trucking, getting product to the consumer, market or buyer	1	local distribution systems
7	marketing networks, the existence or development of		

Related Marketing Issues —11 responses assigned to the following sub-categories:

4	pre-production market information	1	post-harvest storage of product
2	quality feedback	1	appropriately scaled information
1	supply sources for ingredients	1	marketing labor management
1	controlling costs		

2.7B Preferred Sources for Organic Marketing Information

(Where farmers would like to get organic marketing information.) —555 respondents

137	periodicals-magazines, newspapers, newsletters	13	Cooperative Extension	4	chefs, chefs associations
52	other farmers	12	mailings	4	radio
50	buyers or brokers	11	directory of buyers, markets	3	consultants
49	websites, the internet	10	state dept. of agriculture	3	farmers markets
42	certification agencies	8	non-profit organizations	3	"Red Book"
24	individual customers/consumers	7	any	3	"Blue Book"
21	personal contacts in general-word-of-mouth, networking	7	growers associations	2	Farm Bureau
20	printed material in general	6	TV	2	meetings
21	conferences, seminars/workshops	6	market service subscription (email or print)	2	wholesalers
19	books	5	telephone (such as a 1-800 phone number)	2	university resources
15	none, don't have any, don't know	5	marketing groups	2	videos
13	marketing cooperative	5	by fax	2	elevator
				2	market surveys
				2	product packer

2.7C In Their Own Words.

Selected Responses to: *What marketing information do you need most?*

Identification of potential buyers by region and crop. —California

Economic value of existing market, trends to help guide product development —Georgia

Accurate regional pricing, cooperative marketing, value-added systems. —Idaho

More local sources (within 50 miles) interested in buying direct —Idaho

Daily or weekly price guide, quality standards guide. —Indiana

Markets for crops not generally produced in our region. —Iowa

Buyers of corn, beans and beef. —Kansas

Monthly pricing information on seasonal products. —Maine

Current local wholesale prices, prices from growers shipping to this area from California, New Jersey, etc. —Maryland

Who are reliable buyers of grains and forages? —Minnesota

Demand and pricing for crops, markets. —Montana

How to get assistance in organizing co-ops. —New York

Increasing farmers' share of consumer spending on organic dairy production. —New York

Trends in fresh market vegetables, small scale profitable processing. —Oregon

Marketing networks. —South Dakota

Market identification and location; why can't local grocery stores carry any local produce? —West Virginia

2.7
ORGANIC
FARMING
INFORMATION
NEEDS

2.7D In Their Own Words.

Selected Responses to: *What resources would serve you best to obtain organic marketing information?*

Lists of buyers and products, in newsletter form. —California
I would love to be able to call [certifier] for this information. —California
A periodic or seasonal mailing of organic buyers sent to organic producers. —Illinois
I've used "conventional" market information and then added 20%, but sometimes this isn't applicable. —Indiana
Good information exists on grains, but not for meats. —Iowa
Retail and wholesale company listings of needs. —Kansas
Maine Organic Farmers and Gardeners Assoc. —Maine
More publications like Growing for Market. —Massachusetts
NOFA's Natural Farmer. They are exceptional in information sharing and quality of information. —Michigan
Central buyer and producer network, e.g. website, fax list, etc. —New Hampshire
There is very little openness about any marketing information these days. —North Dakota
Internet. —Pennsylvania
Buyer, producer and consumer clearinghouses by region. —Texas
Magazine articles, a marketing association. —Washington
I would like to get a fax each week with produce prices for most major wholesalers. —Wisconsin

SECTION 2
REVIEW

Overview

The **Information Resources** component of the survey was developed to identify how well organic farmers information needs are met, what their information needs currently are, and where organic farmers would like to get information. Resources and topic areas for **production** and **marketing** information were evaluated separately. Our request for respondents' **favorite** information resources has provided the basis for a compendium of information sources, which is provided in **Appendices A and B**.

Summary Results

Farming Experiences and Resources (Secs. 2.1A-C)

Prior to finding out about organic farmers' information needs, we thought it would be interesting to see how their "quest" for information fits within a larger setting of "life experiences" and other resources that have shaped their knowledge about farming. What other resources and experiences have they benefited from?

The two most important information resources/experiences, as indicated by respondents, are **observation and experimentation**... (indicated by 76% of respondents as very important) and **"scouting" for information**... (indicated by 70% of respondents as very important). Farmers who transitioned from conventional practices appear to rely only somewhat less on **observation**... and **"scouting"**... than farmers who began farming organically from the start. Another difference between organic-transitioned and organic-from-the-start farmers is that transitioned farmers indicate a significantly greater level of **family/community history**... in farming. This combination of results suggests that while organic-transitioned farmers have more farming experience, both groups nonetheless rely a great deal on systems monitoring and external sources for information about production.

Organic Production and Marketing Information Sources (Secs 2.2-2.7)

Respondents consider **other farmers, farming and gardening books, conferences and seminars**, and **farming and gardening periodicals** as their most useful sources for organic production information, followed by **field days, field consultants** and **suppliers**. When asked where they would **like** to get production information, respondents indicated that they would **prefer** to get information from **periodicals**, followed by **other farmers, books, conferences, seminars** and **workshops**, and **Cooperative Extension**.

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REVIEW

For marketing information, respondents rely most upon **buyers**, followed by **other farmers, individual consumers/customers** and **periodicals**. When asked **where** they would like to get marketing information, respondents indicated that they would prefer to get information from **periodicals, other farmers, buyers, websites** and **certification agencies**.

Organic Production and Marketing Information Needs (Secs. 2.2 - 2.7)

In **Section 1: Organic Farming Research Priorities**, we identified organic farmers' research needs. Responses about production information needs (in their own words) follow a similar, though not identical, pattern. Similar to their needs for research, respondents most often stated a need for information about **weed management or control**. However, unlike the research priorities responses, **insect pest management** received the second greatest number of responses, suggesting that farmers sense there is some degree of developed knowledge or information about insect pest management that has not yet been transferred to them. Respondents identified their other most important production information needs as (in descending order of number of responses): **soil fertility building, better and or best organic practices, pest management in general**, and **local, regional and climate-specific production**.

For organic marketing information needs, top responses were: information about **prices and pricing, finding buyers, locating markets**, and **determining consumer demand for organic products**. As to specific markets, the greatest number of respondents indicated an interest in finding or developing **local markets**.



Commentary

Some general observations on Section 2: Information Resources, viewed in conjunction with Section 6: Organic Production Constraints and Challenges

The survey results, viewed in conjunction with other materials on organic agriculture, show that organic farmers are (and continue to be) “trail blazers” in that they have been able to make substantial gains in the areas of production and marketing with what they perceive to be very little support from public institutions and government agencies. It seems organic farmers have been able to do so in two notable ways: 1) by relying largely on information provided by other farmers, farm partners, field consultants and suppliers, and from their own observations and experimentation, and 2) through farmer-driven or influenced publications, conferences and seminars.

However, the survey also clearly shows that while organic farmers value input from other farmers, field consultants, grower associations and supply companies, **they want help from the extension and research community**. The reasons for this are unclear, but may be because, among other things, there has been a long-standing association between farmers and research and extension, and also because extension is community based and well versed in local cropping knowledge and conditions.

Paradoxically, however, the survey results show that most organic farmers have found those in extension lacking in experience or knowledge relevant to organic agriculture, as well as uncooperative. Unfortunately, this paradoxical situation does not appear to be limited to isolated pockets within the country: growers from a number of western, midwestern and eastern states commented on this predicament.

The relationship between organic farmers and the extension and research community appears to be particularly important, if not critical, during the transition period, when growers are moving from

SECTION 2
REVIEW

conventional to organic practices. It is at this time that learning curves are perhaps at their steepest, thus by inference when growers are most “vulnerable” to understanding and managing changes within their farming systems. Arguably, this may be the time when organic growers most need information and assistance that is readily available, easily accessible, and appropriate to their operations. Without these supports, the number of organic growers successfully making the transition could conceivably be lessened.

Further, organic growers found farming and gardening books and periodicals, conferences and seminars, and field days and on-farm demonstrations valuable for obtaining information on organic agriculture. But when specifically asked which resources were considered “favorites”, publications and events sponsored by universities and government agencies were notably absent from grower lists except in the case of field days and on-farm demonstrations. Does this mean that university and government sponsored conferences/seminars, as well as research results/publications are not reaching their target audience, or that the information, as presented, is not useful to organic farmers? This question, while important, is beyond the scope of these survey results.

Perhaps the results say enough, though, for research and extension to take note. Clearly, organic farmers would like to make connections, form partnerships and exchange information with the extension and research communities. Some of the research topics seen as priorities by organic farmers—weed management, the relationship between fertility management and crop health, and soil biology—are of importance to the larger agricultural sector as well in that they may address issues related to decreased use of chemical pesticides and fertilizers. Research and extension might respond to these needs by making certain that relevant projects are developed and designed in conjunction with organic farmers, and by making certain that resulting publications are in a format and style that is understandable and useful to organic farmers. Finally, results must reach organic farmers through appropriate and easily accessible channels.

—Laura Tourte

Laura Tourte is a post-graduate researcher with the Department of Agricultural and Resource Economics at the University of California-Davis, and is a member of the *Third Biennial National Organic Farmers’ Survey* advisory committee.

SECTION 3 Products Grown and Marketed

INTRODUCTION

Objectives

The objectives of the **Products Grown and Marketed** section are:

- 1) To develop information about the quantity and range of organically grown products, as represented by respondents for the 1997 production year;
- 2) Identify which markets (organic, conventional, transitional) these products were sold; and
- 3) Develop information about the role of organic value-added products for the respondent population.

Formats

Sections 3.1 through 3.4 show the results of crops and animal products produced, and the market outlets through which these products were sold, for the 1997 production year. Respondents first identified products produced within the categories: **vegetable, herb, flower and ornamental crops; fruit, nut and tree crops; field crops; and livestock and/or animal products**, then provided acreage (or units of production) for each product, and the percentages sold to each market—organic, conventional, or transitional. (“Transitional” products are those grown using approved organic techniques and materials for more than one year, but not meeting the three year period required for certification.) In the results presentation, these responses have been “weighted” using producers’ reported total organic acreage (or units of production in the case of livestock producers). For example, an alfalfa producer with 1,000 acres, who marketed 20% of his/her product on the organic market is reported as having “contributed” 200 acres to the **% sold as organic** sum. The **% sold as organic** data reported in each of the tables is the sum of the organic acreage “contributions”, divided by the total number of organic acres grown by all alfalfa growers. This is not an indication of actual amounts of alfalfa grown and marketed, but an estimate, based on the **% sold as..** and acreage information provided by each respondent.

The following further describes the data as it is presented in Sections 3.1–3.4:

Column Descriptions for Sections 3.1 – 3.4

*Information relates only to Section 3.4, ***Livestock and/or Animal Products***, unless otherwise indicated.

<u>Column Title</u>	<u>Description</u>
Unit of production*	What animal/livestock products produced and the units used.
Total # of producers category.	Total number of respondents indicating production within a given crop or livestock category.
Total acreage Production total*	Total number of organic acres (units of production*) reported in production by all respondents in the previous column.
Corrected # of producers	A subset of <i>total # of producers</i> . Number of respondents providing complete production information. This figure is used to calculate additional production information.
Corrected # of acres Corrected # of products*	Total number of organic acres (number of units*) produced by the <i>corrected # of producers</i> .
High/low # of acres Largest/smallest producer*	Highest/lowest acreage (greatest/smallest number of units produced*) in a given crop (or product*) category.
Mean # of acres Mean volume of products*	Mean (average) # of organic acres (# of products*) reported by all producers in a given crop (product*) category.
Median # of acres Median volume of products*	Median acreage (volume of production*) for all producers in a given crop (or product*) category.
# producing 50%	Number of producers whose acreage (production*) comprises 50% of the total acreage (production volume*) in a given category. This figure helps to identify any effect large producers may have on the acreage and marketing results.
% sold as organic	This percentage is calculated by multiplying each respondent's reported <i>percentage sold to organic market</i> by their reported <i>total number of organic acres</i> (products*) and summing these figures for all producers in a given market category. This figure is then divided by the <i>corrected # of organic acres</i> (products*) for the category, and multiplied by 100. The result is the average of the producers' reported marketing percentages, weighted by each producer's reported total number of organic acres (total number of units produced*).
% sold as conventional	Calculated in the same way as the figure for <i>% sold as organic</i> , using producers' reported percentages sold on this market.
% sold as transitional	Calculated in the same way as the figure for <i>% sold as organic</i> , using producers' reported percentages sold on this market.
% used on farm	Section 3.3 (<i>field crops</i>) only. Percentage of product used on-farm. Calculated in the same way as the figure for % sold as organic, using producer's reported percentages used on-farm.

Sections 3.5 and 3.6 present information about the role of organic value-added products produced on-farm, including items produced (respondents had the option of selecting from a list and/or writing in a response), and income from value-added processing (derived from a multiple choice response selection).

3.1 VEGETABLE, FLOWER AND ORNAMENTAL CROPS

Q — For the 1997 production year, which of the following vegetable, herb, flower or ornamental crops were organically grown on your farm for market? (Select from categories, fill in acreage for each crop category and percentage sold on organic, conventional and transitional [conventional converting to organic] markets.)

675 vegetable, herb, flower and ornamental crop producers (57% of respondents)

Crop category	Total # of producers	Total acreage	Corrected # of producers	Corrected # of acres	High # of acres	Low # of acres	Mean # of acres	Median # of acres	# producing 50%	Sold as organic acres (%)	Sold as conventional acres (%)	Sold as transitional acres (%)
Alliums-onions, garlic, leeks, shallots (w/o top producer)*	368	1,118	321	1,081	500	0.01	3.37	0.25	2	417 (39%)	210 (19%)	454 (42%)
Asparagus	367	618	320	581	200	0.01	1.82	0.25	3	367 (63%)	210 (36%)	4 (<1%)
Brassicas-cabbage, broccoli, kale...	129	85	111	71	15	0.01	0.64	0.2	24	67 (94%)	3.5 (5%)	5 (<1%)
Brassicas-all others (arugula, radish, etc.)	335	1,000	300	998	200	0.01	3.33	0.25	3	745 (75%)	247 (25%)	5 (<1%)
Chenopods-beets, chard, spinach...	273	471	243	470	100	0.01	1.94	0.2	3	329 (70%)	134 (29%)	7 (1%)
Composites-chicory, endive, lettuces...	328	699	290	695	150	0.01	2.4	0.18	3	564 (81%)	122 (18%)	9 (1%)
Curcubits-cucumbers, melons, squash	329	1,810	290	1,758	1,000	0.01	6.06	0.25	1	1,589 (90%)	162 (9%)	7 (<1%)
Cut flowers-all cut flower crops	432	1,545	385	1,309	500	0.01	3.4	0.5	3	887 (68%)	412 (31%)	10 (<1%)
Herbs-all culinary and medicinal herbs (w/o top producer)*	189	67	165	61	4	0.01	0.37	0.2	22	46 (75%)	14 (23%)	1 (2%)
Legumes-all fresh market beans	361	3,947	314	3,887	3,000	0.002	12.38	0.19	1	3,517 (92%)	368 (9%)	2 (<1%)
Legumes-all fresh market peas	360	947	313	887	300	0.002	2.83	0.18	3	517 (58%)	368 (41%)	2 (<1%)
Mushrooms	290	572	262	567	335	0.01	2.17	0.18	1	549 (97%)	14 (2%)	4 (<1%)
Ornamentals-annual or perennial	255	371	224	365	120	0.01	1.63	0.13	2	318 (87%)	46 (13%)	1 (<1%)
Solanaceous crops-potatoes	21	21	15	20	5.5	0.01	1.36	0.7	2	8 (40%)	12 (60%)	<1 (<1%)
Solanaceous crops-tomatoes	73	49	67	49	30	0.001	0.74	0.2	4	18 (37%)	31 (63%)	0 (0%)
Solanaceous crops-peppers, others	298	649	263	547	140	0.01	2.08	0.3	3	532 (97%)	12 (2%)	3 (<1%)
Sprouts	401	1,864	353	1538	650	0.01	4.36	0.25	2	653 (43%)	324 (21%)	561 (36%)
Sweet corn	333	347	292	345	118	0.01	1.18	0.2	3	311 (90%)	28 (8%)	6 (2%)
Umbels	16	2.16	9	2.16	1	0.01	0.24	0.1	2	1.8 (81%)	.4 (1%)	0 (0%)
Wildcrafted products (w/o top producer)*	240	589	206	480	74	0.01	2.33	0.5	6	387 (81%)	68 (14%)	25 (5%)
	248	270	213	267	65	0.01	1.26	0.2	3	262 (98%)	3 (1%)	0 (<1%)
	44	4,334	32	3,334	3,000	0.01	104.2	0.5	1	3,284 (99%)	50 (1%)	0 (0%)
	43	1,334	31	334	200	0.01	10.8	0.5	1	284 (85%)	50 (15%)	0 (0%)

* responses "without top producer(s)" are shown for categories where one or several large producers appear to significantly affect the results for the group.

32 FRUIT, NUT AND TREE CROPS

Q — For the 1997 production year, which of the following fruit, nut and tree crops were organically grown on your farm for market? (Select categories, fill in acreage for each crop category and percentage sold on organic, conventional and transitional markets.)

474 fruit, nut and tree crop producers. (40% of respondents)

Crop category	Total # of producers	Total acreage	Corrected # of producers	Corrected # of acres	High # of acres	Low # of acres	Mean # of acres	Median # of acres	# producing 50%	Sold as organic acres (%)	Sold as conventional acres (%)	Sold as transitional acres (%)
Berries-blueberries (w/o top 2 producers)*	87	273	74	272	85	0.01	3.68	0.6	2	131 (48%)	134 (49%)	7 (3%)
Berries-brambles	85	128	72	127	25	0.01	1.77	0.5	6	107 (84%)	14 (11%)	6 (5%)
Berries-strawberries (w/o top producer)*	125	132	109	126	25	0.01	1.16	0.25	5	113 (90%)	13 (10%)	<1 (<1%)
Christmas trees/wood products (w/o top producer)*	119	141	108	138	60	0.003	1.28	0.25	2	77 (56%)	60 (43%)	1.2 (<1%)
Citrus & subtropical fruit-citrus	118	81	107	78	12	0.003	0.73	0.25	9	76 (97%)	.83 (1%)	1.2 (2%)
Citrus & subtropical fruit-avocados (w/o top producer)*	30	1,826	24	1,717	1,400	0.2	71.56	3.0	1	127 (7%)	1,494 (87%)	96 (6%)
Citrus & subtropical fruit-olives	29	1,426	23	317	97	0.2	13.8	3.0	3	127 (40%)	94 (30%)	96 (30%)
Citrus & subtropical fruit-others	28	320	22	308	67	0.1	14.0	10.0	4	214 (70%)	22 (7%)	72 (23%)
Grapes-table, wine, juice & raisins (w/o top producer)*	13	149	10	147	100	0.1	15.0	2.0	1	42 (29%)	105 (71%)	0 (0%)
Grapes-fruit-olives	12	49	9	47	25	0.1	5.8	2.0	1	40 (86%)	6.5 (14%)	0 (0%)
Grapes-fruit-others	10	41	7	34	13	1.0	4.8	5.0	3	15 (44%)	14 (41%)	5 (15%)
Grapes-table, wine, juice & raisins (w/o top 2 producers)*	21	27	20	27	6	0.01	1.33	1.0	4	24 (89%)	3 (11%)	0 (0%)
Maple syrup	86	7,177	75	7,135	3,600	0.01	95.0	1.0	1	2,549 (36%)	2,754 (38%)	1,832 (26%)
Nursery trees (w/o top producer)*	84	1,577	73	1,535	320	0.01	21.0	1.0	3	929 (61%)	594 (39%)	13 (<1%)
Pome fruit-apples, pears (w/o top producer)*	22	684	18	684	300	0.01	38.0	10.0	2	638 (93%)	45 (7%)	<1 (<1%)
Stone fruit-apricots, peach, nectarine (w/o top producer)*	19	1,420	17	1,418	1400	0.03	83.38	0.75	1	10 (1%)	1,408 (99%)	<1 (<1%)
Stone fruit-cherries (w/o top producer)*	18	20	16	18	6	0.03	1.1	0.5	2	10 (56%)	8 (44%)	<1 (<1%)
Stone fruit-plums, prunes (w/o top producer)*	167	2,938	145	2,744	500	0.01	19.0	2.0	6	1,750 (64%)	881 (32%)	113 (4%)
Nut crops	75	371	67	365	100	0.01	5.5	0.5	3	299 (82%)	65 (18%)	1 (<1%)
	47	173	41	171	90	0.01	4.2	0.5	1	56 (33%)	93 (54%)	22 (13%)
	46	83	40	81	18	0.01	2.0	0.5	3	56 (69%)	3 (4%)	22 (27%)
	53	267	47	266	130	0.01	6.0	0.25	2	192 (72%)	74 (28%)	<1 (<1%)
	52	137	46	136	50	0.01	3.0	0.25	2	136 (99%)	<1 (<1%)	<1 (<1%)
	52	510	47	508	77	0.01	11.0	2.0	6	439 (86%)	25 (5%)	44 (9%)

* responses "without top producer(s)" are shown for categories where one or several large producers appear to significantly affect the results for the group.

3.3 FIELD CROPS

Q — For the 1997 production year, which of the following field crops were organically grown on your farm for use on farm and/or for market? (Select categories, fill in acreage for each crop category and percentage used on farm, or sold on organic, conventional and transitional markets.)

622 field crop producers (52% of respondents)

Crop category	Total # of producers	Total acreage	Corrected # of producers	Corrected acres	High # of acres	Low # of acres	Mean # of acres	Median # of acres	# producing 50%	Used on farm acres (%)	Sold as organic acres (%)	Sold as conventional acres (%)	Sold as transitional acres (%)
Alfalfa	215	12,059	199	11,895	1,000	0.01	60	32	23	6,016 (51%)	2,759 (23%)	2,930 (25%)	190 (1%)
Amaranth	2	155	2	155	150	5.0	—	—	—	0 (0%)	5 (3%)	150 (97%)	0 (0%)
Barley	67	4,014	60	3,860	500	0.1	64	30	7	851 (22%)	2,345 (61%)	664 (17%)	0 (0%)
Buckwheat	76	1,097	68	1,080	140	0.05	16	2	6	481 (44%)	449 (42%)	150 (14%)	0 (0%)
Canola	1	40	1	40	—	—	—	—	—	0 (0%)	0 (0%)	40 (100%)	0 (0%)
Clover	107	3,636	95	3,298	400	0.04	35	10	8	2,421 (73%)	517 (16%)	360 (11%)	0 (0%)
Coffee	1	—	—	—	—	—	—	—	—	—	—	—	—
Corn: livestock feed	167	6,877	152	6,687	400	0.2	44	30	25	3,187 (48%)	2,580 (39%)	763 (11%)	157 (2%)
Corn: other processing	59	2,656	50	2,453	600	0.1	49	20	5	367 (15%)	1,159 (47%)	815 (33%)	112 (5%)
Cotton	5	4,600	4	4,600	3,000	140.0	1,150	500	1	0 (0%)	1,600 (35%)	0 (0%)	3,000 (65%)
Dry Beans	44	1,083	41	1,082	160	0.01	26	1	5	120 (11%)	861 (80%)	101 (9%)	0 (0%)
Dry Peas	16	857	15	797	200	0.4	53	30	3	176 (22%)	542 (68%)	79 (10%)	1 (<1%)
Flax	10	707	10	707	180	0.01	71	60	2	0 (0%)	627 (89%)	80 (11%)	0 (0%)
Hay: harvested	211	10,563	195	9,582	445	1.0	49	28	32	7,026 (73%)	1,075 (11%)	1,410 (15%)	71 (<1%)
Hay: grazed	181	11,595	—	—	—	—	—	—	—	—	—	—	—
Lentils	6	272	6	272	100	20.0	45	40	2	50 (18%)	200 (74%)	0 (0%)	22 (8%)
Millet	19	3,127	16	2,987	1,200	0.1	187	80	2	228 (8%)	2,759 (92%)	0 (0%)	0 (0%)
Oats	169	4,408	159	4,363	200	0.06	27	16	22	2,124 (49%)	1,543 (35%)	569 (13%)	127 (3%)
Popcorn	21	339	18	339	200	0.05	19	0.3	1	1 (<1%)	158 (47%)	180 (53%)	.1 (<1%)
Quinoa	2	130	2	130	130	0.1	—	—	1	.1 (<1%)	130 (100%)	0 (0%)	0 (0%)
Rice	5	979	5	979	435	53.0	196	150	2	0 (0%)	926 (95%)	0 (0%)	53 (5%)
Rye	79	1,853	77	1,852	245	0.03	24	7	6	1,163 (63%)	242 (13%)	266 (14%)	181 (10%)
Safflower	3	190	2	150	100	5.0	75	50	1	100 (67%)	50 (33%)	0 (0%)	0 (0%)
Sesame	1	30	1	30	—	—	—	—	—	0 (0%)	30 (100%)	0 (0%)	0 (0%)
Sorghum	3	28	3	28	16	1.5	92	10	1	0 (0%)	28 (100%)	0 (0%)	0 (0%)
Soybeans: feed	50	1,836	49	1,836	350	0.06	37	18	7	225 (12%)	610 (33%)	1,001 (55%)	0 (0%)
Soybeans: other	163	14,010	155	13,728	700	0.1	89	50	24	637 (9%)	10,319 (75%)	1,300 (9%)	1,473 (11%)
Spelt	22	366	22	366	50	0.5	17	17	5	70 (19%)	295 (81%)	0 (0%)	0 (0%)
Sunflower	34	916	32	916	285	0.01	29	0.5	2	207 (23%)	513 (56%)	196 (21%)	0 (0%)
Tobacco	4	5	4	5	1.6	1.0	1.3	1	2	0 (0%)	4 (80%)	1 (20%)	0 (0%)
Triticale	3	95	3	95	40	25.0	32	30	2	30 (32%)	41 (43%)	0 (0%)	24 (25%)
Turnips	3	45	3	45	27	3.0	15	15	1	0 (0%)	30 (67%)	15 (33%)	0 (0%)
Verch, hairy	16	75	14	75	20	0.03	5.4	4	3	50 (67%)	25 (33%)	0 (0%)	0 (0%)
Wheat	146	15,423	138	14,752	1,800	0.1	107	28	8	435 (3%)	10,796 (73%)	2,892 (20%)	629 (4%)

3.4 LIVESTOCK AND ANIMAL PRODUCTS

Q — For the 1997 production year, which of the following livestock and/or animal products were produced organically on your farm for market? (Select categories, fill in acreage for each crop category and percentage sold on organic, conventional and transitional markets.)

322 livestock and/or animal product producers (27% of respondents)

Livestock/Animal Product	Total Units of production	# of producers	Total production	Corrected # of producers	Corrected # of products	Largest producer	Smallest producer	Mean vol. of products	Median vol. of products	# producing 50%	Sold as organic acres (%)	Sold as conventional acres (%)	Sold as transitional acres (%)
Beef-finished on-farm	# of animals	88	1,438	80	1,369	150	1	17.1	8	9	574 (42%)	658 (48%)	137 (10%)
Beef-sold as feeders	# of animals	54	1,693	51	1,668	110	2	32.7	20	10	173 (10%)	1,465 (88%)	30 (2%)
Dairy cattle	lbs. of milk	72	30,306,682	51	29,686,821	2,000,000	1,000	520,095	500,000	12	22,719,406 (77%)	4,958,284 (17%)	2,009,131 (7%)
Goats-dairy, meat, wool	# of animals	21	443	13	386	300	2	29.7	8	1	61 (16%)	325 (84%)	0 (0%)
Hogs-finished on-farm	# of animals	43	7,487	34	6,743	3,000	1	198.3	12	2	286 (4%)	6,401 (95%)	55 (1%)
Hogs-sold as feeders	# of animals	5	1,206	4	1,206	1,100	10	302	25	1	0 (0%)	1,206 (100%)	0 (0%)
Poultry-egg production	# of dozens	85	113,758	68	87,566	33,385	20	1,288	250	2	78,617 (90%)	8,065 (9%)	884 (1%)
Poultry-meat production	# of animals	25	15,468	25	15,468	4,000	8	619	300	3	10,475 (68%)	4,368 (28%)	625 (4%)
Rabbits	# of animals	3	737	2	702	700	2	—	—	1	702 (100%)	0 (0%)	0 (0%)
Sheep-meat and/or wool	# of animals	57	3,396	41	3,018	1,500	2	74	24	2	501 (17%)	2,514 (83%)	3 (<1%)
Honeybees	lbs. of honey	36	13,466	25	13,136	3,000	1	525	200	3	6,781 (52%)	6,355 (48%)	0 (0%)
Manure # of tons		14	1,652	8	929	400	1	116	28	2	929 (100%)	0 (0%)	0 (0%)

3.5
VALUE-ADDED
PRODUCTS

Q — *For the 1997 production year, what kinds of organic value-added products were processed either on their own farm, in a farm-owned plant, or in a farm-based cooperative processing arrangement prior to sale?*

371 respondents (31% of all respondents) identified value-added products that they produce. Response options included selecting from among the twenty-one categories provided, or writing-in products that were not included on the list.

Value-added Products Produced	
Fresh market produce	Grains
117 salad mix	19 flours, milled products
4 fresh pack fruits/vegetables	4 baking mixes
Preserves, sauces, juices, syrups	4 clean and bagged whole grains, soybeans
50 pickles, relishes, vinegars	1 grain flakes
42 preserves	1 poultry rations
36 juice, cider	Meats
23 molasses, syrups	37 meats: fresh cuts, unprocessed
37 sauces, salsa	12 meats: processed (barbecue, sausage...)
Dried and frozen goods	6 herbal extracts/tinctures
73 dried fruits or vegetables	4 herbal products
72 bouquets, wreaths, dried flowers	Household goods
29 canned fruits or vegetables	5 salves/lotions/creams
24 frozen fruits or vegetables	2 beeswax candles
15 dried herbs	1 massage oil
11 braids, garlic and/or onion	Fiber
3 tea mixes	5 yarn/wool/spun wool
2 gourds	2 finished garments
2 pepper strings/ristras	1 cotton products, fabric
1 dried eggs	Other
1 powdered milk	12 wine
1 frozen herbs	11 baked goods
Dairy Products	4 seeds
8 butter	1 compost
8 yogurt	1 smoke woods
4 ice cream	1 nut butters
4 cheese	

3.6
PERCENTAGE OF
FARM INCOME
DERIVED FROM
VALUE-ADDED
PRODUCTS

Q — *What percentage of your overall farm income is derived from organic value-added products? (Select category.)*

Percentage of of income	# of responses	n=1,192 %
0 - 25%	945	79%
26- 50%	52	4%
51- 75%	32	3%
76-100%	93	8%
No response	70	6%

SECTION 3 **Overview**

REVIEW

One of the most frequently asked questions about organic farming concerns the amount of acreage that exists under specific crops and/or production systems. In addition, a commonly asked question among organic farmers and farming advocates is about how much organically grown product is making its way to organic, as opposed to conventional (or transitional), markets and what prices are farmers getting for organically produced products. (Please refer to **Section 4: Organic Marketing** for a look at these survey results figures.)

Respondents were asked to indicate from a list of product categories which products they grow, how many acres they had in production, under that product category (other numeric units of production were used for livestock), and to indicate what percentage of that product was sold on organic, conventional and transitional markets in 1997 (and/or used on farm, in the case of field crops). The percentages sold in different markets are weighted in the results based on acreage grown, per respondent, per product category (please refer to Section 3; **Introduction, Formats** for further information about the data).

Summary Results

Vegetable, Flower and Ornamental Crops (Sec. 3.1)

A total of 675 respondents (57%) indicated that they produce products in this category, on a total of 19,810 acres. On average, for all crop categories combined, 77% of vegetable, flower and ornamental crops were sold on the organic market in 1997, 18% on the conventional market, and 5% on the transitional market. The crops with the greatest fraction reaching the organic market in 1997 were **wild-crafted products** (99% for all producers) **umbels** (carrots, celery, etc.) (98%) and **fresh market beans** (97%). Crops with the lowest fraction reaching the organic market in 1997 were **ornamentals** (37%), **alliums** (39%) and **mushrooms** (40%).

Fruit, Nut and Tree Crops (Sec. 3.2)

A total of 474 respondents (40%) indicated that they produce products in this category, on a total of 16,449 acres. On average, for all crop categories combined, 56% of fruit, nut and tree crops were sold on the organic market in 1997, 37% on the conventional market, and 7% on the transitional market. The crops with the greatest fraction reaching the organic market in 1997 were **maple syrup** (93%), **bramble berries** (raspberries, blackberries, etc.—90%), and **subtropical fruit** (89%). The crops with the lowest fraction reaching the organic market in 1997 were **nursery trees** (1%), **Christmas trees** (7%), **avocados** (29%), and **cherries** (33%).

Field Crops (Sec. 3.3)

A total of 622 respondents (52%) indicated that they produce field crops, on a total of 104,066 acres. On average, for all crop categories combined, 23% of field crops produced were used on farm, 55% were sold on the organic market, 18% were sold on the conventional market, and 4% were sold on the transitional market. The crops with the greatest fraction reaching the organic market in 1997 were **sesame**, **sorghum**, and **quinoa** (all 100%—please note small number of producers for these categories), **rice** (95%), **flax** (89%), **spelt** (81%), **dry beans** (80%) and **tobacco** (80%). The crops with the lowest fraction reaching the organic market in 1997 were canola (0%—note one producer only), amaranth (3%—2 producers) **hay** (11%—most used on farm), **rye** (13%—most used on farm), **alfalfa** (23%—most used on farm), and **corn for livestock feed** (39%—again, with most of the product used on farm).

SECTION 3
REVIEW

Livestock and Animal Products (Sec. 3.4)

A total of 322 respondents (27%) indicated that they produce livestock and/or animal products. Livestock and animal products with the largest fraction reaching the organic market in 1997 were **manure** (100%), **rabbits** (100%—note two producers), **eggs** (90%), **dairy** (77%), and **poultry** (68%). Livestock and/or animal products with the lowest fraction reaching the organic market in 1997, were **feeder pigs** (0%), **finished hogs** (4%), **feeder cattle** (10%), **goat products** (16%), and **sheep products** (17%).

Value-added Products (Secs. 3.5–3.6)

A total of 371 respondents (31%) identified 44 value-added products that they produce. The most commonly produced value added products indicated were **salad mix** (117 respondents), followed by **dried fruits or vegetables** (73 respondents), **bouquets, wreaths and dried flowers** (72 respondents), and **pickles, vinegars and relishes** (50 respondents). A small but noteworthy percentage of respondents obtain a significant level of their overall farm income from value-added products—8% indicated receiving 76% to 100% of their income from these products.

Discussion

The data described herein represent the results of a survey, and not a census, and therefore the information identifies production figures for respondents as a subgroup of all certified organic farmers. For data reviewers seeking information on exact crop acreage per production category, those figures are not disclosed here. As an example, it would be too great a leap of faith in the data to assume that if all survey respondents collectively produce 1,118 acres of alliums, and our respondent group represents approximately 25% of all US certified organic farmers, that about 4,472 acres of alliums are grown in the U.S. This may or may not be far off the mark, but the data does not reveal this information, and it should not be assumed. As can be seen from several of the production categories (alliums, herbs and grapes, for example) one or two producers may hold a large fraction of the acreage for a given product, which can have a great effect on the data for that category. It should be considered that such a degree of variability may exist among non-respondents, as well.

What the results do provide are a representative outline of organic production and marketing as it exists at the national level, based on a large cross-section of producers. The data help to estimate in general terms how many farmers are producing which crops and products, and on what kind of acreage, and provide some means to evaluate the fraction of product that is reaching organic markets. Some questions are answered, and at the same time others are generated: Which crops and products are farmers having difficulty finding organic markets for? To what degree are market infrastructure, consumer demand, or issues such as product grading standards factors in organic market development? Based on the respondent population, what kind of growth can occur within the organic market before new organic acreage and or production needs to come on line? It is our hope that these results will generate further interest and inquiry into these and other production and marketing topics.

SECTION 3
REVIEW



Commentary

The results of the survey offer more detail than any other study so far on the premium and high-value markets that are targeted by organic producers. Over half of the survey respondents grow fruits, vegetables and other high-value specialty crops, a much higher percentage than for farmers in general. Additionally, this survey shows that organic growers are reviving markets for barley and oats, and are creating new markets for wildcrafted products, medicinal herbs, and grain crops that are popular in other countries. A large percentage of the crops were reported as sold on the organic market, and reported prices reflect these premiums. However, many of the organic livestock and animal products were sold in conventional markets, underscoring the role that an organic label could play in developing markets for these products.

The survey shows that the average acreage for specific specialty crops was generally small—partially reflecting the use of systems with a large mix of crops—but some of the reported crops were clearly being grown on a commercial scale. For example, eighty-six respondents reported growing a total of 7,177 acres of grapes under certified organic production systems, which is a higher average acreage than for conventional grape producers.

The survey also reveals that a majority of the current organic producers plan to enlarge their organic operations—to increase production, add acreage and commodities, and tap new markets, over the next few years [please refer to **Section 4: Organic Marketing**]. This expected growth builds on the organic industry expansion that took place between 1991- 1994, when the number of certified growers went up 43%, the number of certified processors and distributors doubled, and certified retailers increased by a third, according to USDA estimates.

The survey results are valuable for both public and private efforts that support the organic community. For example, information about the channels that organic growers use to market their food and fiber products are useful for USDA and others in building a research and reporting capacity on the organic sector. About three-quarters of respondents want to increase their local and direct-to-consumer sales, which should interest sustainable development advocates, planners, and consumers who promote local markets for community revitalization as well as for fresher and more flavorful food.

—Cathy Greene

Cathy Greene is an Agricultural Economist with the USDA Economic Research Service in Washington, DC.

SECTION 4 Organic Marketing

INTRODUCTION

Objectives

The objectives of the **Organic Marketing** section are:

- 1) To identify specific markets used by organic farmers;
- 2) Identify organic market trends and strategies, as well as markets that are especially difficult for organic farmers to enter; and
- 3) Obtain general yield and price information for organically-grown products.

Formats

Sections 4.1A–4.1B show the percentages of organic products marketed within various market categories.

The tables in Section 4.1 provide marketing information classified by *market category* and by *production sub-category*. The percentage value in column three, *acreage marketed in this category*, utilizes the total number of organic acres indicated by each producer as a weighting coefficient for the percentage of production marketed to a particular category indicated by the producer. Because data has not been collected for total amount of crop produced or for total dollar value of crop produced, we chose to use total organic production acres as the “weighting” coefficient for this set of tables.

Column Descriptions for Sections 4.1A–4.1B

NT_{sub} = Total number of producers in a particular production sub-category.

AT_{sub} = Total organic acreage for all growers in a particular production sub-category (A_R)

AT_{sub} is calculated for each production sub-category, and is the total used to calculate the percentage of production acreage (in this production sub-category) marketed to a particular marketing category—see P_{sub} as described for column 5a, below.

<u>Column</u>	<u>Title</u>	<u>Variable</u>	<u>Description</u>
1	# of respondents marketing in this category	N_c	Number of respondents that marketed some percentage of product to the market category indicated.
2	Total organic acreage in this category	AT_c	Respondents acreage (A_R) totaled for those respondents in this market category. A_R
3	Acreage marketed to this market category	A_c	Respondents acreage multiplied by reported percentage marketed to this category. (P_{CTC}), summed for all respondents in this category ($A_R * P_{CTC}$)
4	% marketed this category	$P\%$	<i>Acreage marketed in this category</i> divided by <i>Total organic acreage in this category</i> , multiplied by 100. ($A_c \div AT_c$) * 100
5	Mean average of reported % marketed to this category	P_{avg}	Mean average of the percentage marketed to this market category as reported by respondents—i.e. average percentage NOT weighted for volume of product grown, as reflected by organic acreage. (P_{CTC}) $\div N_c * 100$
5a	Percentage of acreage in this category	P_{sub}	<i>Acreage marketed in this category</i> divided by <i>Total organic acreage</i> grown by the sub-group listed for that table (AT_{sub}), multiplied by 100. $A_c \div AT_{sub} * 100$
6	Percentage of total organic acreage	P_{org}	<i>Acreage marketed in this category</i> divided by <i>Total organic acreage</i> reported by all 1,099 respondents (160,174 acres), multiplied by 100. $A_c \div 160,174 * 100$

Sections 4.2–4.6

Section 4.2 identifies the number of respondents with organically grown product reaching foreign markets (multiple choice response). Section 4.3 presents the results of an open-ended question in which respondents identify markets they've had difficulty entering. Sections 4.4 and 4.5 present multiple choice responses regarding desired market strategy changes and future marketing and production plans. Finally, in Section 4.6, yield and price information is presented on more than one hundred organically grown products—this information was obtained through fill-in responses, with growers providing this information for their most economically important commodities.

4.1
MARKETING
OUTLETS

Q — *Where did you sell your organic products in 1997? From the following categories, indicate which marketing outlets you sold to by showing the approximate percentage, by weight or volume, of your commodities sold each way. (Fill-in percentages. Your percentages for all categories together should total 100%.)*

4.1A All Respondents, All Production Types

Marketing category	1 # of respondents marketing in this category N _c	2 Total organic acreage in this category AT _c	3 Acreage marketed in this category A _c	4 % marketed this category P _%	5 Mean average of reported % marketed to this category P _{avg}	6 % of total organic acreage P _{org}
Direct-to-consumer						
Direct on-farm	353	34,525	13,349	38.7%	35.2%	8.3%
Farmer's Market	362	11,183	3,684	33.0%	46.9%	2.3%
CSA	131	6,322	1,473	23.2%	39.8%	0.9%
Mail Order	23	5,411	462	8.5%	36.8%	0.3%
Other Farmers	16	3,414	1,622	47.5%	63.4%	1.0%
Fairs/festivals/events	16	199	87	43.5%	46.2%	0.1%
Other direct-to consumer	39	1,965	429	21.8%	27.8%	0.3%
Subtotal						13.2%
Direct-to-retail						
Natural Food Store -Direct	359	33,846	5,163	15.2%	27.4%	3.2%
Local Supermarket	128	9,641	2,954	30.6%	20.4%	1.8%
Restaurants	228	15,306	2,048	13.4%	24.0%	1.3%
Other direct-to-retail	48	2,467	595	24.1%	27.7%	0.4%
Subtotal						6.7%
Wholesale						
Natural Food Chain-Whlsl	103	10,624	2,019	19.0%	32.0%	1.3%
Supermarket-Wholesale	43	7,934	2,578	32.5%	30.6%	1.6%
Producer Coop-Whlsl	124	21,329	15,380	72.1%	65.2%	9.6%
Processor/Packer-Whlsl	195	64,395	36,954	57.4%	69.8%	23.1%
Private Grain Elevator	66	22,743	12,327	54.2%	57.7%	7.7%
Handler/ Broker	317	84,584	54,846	64.8%	63.7%	34.2%
Other Wholesale	51	8,458	4,204	49.7%	51.6%	2.6%
Subtotal						80.1%
Total			160,173			100%

4.1 MARKETING OUTLETS

4.1B Respondents Grouped by Production Type

4.1B1 All Vegetable/Herb Flower or Ornamental Crop Producers —648 respondents (NT_{sub}),Acreege =36,598 (AI_{sub}) and Producers Growing Solely Vegetable Herb, Flower or Ornamental Crops —195 respondents (NT_{sub}),Acreege = 7,997 (AI_{sub})

Marketing category	1 % of respondents marketing in this category N _i			2 Total organic acreage in this category A _i C			3 Acreage marketed in this category A _i C			4 % marketed this category P _i %			5 Mean average of reported % marketed to this category P _{avg}			5a Percentage of acreage in this category P _{sub}			6 Percentage of total organic acreage P _{avg} Society			
	All	Society		All	Society		All	Society		All	Society		All	Society		All	Society		All	Society		
Direct-to-consumer																						
Direct on-farm	256	60		14,028	3,833		3,439	556		24.5%	14.5%		30.2%	29.3%		9.4%	7.0%		2.2%	0.4%		
Farmer's Market	317	89		8,078	1,322		2,804	411		34.7%	31.1%		49.3%	48.4%		7.7%	5.1%		1.8%	0.3%		
CSA	124	32		5,720	514		1,320	146		23.1%	28.5%		40.2%	42.9%		3/6%	1.8%		0.8%	0.1%		
Other direct to consumer	62	20		2,409	256		775	147		32.2%	57.4%		37.2%	49.6%		2.1%	1.8%		0.5%	0.1%		
Total																						
Direct-to-retail																						
Natural Food Store	292	88		11,363	1,096		2,293	182		20.2%	16.5%		26.7%	27.5%		6.3%	2.3%		1.4%	0.1%		
Supermarket-direct	128	32		9,641	857		2,954	458		30.6%	53.5%		20.4%	27.8%		8.1%	5.7%		1.8%	0.3%		
Restaurants	204	63		6,391	773		1,304	115		20.4%	14.9%		24.7%	27.3%		3.6%	1.4%		0.8%	0.1%		
Other direct-to-retail	34	12		1,109	137		313	13		28.2%	9.2%		26.6%	34.6%		0.9%	0.2%		0.2%	<0.1%		
Total																						
Wholesale																						
Natural Food/Whlsl	80	25		4,294	1,291		1,063	452		24.8%	35.0%		30.6%	44.0%		2.9%	5.7%		0.7%	0.3%		
Supermarket-Whlsl	33	12		3,486	1,374		833	182		23.9%	13.3%		31.4%	30.0%		2.3%	2.3%		0.5%	0.1%		
Producer Coop-Whlsl	74	18		7,171	341		3,575	204		49.9%	59.8%		50.0%	59.1%		9.8%	2.6%		2.2%	0.1%		
Processor/Packer	62	16		10,264	2,152		6,034	1,853		58.8%	86.1%		55.7%	58.4%		16.5%	23.2%		3.8%	1.2%		
Private Grain Elevtr	19	0		6,357	0		1,399	0		22.0%	0%		34.2%	0%		3.8%	0%		0.9%	0%		
Handler/Broker	122	37		16,570	3,840		8,767	3,224		52.9%	84.0%		47.2%	50.5%		24.0%	40.3%		5.5%	2.0%		
Other wholesale	27	6		2,019	67		1,002	53		49.7%	79.0%		44.7%	49.2%		2.7%	0.7%		0.6%	<0.1%		
Total																						

4.1 MARKETING OUTLETS

4.1B Respondents Grouped by Production Type

4.1B2 All Fruit, Nut and Tree Crop Producers —452 respondents (NT_{sub}),Acreage = 27,268 (AcAT_{sub})

and

Producers Growing Solely Fruit/Nuts —137 respondents (NT_{sub}),Acreage =4,931 (AT_{sub})

Marketing category	1 % of respondents marketing in this category N _c		2 Total organic acreage in this category A _{lc}		3 Acreage marketed in this category A _c		4 % marketed this category P _%		5 Mean average of reported % marketed to this category P _{avg}		5a Percentage of acreage in this category P _{sub}		6 Percentage of total organic acreage P _{org} S _o ley	
	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely
Direct-to-consumer														
Direct on-farm	181	26	9,818	296	5,035	120	51.3%	40.5%	34.5%	33.3%	18.5%	2.4%	3.1%	<1%
Farmer's Market	188	21	4,904	642	1,574	197	32.1%	30.7%	44.9%	27.4%	5.8%	4.0%	1.0%	0.1%
CSA	67	3	2,777	36	667	5	24.0%	12.7%	36.6%	25.7%	2.4%	0.1%	0.4%	<0.1%
Other direct-to-consumer	38	9	4,899	82	315	10	6.4%	12.6%	23.8%	19%	1.2%	0.2%	0.2%	<0.1%
Total														
Direct-to-retail														
Natural Food Store	190	33	11,170	593	2,200	167	19.7%	28.2%	28.3%	36.8%	8.1%	3.4%	1.4%	0.1%
Supermarket-direct	71	12	7,109	371	2,315	115	32.6%	31.2%	18.3%	27.8%	8.5%	2.3%	1.5%	<0.1%
Restaurants	112	13	5,436	819	913	185	16.8%	22.6%	20.7%	21.8%	3.4%	3.8%	0.6%	0.1%
Other direct-to-retail	22	8	1,391	563	424	210	30.5%	37.4%	23.0%	38.4%	1.6%	4.3%	0.3%	0.1%
Total														
Wholesale														
Natural Food-Whlsl	51	11	5,630	495	940	186	16.7%	37.6%	27.7%	40.3%	3.5%	3.8%	0.6%	0.1%
Supermarket-Whlsl	19	6	4,757	441	1,855	131	39.0%	29.7%	26.5%	32.8%	6.8%	2.7%	1.2%	<0.1%
Producer Coop-Whlsl	41	11	1,227	219	641	198	52.2%	90.4%	57.5%	88.6%	2.4%	4.0%	0.4%	0.1%
Processor/Packer	82	50	10,221	1,962	4,327	1,776	42.3%	90.5%	73.3%	83.8%	15.9%	36.0%	2.7%	1.1%
Private Grain Elevr	8	0	3,940	0	657	0	16.7%	0%	27.1%	0%	2.4%	0%	0.4%	0%
Handler/Broker	108	52	8,626	2,093	4,649	1,544	53.9%	73.8%	58.4%	70.8%	17.1%	31.3%	2.9%	1.0%
Other wholesale	17	6	1,503	185	756	87	50.3%	47.0%	50.0%	65.0%	2.8%	1.8%	0.5%	<1%
Total														

4.1 MARKETING OUTLETS

4.1B Respondents Grouped by Production Type

4.1B3 All Field Crop Producers —579 respondents (NT_{sub}), Acreage = 141,027 (AT_{sub})

and

Producers Growing Solely Field Crops —152 respondents (NT_{sub}), Acreage = 57,558 (AT_{sub})

Marketing category	1 % of respondents marketing in this category		2 Total organic acreage in this category		3 Acreage marketed in this category		4 % marketed this category		5 Mean average of reported % marketed to this category		5a Percentage of acreage in this category		6 Percentage of total organic acreage	
	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely	All	Solely
Direct-to-consumer														
Direct on-farm	176	16	27,309	2,795	10,599	869	38.8%	31.1%	35.8%	41.1%	7.5%	1.5%	6.6%	0.5%
Farmer's Market	153	6	7,417	621	2,403	27	32.4%	4.4%	46.2%	33.5%	1.7%	0.1%	1.5%	<0.1%
CSA	59	0	4,743	0	909	0	19.2%	0%	39.3%	0%	0.6%	0%	0.6%	0%
Other direct-to-consumer	47	9	10,324	2,436	2,313	1,257	22.4%	51.6%	39.7%	63.3%	1.6%	2.2%	1.4%	0.8%
Total														
Direct-to-retail														
Natural Food Store	160	6	30,786	6,028	4,520	604	14.7%	10.0%	24.2%	20.3%	3.2%	1.1%	2.8%	0.4%
Supermarket-direct	55	1	8,120	25	2,328	13	28.7%	5.0%	15.9%	5.0%	1.7%	<0.1%	1.5%	<0.1%
Restaurants	97	2	13,031	27	1,623	2	12.5%	6.5%	23.7%	15.0%	1.2%	<0.1%	1.0%	<0.1%
Other direct-to-retail	20	4	1,657	595	353	46	21.3%	7.7%	22.2%	21.5%	0.3%	0.1%	0.2%	<0.1%
Total														
Wholesale														
Natural Food-Whlsl	36	3	8,022	1,045	1,104	249	13.8%	23.8%	24.8%	33.3%	0.8%	0.4%	0.7%	0.2%
Supermarket-Whlsl	18	1	6,050	25	2,255	4	37.3%	15.0%	35.8%	15.0%	1.6%	<0.1%	1.4%	<0.1%
Producer Coop-Whlsl	69	10	19,656	2,870	14,375	2,461	73.1%	85.7%	70.6%	84.7%	10.2%	4.3%	9.0%	1.5%
Processor/Packer	116	43	59,530	28,848	32,632	16,924	54.8%	58.7%	66.0%	68.3%	23.1%	29.4%	20.4%	10.6%
Private Grain Flvtr	65	35	22,668	10,760	12,252	8,228	54.0%	76.5%	57.1%	66.7%	8.7%	14.3%	7.7%	5.1%
Handler/Broker	197	85	77,410	34,298	49,309	25,708	63.7%	75.0%	67.3%	78.7%	35.0%	44.7%	30.8%	16.1%
Other wholesale	36	8	8,177	1,823	4,052	1,178	49.6%	64.6%	51.6%	76.4%	2.9%	2.1%	2.5%	0.7%
Total														

4.2
EXPORT OF
ORGANIC
PRODUCTS

Q — *In 1997, did any of your products reach export markets that you know of? And if so, directly or indirectly? (Select category.) More than one response is possible for each respondent.* — 1,116 respondents.

# of responses	n=1,192 %	Category
746	63%	No products reached foreign markets
179	15%	Products reached foreign buyer through U.S.intermediary
154	13%	Uncertain whether products reached foreign markets
54	5%	Products reached foreign buyer through direct sales
76	6%	No response

4.3
ORGANIC
MARKET
ENTRY—
DIFFICULT
MARKETS

Q — *What, if any, markets would you like to get into that you've been having difficulty getting into? (Fill-in)*

Respondents provided written responses, which have been assigned to the following eleven categories (categories and sub-categories were chosen by data reviewer, see Methodology, Results Analysis). Multiple responses were received from a number of respondents. Arranged in descending order of number of responses, as assigned to each category and sub-category. -491 respondents.

% of respondents n=491	# of responses assigned	Categories/subcategories
17%	85	None
25%	126	Direct-to-retail
	4	Retail, in general
	35	Restaurants
	33	Supermarkets/retail store
	21	Health food/natural food chains
	17	Local supermarkets
	1	Bakeries
	1	Food service
	1	Hotel restaurants
	1	Institutions
	1	Local florists
	1	Nurseries
	1	Universities
19%	94	Field crop markets
	10	Grains, in general
	15	Corn
	15	Wheat
	13	Oats
	10	Hay
	6	Alfalfa
	6	Soybeans
	4	Buckwheat
	3	Cereal grains
	2	Beans
	1	Amaranth
	1	Barley
	1	Beans, adzuki
	1	Beans, hilini
	1	Canola
	1	Cotton
	1	Oilseeds
	1	Popcorn
	1	Sorghum
	1	Sunflower
15%	74	Consumer-direct markets
	11	Consumer-direct, in general
	20	CSAs
	17	Local markets /customers
	12	Farmers markets
	6	On-farm/farm stand
	5	Mail order
	3	Internet

cont'd...

4.3
ORGANIC
MARKET
ENTRY—
DIFFICULT
MARKETS

cont'd...

12%	61	Meat and livestock markets		
	10	meats,in general	1	Eggs
	4	livestock,in general	1	Feeder calves
	25	Beef	1	Dairy
	4	Milk	1	Emu
	4	Pigs	1	Goat milk
	3	Pork	1	Rhea
	1	Lamb	1	Ostrich
	1	Bison	1	Veal
	1	Chicken		
7%	35	Wholesale markets		
	6	Wholesale markets, generally	4	Packer
	18	Processor	2	Contract
	4	Without brokers	1	Broker
7%	34	Export markets		
	20	Export markets, generally	1	Asia
	3	Europe	1	France
	3	Pacific rim	1	Taiwan
	2	China		
6%	30	Value-added product markets		
	14	Value-added,in general	1	Gift box
	7	Dried culinary herbs	1	Jellies/salsa
	1	Fiber	1	Pet and fish food
	1	Frozen chilis	1	Soy milk
	1	Garlic powder	1	Snack food
	1	Grape juice		
3%	15	Vegetable, herb and flower markets		
	3	Ginseng	1	Fresh produce
	2	Cut flower	1	Novelty wild edibles
	2	Echinacea	1	St. John's Wort
	1	Bartlett pear	1	Teas & seasonings
	1	Burdock	1	Vegetables
	1	Evening primrose		
1%	7	National markets		
	2	National markets, generally	1	Los Angeles (from Calif.)
	1	East coast brokers (from west)	1	Further away
	1	Interstate	1	Massachusetts (from Maine)
2%	9	Miscellaneous markets		
	4	Transitional	1	Upscale
	2	Low income	1	Undersized & blemished
	1	Specialty crops		

4.4
DESIRED MARKET
STRATEGY
CHANGES

Q — *Over the next several years, what changes, if any, would you like to make in your marketing strategies? (Circle response for each category.)*

# of respondents	Would like to decrease	Would like to stay about the same	Would like to increase	Category
720	2%	21%	77%	Sales at local level
681	3%	23%	74%	Direct-to-consumer marketing
598	4%	32%	64%	Direct-to-retail marketing
558	5%	35%	60%	Sales at regional level
618	13%	38%	49%	Wholesale marketing
472	10%	49%	41%	Sales at national level
457	12%	49%	39%	Export sales

4.5
FUTURE
MARKETING AND
PRODUCTION
PLANS

Q — *Over the next two years what are your plans for changing what you grow and market? (Circle response for each category.)*

1995 survey responses are provided for comparison.

# of respondents	Plan to decrease	Plan to stay about the same	1997 n=1,192 Plan to increase	1995 n=945 Plan to increase	Category
1,102	2%	24%	74%	**	Volume of organic product marketed
952	2%	35%	63%	52%	Number of markets/buyers
1,027	2%	42%	56%	49%	Number of acres in organic production
914	7%	44%	49%	40%	Number of commodities marketed
801	2%	51%	47%	**	Number of value-added products
703	7%	58%	35%	**	Number of animals in organic production

**results not available for the year indicated.

4.6
YIELDS AND
PRICES FOR 1997

Q — *Could you provide some examples of the crops or products that are most economically important to your farm, and provide information about yield, as well as price ranges and averages received for these products in 1997? (Fill-in.)*

Respondents were asked to list up to two products, and to provide a 1997 yield per product, and a low, high and average price for each product.

Notes: In the table headers below,

Total response # = the entire number of respondents mentioning the product category as important.

Yield calc # = the number of responses utilized to calculate yield data for the indicated product category.

Price calc # = the number of responses utilized to calculate price data for the indicated product category.

**data insufficient to develop figure

4.6A Field Crops

Total resp. #	Category	Yield calc #	1997 Yields			Price calc #	Price received, 1997 (in dollars)		
			Lowest	Highest	Median		Lowest	Highest	Median
15	Alfalfa	14	1.5 tons/ac	7 tons/ac	4 tons/ac	12	30.00/ton	200.00/ton	80.00/ton
3	Amaranth	2	3 bu/ac	10 bu/ac	**	1	1.00/bu	1.50/bu	1.35/bu
8	Barley	7	35 bu/ac	120 bu/ac	42 bu/ac	3	3.00/bu	7.00/bu	4.25/bu
	"					3	6.75/cwt	7.00/cwt	6.75/cwt
2	Beans, dry	1	**	**	20 bu/ac	2	.40/lb	3.50/lb	.60/lb
1	Beans, garbanzo	1	**	**	**	1	.65/lb	.75/lb	.70/lb
2	Beans, red kidney	2	1,350 lbs/ac	2,000 lbs/ac	**	1	**	**	42.00/cwt
4	Buckwheat	3	10 bu/ac	28 bu/ac	20 bu/ac	1	4.50/bu	8.00/lb	**
	"	1	**	**	950 lbs/ac	2	.11/lb	.19/lb	.16/lb
76	Corn	65	35 bu/ac	145 bu/ac	100 bu/ac	57	2.00/bu	30.00/bu	4.50/bu
	"					4	18.00/ton	210.00/ton	165.00/ton
3	Cotton	3	350 lbs/ac	750 lbs/ac	375 lbs/ac	3	.90/lb	1.40/lb	1.10/lb
7	Flax	7	10 bu/ac	20 bu/ac	15 bu/ac	7	7.90/bu	18.40/bu	12.40/bu
3	Forage	3	3 tons/ac	3 tons/ac	3 tons/ac	2	30.00/ton	120.00/ton	60.00/ton
33	Hay	20	1 ton/ac	6 tons/ac	3 tons/ac	13	10.00/ton	200.00/ton	100.00/ton
	"	4	50 bales/ac	240 bales/ac	100 bales/ac	4	.25/bale	4.25/bale	2.00/bale
1	Kamut	1	**	**	20 bu/ac	1	**	**	8.25/bu
2	Lentils	2	500 lbs/ac	1,000 lbs/ac	**	2	.24/lb	.40/lb	.38/lb
7	Millet	5	20 bu/ac	50 bu/ac	25 bu/ac	3	4.00/cwt	12.00/cwt	9.00/cwt
1	Oat straw	1	**	**	55 bales/ac	1	1.50/bale	2.00/bale	**
11	Oats	8	20 bu/ac	65 bu/ac	50 bu/ac	5	2.00/bu	3.00/bu	2.50/bu
	"					3	.25/lb	2.50/lb	1.00/lb
1	Peanuts	1	**	**	3,000 lbs/ac	1	725.00/ton	725.00/ton	725.00/ton
3	Popcorn	2	30 bu/ac	40 bu/ac	**	2	.18/lb	1.25/lb	1.10/lb
1	Quinoa	1	**	**	700 lbs/ac	1	.80/lb	.90/lb	.82/lb
4	Rice	4	35 cwt/ac	71 cwt/ac	55 cwt/ac	4	12.00/cwt	25.50/cwt	19.00/cwt
1	Rice, wild	1	**	**	700 lbs/ac	1	1.00/lb	2.00/lb	1.50/lb
160	Soybeans	157	10 bu/ac	55 bu/ac	30 bu/ac	151	4.00/bu	28.00/bu	16.50/bu
3	Spelt	3	40 bu/ac	100 bu/ac	65 bu/ac	2	.07/lb	.14/lb	.13/lb
3	Sunflower	2	1,000 lbs/ac	1,500 lbs/ac	**	2	.21/lb	.21/lb	**
3	Tobacco	3	1,500 lbs/ac	2,000 lbs/ac	2,000 lbs/ac	3	3.00/lb	4.00/lb	3.00/lb
54	Wheat	51	10 bu/ac	125 bu/ac	30 bu/ac	42	2.50/bu	12.00/bu	6.25/bu

4.6

4.6B Fruit, Nut and Tree Crops

YIELDS AND PRICES FOR 1997

Total resp. #	Category	Yield calc #	1997 Yields			Price calc #	Price received, 1997 (in dollars)		
			Lowest	Highest	Median		Lowest	Highest	Median
4	Almonds	4	200 lbs/ac	1,400 lbs/ac	1,200 lbs/ac	3	2.95/lb	4.85/lb	3.00/lb
50	Apples	13	80 bu/ac	1,000 bu/ac	400 bu/ac	12	3.80/bu	40.00/bu	20.00/bu
	"	4	3 tons/ac	20 tons/ac	10 tons/ac	6	80.00/ton	2,000.00/ton	200.00/ton
	"	9	6 bins/ac	69 bins/ac	40 bins/ac	8	65.00/bin	425.00/bin	160.00/bin
4	Apricots	2	3 tons/ac	18 tons/ac	**	—	**	**	**
	"	1	**	**	400 boxes/ac	1	20.00/box	25.00/box	22.50/box
2	Avocados	2	1,000 lbs/ac	5,000 lbs/ac	**	1	.50/lb	1.20/lb	.80/lb
25	Blueberries	7	500 lbs/ac	7,000 lbs/ac	2,078 lbs/ac	9	1.00/lb	3.50/lb	1.50/lb
	"	—	**	**	**	4	9.00/flat	40.00/flat	5.00/flat
7	Cherries	1	**	**	**	5	1.00/lb	3.00/lb	2.50/lb
1	Cranberries	1	**	**	50 barrels/ac	1	**	**	350.00/brl
1	Dates	1	**	**	1-200 lbs/tree	1	2.00/lb	5.00/lb	3.00/lb
4	Figs	2	1 ton/ac	2.5 tons/ac	**	4	.40/lb	1.25/lb	.50/lb
1	Grapefruit	1	**	**	6,000 lbs/ac	1	.30/lb	**	.55/lb
9	Grapes	4	2 tons/ac	6 tons/ac	6 tons/ac	7	350/ton	2,300/ton	1,175/ton
17	Grapes,wine	13	.25 ton/ac	13 tons/ac	4.5 tons/ac	14	200/ton	2,500/ton	1,200/ton
4	Grapes,table	2	.50 ton/ac	1 ton/ac	**	3	.47/lb	1.25/lb	1.00/lb
3	Kiwi	2	829 trays/ac	2,000 trays/ac	**	1	7.25/tray	9.00/tray	8.55/tray
3	Maple syrup	3	**	**	**	3	6.25/qt	12.00/qt	8.50/qt
1	Marionberries	1	**	**	2 tons/ac	1	10.00/case	18.00/case	12.00/case
1	Nectarines	1	**	**	5 tons/ac	1	.75/lb	2.00/lb	**
2	Olives	2	2 tons/ac	3 tons/ac	**	2	296.00/ton	625.00/ton	500.00/ton
5	Oranges	1	**	**	15 bins/ac	2	5.00/box	23.00/box	2.00/box
9	Peaches	2	10 tons/ac	15 tons/ac	**	7	.55/lb	16.00/lb	1.50/lb
14	Pears	6	10 bins/ac	38 bins/ac	30 bins/ac	6	50.00/bin	650.00/bin	350.00/bin
2	Pears,Asian	—	**	**	**	2	.50/lb	1.00/lb	.95/lb
2	Persimmons	1	**	**	5 tons/ac	2	.15/lb	.80/lb	.50/lb
1	Pineapples	1	**	**	9,000 lbs/ac	1	.50/lb	.60/lb	.58/lb
3	Prunes	2	1 dry ton/ac	3 dry tons/ac	**	2	.38/lb	1.55/lb	1.20/lb
5	Raisins	4	.6 dry tons/ac	3 dry tons/ac	2.9 dry tons/ac	1	1,000.00/ton	1,200.00/ton	1,000.00/ton
18	Raspberries	4	2,000 lbs/ac	6,000 lbs/ac	6,000 lbs/ac	2	.75/lb	4.50/lb	1.30/lb
	"	4	500 pts/ac	5,500 pts/ac	5,000 pts/ac	14	1.00/pt	8.50/pt	3.00/pt
23	Strawberries	7	750 lbs/ac	15,000 lbs/ac	5,000 lbs/ac	8	.90/lb	2.00/lb	1.40/lb
	"	4	500 qts/ac	3,500 qts/ac	3,500 qts/ac	7	.90/qt	5.25/qt	2.75/qt
11	Walnuts	7	571 lbs/ac	3,000 lbs/ac	1,200 lbs/ac	9	.31/lb	4.00/lb	1.10/lb
1	Wine	—	**	**	**	1	50.00/case	60.00/case	55.00/case

4.6C Livestock and Animal Products

Total resp. #	Category	Yield calc #	1997 Yields			Price calc #	Price received, 1997 (in dollars)		
			Lowest	Highest	Median		Lowest	Highest	Median
30	Beef	—	**	**	**	15	.29/lb	16.00/lb	1.25/lb
	"	—	**	**	**	1	150.00/hd	900.00/hd	400.00/h
2	Cheese	—	**	**	**	2	4.00/lb	11.00/lb	8.00/lb
3	Chickens	—	**	**	**	3	1.21/lb	2.35/lb	1.90/lb
10	Eggs	—	**	**	**	10	1.00/doz	3.00/doz	1.50/doz
2	Hogs	—	**	**	**	2	.29/lb	.65/lb	.55/lb
3	Honey	—	**	**	**	3	1.50/lb	3.10/lb	2.00/lb
7	Lamb	—	**	**	**	7	.70/lb	7.00/lb	2.75/lb
31	Milk	14	10,000 lbs/cow	18,500 lbs/cow	14,600 lbs/cow	29	10.00/cwt	35.00/cwt	17.10/cwt
7	Poultry	—	**	**	**	7	1.50/lb	4.00/lb	2.00/lb
2	Wool	—	**	**	**	1	1.00/lb	12.00/lb	8.00/lb
1	Yarn	—	**	**	**	1	5.00/skein	15.00/skein	12.00/skein

4.6

4.6D Vegetables, Flowers, Herbs and Ornamental Crops

YIELDS AND PRICES FOR 1997

Total resp. #	Category	Yield calc #	1997 Yields			Price calc #	Price received, 1997 (in dollars)		
			Lowest	Highest	Median		Lowest	Highest	Median
1	Artemesia	—	**	**	**	1	2.00/lb	6.00/lb	3.00/lb
2	Arugula	—	**	**	**	1	19.00/cs	25.00/cs	21.00/cs
"	"	1	**	**	12,000 lbs/ac	1	4.00/lb	6.00/lb	4.50/lb
7	Asparagus	4	600 lbs/ac	2,300 lbs/ac	1,500 lbs/ac	6	.99/lb	2.75/lb	1.50/lb
16	Basil	—	**	**	**	2	15.00/bu	25.00/bu	20.00/bu
"	"	—	**	**	**	2	.70/bunch	2.00/bunch	1.25/bunch
"	"	—	**	**	**	8	1.50/lb	30.00/lb	6.00/lb
15	Beans,fresh	4	30 bu/ac	200 bu/ac	30 bu/ac	—	**	**	**
"	"	3	500 lbs/ac	2500 lbs/ac	500 lbs/ac	14	.50/lb	3.00/lb	1.25/lb
6	Beets	1	**	**	3.5 tons/ac	2	.90/bunch	1.00/bunch	1.00/bunch
"	"	—	**	**	**	1	8.00/box	14.00/box	**
5	Broccoli	3	1,000 lbs/ac	10,000 lbs/ac	8,000 lbs/ac	4	1.00/lb	2.00/lb	1.25/lb
2	Cabbage	1	**	**	10 tons/ac	1	7.00/box	11.50/box	8.60/box
1	Chg.savoy	1	**	**	300 cases/ac	1	10.00/case	14.20/case	**
16	Carrots	4	1,000 lbs/ac	10,000 lbs/ac	5,000 lbs/ac	9	.25/lb	1.00/lb	.65/lb
"	"	—	**	**	**	1	10.00/25 lbs	15.00/25 lbs	12.00/25 lbs
6	Christmas trees	—	**	**	**	6	8.00/tree	50.00/tree	25.00/tree
5	CSA shares	—	**	**	**	4	295.00/share	350.00/share	300.00/share
13	Cucumbers	4	6 tons/ac	35 tons/ac	13 tons/ac	6	.40/lb	1.50/lb	.60/lb
"	"	—	**	**	**	2	5.00/20 lbs	24.00/20ls	12.00/20 lbs
6	Echinacea	2	1,000 lbs/ac	3,000 lbs/ac	**	2	6.00/lb	24.00/lb	10.00/lb
1	Eggplant	1	**	**	400 lbs/ac	1	**	**	1.00/lb
18	Flowers,cut	—	**	**	**	14	1.00/bunch	10.00/bunch	3.50/bunch
"	"	—	**	**	**	4	.10/stem	3.50/stem	.50/stem
5	Gar, elephant	2	2 tons/ac	4.7 tons/ac	**	5	1.99/lb	6.00/lb	3.50/lb
46	Garlic	15	400 lbs/ac	8,000 lbs/ac	2,400 lbs/ac	7	.25/head	5.00/head	1.00/head
"	"	—	**	**	**	39	.50/lb	20.00/lb	4.00/lb
1	Ginger root	1	**	**	40,000 lbs/ac	1	1.75/lb	2.00/lb	**
1	Ginseng	—	**	**	**	1	120.00/lb	160.00/lb	140.00/lb
2	Ginseng,Am.	—	**	**	**	1	300.00/lb	500.00/lb	400.00/lb
12	Greens	—	**	**	**	6	1.00/lb	6.00/lb	4.00/lb
22	Herbs	6	50 lbs/ac	3,000 lbs/ac	1,000 lbs/ac	13	2.00/lb	40.00/lb	8.00/lb
9	Herbs,med.	4	500 lbs/ac	1,500 lbs/ac	1,000 lbs/ac	5	1.50/lb	70.75/lb	4.50/lb
1	Jojoba	1	**	**	500 lbs/ac	1	200.00/lb	250.00/lb	225.00/lb
60	Lettuce	12	300 cases/ac	2,000 cases/ac	600 cases/ac	24	4.00/case	26.00/case	17.00/case
"	"	4	7,000 head/ac	30,000 head/ac	19,000 head/ac	27	.50/head	3.00/head	1.00/head
"	"	—	**	**	**	15	.30/lb	24.00/lb	3.50/lb
15	Melons	6	.6 tons/ac	10 tons/ac	3 tons/ac	12	.25/lb	2.00/lb	.42/lb
3	Mushrooms	—	**	**	**	3	3.50/lb	12.00/lb	6.00/lb
5	Msh,Shiitake	—	**	**	**	5	4.14/lb	10.00/lb	5.70/lb
1	Msh,oyster	—	**	**	**	1	3.00/lb	7.00/lb	**
1	Msh,wild	—	**	**	**	1	10.00/lb	17.00/lb	**
4	Okra	1	**	**	125 bu/ac	1	30.00/bu	35.00/bu	**
"	"	1	**	**	8,000 lbs/ac	3	.75/lb	2.10/lb	1.35/lb
14	Onions	7	600 lbs/ac	30,500 lbs/ac	12,500 lbs/ac	10	.25/lb	2.00/lb	.65/lb
"	"	—	**	**	**	3	6.00/50 lbs	20.00/50 lbs	11.60/50 lbs
2	Onions green	1	**	**	40 cases/ac	1	14.00/case	26.00/case	22.00/case
15	Peas,fresh	2	2,000 lbs/ac	28,000 lbs/ac	**	9	1.00/lb	4.00/lb	2.00/lb
17	Peppers	5	30 bu/ac	750 bu/ac	700 bu/ac	2	8.00/bu	26.00/bu	14.00/bu
"	"	2	10,000 lbs/ac	12,000 lbs/ac	**	10	.35/lb	3.50/lb	1.40/lb
46	Potatoes	20	1,500 lbs/ac	30,000 lbs/ac	12,000 lbs/ac	20	.25/lb	4.00/lb	1.00/lb
"	"	—	**	**	**	4	12.00/50 lbs	37.50/50 lbs	20.00/50 lbs

cont'd...

4.6

4.6D Vegetables, Flowers, Herbs and Ornamental Crops, cont'd

YIELDS AND
PRICES FOR 1997

Total resp. #	Category	Yield calc #	1997 Yields			Price calc #	Price received, 1997 (in dollars)		
			Lowest	Highest	Median		Lowest	Highest	Median
6	Pumpkins	4	10,000 lbs/ac	50,000 lbs/ac	20,000 lbs/ac	4	.10/lb	.65/lb	.15/lb
1	Radish,daikon	—	**	**	**	1	.50/lb	1.00/lb	.75/lb
2	Rhubarb	—	**	**	**	2	.75/lb	2.10/lb	1.00/lb
30	Salad mix	7	700 lbs/ac	10,000 lbs/ac	2,400 lbs/ac	27	3.00/lb	25.00/lb	6.00/lb
2	Sesame seed	1	**	**	50 lbs/ac	2	.37/lb	.47/lb	.42/lb
2	Shallots	—	**	**	**	2	1.50/lb	2.50/lb	2.00/lb
1	Sorrel	1	**	**	1,800 lbs/ac	1	**	**	6.50/lb
9	Spinach	2	6,500 lbs/ac	8,900 lbs/ac	**	5	.90/lb	4.00/lb	2.40/lb
16	Squash	5	2,000 lbs/ac	11,000 lbs/ac	8,000 lbs/ac	12	.15/lb	6.00/lb	.60/lb
5	S.squash	2	3,700 lbs/ac	6,600 lbs/ac	**	4	.35/lb	2.00/lb	.90/lb
19	W.squash	9	2,000 lbs/ac	20,000 lbs/ac	6,000 lbs/ac	11	.20/lb	.80/lb	.40/lb
24	Sweet corn	5	200 doz/ac	1,600 doz/ac	1,000 doz/ac	11	2.00/doz	5.00/doz	3.00/doz
	"	4	3.2 tons/ac	7 tons/ac	4.9 tons/ac	5	55.00/ton	120.00/ton	102.00/ton
109	Tomatoes	17	15 tons/ac	25 tons/ac	10 tons/ac	—	**	**	**
	"	14	400 lbs/ac	40,000 lbs/ac	5,000 lbs/ac	90	.04/lb	5.00/lb	1.20/lb
	"	9	24 bu/ac	1,000 bu/ac	600 bu/ac	2	10.00/bu	60.00/bu	16.00/bu
2	Tom, cherry	—	**	**	**	1	16.00/box	24.00/box	17.50/box
3	Tom, grnhouse	1	**	**	8,000 lbs/3000ft2	3	1.20/lb	3.29/lb	2.10/lb
5	Tom, heirloom	—	**	**	**	4	.50/lb	2.50/lb	1.20/lb
2	Turnips	1	**	**	75 bu/ac	1	25.00/lb	25.00/lb	25.00/lb
1	Valerian	1	**	**	500 lbs/ac	1	**	**	11.00/flat
6	Watermelons	3	6 tons/ac	10 tons/ac	7.5 tons/ac	5	.09/lb	.40/lb	.17/lb
1	Wheatgrass	—	**	**	**	1	4.00/tray	6.00/tray	5.10/tray
1	Wreaths	—	**	**	**	1	12.00/each	14.00/each	13.00/each

SECTION 4
REVIEW

Overview

In the survey's **Organic Marketing** section, we seek to identify specific markets used by organic farmers, organic market trends and strategies, markets that are especially difficult for organic farmers to enter; and general yield and price information for organically-grown products.

Summary Results and Discussion

Marketing Outlets (Sec. 4.1A - B)

This section identifies, for the respondents as an entire group and also by production type, the ways in which organic farmers market their products. As described under **Formats** in the **Introduction** to Section 4, respondents identified the percentages of product marketed within a variety of direct-to-consumer, direct-to-retail and wholesale markets. These responses were then weighted based on acreage data to develop final percentage figures.

When looking at responses overall, respondents marketed by far the greatest percentage of their products on the **wholesale market** (80.1%), followed by **direct-to-consumer** (13.2%), and **direct-to-retail** (6.7%). When looking at the results based on production type and type of production was subsequently grouped in two ways—by respondents who grow a product category (but other products as well), and by respondents who produce only the product category indicated—the figures emerge as follows:

SECTION 4
REVIEW

Table 4-A Summary of Secs. 4.1 A-B, percentage of product marketed, based on production type:

Weighted by **acreage**, and sorted in descending order of direct-to-consumer sales

Production Category	Direct-to-consumer	Direct-to-retail	Wholesale
Solely livestock/animal product producers	38.1	.3	61.6
All livestock/animal product producers	20.3	7.9	71.8
All fruit, nut and tree crop producers	27.9%	21.6%	50.9%
All vegetable,herb and ornamental crop producers	22.8%	18.9%	62.0%
Solely vegetable,herb and ornamental crop producers	15.7%	9.6%	74.8%
All respondents, all production types	13.2%	6.7%	80.1%
All field crop producers	11.4%	6.4%	82.3%
Solely fruit, nut and tree crop producers	6.7%	13.8%	78.6%
Solely field crop producers	3.8%	1.4%	95.3%

Organic Market Entry—Difficult Markets (Sec. 4.3)

When asked to indicate in their own words which markets are most difficult to enter, the greatest number of respondents (25%) indicated responses within **direct-to-retail** market categories, followed by **field crop** market categories (19%). The individual market sub-categories receiving the greatest number of responses were: **restaurants** (35 responses), **supermarkets** (33 responses), **beef markets** (25 responses), and **export markets** (20 responses).

Desired Market Strategy Changes (Sec. 4.4)

The marketing strategies that the greatest number of respondents indicate that they **would like to increase** are **sales at the local level** (77% of respondents), **direct-to-consumer marketing** (74%), and **direct-to-retail marketing** (64%).

Future Marketing and Production Plans (Sec. 4.5)

Respondents were asked to indicate what changes, if any, they planned to make in their production and marketing plans over the next two years. Seventy-four percent of respondents indicated that they **plan to increase** their **volume of organic product marketed**, 63% **plan to increase** the **number of markets/buyers** that they use, and 56% **plan to increase** the **number of acres in organic production**.

Yields and Prices for 1997

Respondents provided yield and price information for 125 organically produced products. This was a fill-in response structure, and respondents often provided a variety of yield and price units within a product category (such as bushels per acre, or tons per acre; and price per pound or price per box). Where possible, the results of each of these units are grouped together and presented. Some highlights of this data include:

- * The median reported price received among 151 organic soybean producers was \$16.50 per bushel;
- * A median reported yield among 13 organic apple producers was 400 bushels per acre;
- * Organic tomato producers reported a median yield of 10 tons per acre, and median price of \$1.20 per pound;
- * Among 29 organic milk producers, a median of reported prices received was \$17.10 per cwt.

SECTION 4
REVIEW



Sources for current organic marketing information are practically non-existent. Organic farmers expend a tremendous amount of time gathering price/sales information from a wide range of resources. What they do discover does not become widely available, and, as is the case in conventional agriculture, can change in a moment's time.

In this section we wanted to frame the larger picture. By presenting original economic and marketing data, we expect researchers to use this material to further study and eventually support organic farmer's marketing and information needs.

Commentary

A remarkable majority of survey respondents (74%) plan to increase the volume of organic products that they market. A strong majority (77%) would like to increase sales at the local level with direct-to-consumer marketing serving as the primary outlet of choice for 74% of them. As growers are so focused on the local marketplace, this suggests organic advocates should turn to state and county governments for marketing promotion support. The one exception is in the area of livestock and commodity production where a higher interest in the development of organic export markets is indicated.

The quantity of growers indicating an expansion of marketing outlets and the volume of products produced reinforces public speculation on the expansion of the organic marketplace. Less than 10%, on average, expect to reduce their organic operation. Only 4 growers expressed any interest in "transitional" markets. From the consumer perspective an increase in production may result in lower prices. Yet, I feel, the grower's stated intention to diversify their marketing outlets matched with continued consumer demand should keep prices received relatively strong for some time to come.

In what I think is the single most important section of this survey, we have been able to determine median prices at the farmgate for a wide variety of organic products matched against yield data collected on the very same crop. Some of the statistics are quite startling: 151 growers reported a median soybean price of \$16.50 a bushel (and yields of 30 bushels per acre); 57 growers reported a median price of \$4.50 a bushel for corn (100 bushels per acre yield); and, 42 growers reported a median price of \$6.25 a bushel for wheat (30 bushels per acre yield). This section will appeal to processors developing business plans, researchers looking for price-to-yield data, and the growers themselves. As far as I know there is no other comprehensive overview of the **price-per-certified-organic-unit**, that provides income comparisons with yield, currently available from any other organization or government agency. The faster state and federal agencies begin to produce similar organic pricing data, the better we can all make informed decisions in the marketplace.

Overall this section presents a wealth of raw marketing data sure to generate more specific research projects from agricultural economists and market researchers. Growers will finally be able to match their own yield/price data with fellow growers from around the nation and make a more informed decision on whether they should increase, stay the same, or reduce next year's plantings. Growers are going local, increasing their diversification whenever possible and on the whole receiving good prices.

—Bob Scowcroft

Bob Scowcroft is Executive Director of the Organic Farming Research Foundation

SECTION 5 Organic Management Concerns and Strategies

INTRODUCTION

Objectives

The objectives of the **Organic Management Concerns and Strategies** section are:

- 1) To identify organic farmers' most pertinent soil management issues;
- 2) Determine organic farmers' most problematic weed, disease, insect and animal pests;
- 3) Identify organic farmers' most and least commonly used strategies and materials for managing pests, and for soil and livestock management
- 4) Determine organic farmers' views concerning the compatibility of genetically modified organisms with organic farming systems; and
- 5) Identify the sources of agricultural inputs and materials used by organic farmers, and the distance of these sources to and from the farm.

Formats

Section 5.1 tabulates open-ended responses identifying organic farmers' greatest soil fertility and soil tillage management concerns. Section 5.2 tabulates responses to an open-ended question in which respondents identify their farm's most difficult pest management problems (weed, disease, insect, animal...). Each pest identified is given a "management difficulty" rating. Sections 5.3 to 5.7 contain the results of multiple choice questions, where respondents indicated whether they use particular inputs or management strategies for a variety of pest, soil management and livestock management objectives, and if so, how frequently. Respondents indicated in Section 5.8 to what extent they agree or disagree that genetically modified organisms are compatible with organic farming systems. Section 5.9 identifies the sources of equipment and materials used by organic farmers—these were obtained by allowing farmers to match materials and equipment that they use with supply sources that they use to obtain these items.

5.1
SOIL FERTILITY
AND
MANAGEMENT
ISSUES

Q — **What soil fertility and/or soil tilth management issues are of greatest concern on your farm? (Fill-in)** —1,070 respondents.

Respondents were asked to list up to four topics. Written responses have been assigned to the following seven categories (categories and sub-categories were chosen by data reviewer, see Methodology; Results Analysis). Arranged in descending order of number of responses, as assigned to each category and sub-category.

5.1A **Soil Fertility and Management Issues of Greatest Concern**

Soil building —936 responses assigned to the following sub-categories:			
556	building and maintaining soil organic matter levels	141	building or maintaining soil fertility
		33	building humus
239	developing soil biological activity	1	building suppressive soils
Nutrient levels, balance and availability —894 responses assigned to the following sub-categories:			
207	balancing soil pH	17	building potassium levels
205	balancing soil nutrients, in general	13	cation exchange capacity
117	micronutrient/trace mineral levels	12	calcium:magnesium ratios
102	building or maintaining soil nutrient levels and fertility, in general	9	nutrient leaching
72	nitrogen levels	6	magnesium levels
64	building macronutrient levels	6	mineral availability
31	building phosphorous levels	5	sulfur levels
24	building calcium levels and promoting availability	3	boron levels
		1	selenium levels
Soil condition and structure —877 responses assigned to the following sub-categories:			
208	reducing soil compaction	4	plow pan
168	controlling erosion	4	controlling run-off from farm
148	increasing or decreasing water holding capacity	4	managing soil temperature
82	aeration	4	soil conservation
79	soil tilth	3	minimizing soil damage
68	soil drainage	2	heavy silt soils
25	soil structure	2	dust management
22	managing clay soils	1	friability
10	hard pans	1	aggregate stability
9	sandy soils	1	rain infiltration
8	soil restoration	1	magnesium buildup from irrigation
7	stones/rocks	1	soil flocculation
7	water management; moisture management	1	maintaining soil layers
6	salinity	1	anaerobic vs. aerobic conditions
Soil management practices —383 responses assigned to the following sub-categories:			
66	cover cropping	8	pasture and forage production (inc. % protein)
58	tillage issues	7	timing of various activities: seeding, fertilization, cultivation, harvest
56	weed management	7	soil testing
41	crop rotations	5	green manure plowdown
34	mulches	5	grazing rotations
33	green manures		
20	minimum or no till practices		
17	irrigation		

cont'd...

5.1
SOIL FERTILITY
AND
MANAGEMENT
ISSUES

cont'd...

Soil management practices (cont'd)			
3	cultivation	1	discing
3	reducing tillage	1	dryland farming practices
3	intercropping	1	ripping
2	chisel plowing	1	keyline plowing
2	raised bed management	1	soil to seed contact
2	paramagnetism	1	maintaining frequency in soil
1	deep tillage	1	energy qualities
1	contour plowing	1	biodynamic forces
1	spring moldboard plowing		
Soil amendments, inputs, cycles —202 responses assigned to the following sub-categories:			
91	compost quality and quantity	2	water quality
23	manures	1	applying bacteria to soil
13	mineral inputs and their availability; mineralization rates	1	humates
13	minimum input strategies;decreasing off-farm inputs	1	developing a tighter mineral cycle
9	liming	1	soil amendments to increase bacterial activity
9	fertilization	1	feeding soil microbes
8	nitrogen sources	1	adequate levels of organic matter for compost
4	finding certified organic nitrogen sources	1	biodynamic preparations
5	ground rock fertilizers; rock powders	1	biodynamic compost
5	costs of fertilizers and other inputs	1	incorporating animals into crop production practices
3	gypsum	1	understanding,controlling the organic nitrogen cycle
3	on-farm cycling of nutrients and materials		
2	finding animal manure sources		
2	maintaining or developing fertility without animal manures		
Soil as ecosystem —149 responses assigned to the following sub-categories:			
16	microbial activity and balance	3	soil life
13	earthworm habitat	3	soil habitat for beneficial microbes & nematodes
11	soil disease control and pathogen suppression	2	vermiculture
10	soil health	2	mycorrhizal relationships
8	earthworm activity	1	wireworms
8	soil pest control		
Environment —3 responses assigned to the following sub-categories:			
1	pesticide drift	1	chloride mitigation
1	run-off from conventional farming neighbors		

5.1B Summary of top responses regarding soil fertility and management concerns.

# of responses	% of respondents <i>n=1,070</i>	Soil fertility and management concerns (sub-categories from 5.1A)
556	52%	building and maintaining soil organic matter levels
239	22%	developing soil biological activity
208	19%	reducing soil compaction
207	19%	balancing soil pH
205	19%	balancing soil nutrients
168	16%	controlling erosion
148	14%	increasing or decreasing water holding capacity
141	13%	building or maintaining soil fertility
117	11%	micronutrient/trace mineral levels

5.2
PEST
MANAGEMENT:
PROBLEM
IDENTIFICATION
AND
MANAGEMENT
DIFFICULTY

Q— *What are your farm’s most difficult pest management problems, and what level of difficulty are you having in managing them? (Fill-in pest, then select management category.)*

Respondents could identify up to three pest problems within each of the following categories: weeds,diseases,insects (to include nematodes,mites,symphylans,etc.),and animals.Respondents were then asked to select a “management difficulty”category for each pest that they listed.

5.2A Problem Weeds

2,146 responses. Respondents identified 241 problem weeds or classes of weeds. Weeds that were mentioned ten or more times are listed below, arranged in descending order of number of responses.

Weed category	Total number of responses	Level of management difficulty [% of all respondents for the weed category indicated]			
		Able to manage adequately	Moderate difficulty managing	Serious difficulty managing	Management difficulty not indicated
Weeds,in general	275	33%	47%	20%	0%
Foxtail	140	16%	57%	25%	2%
Pigweed	117	33%	47%	19%	1%
Quackgrass	114	14%	60%	24%	2%
Grasses,in general	101	14%	51%	32%	3%
Lambsquarters	101	43%	43%	12%	2%
Canada thistle	79	10%	48%	39%	3%
Bindweed (field or other)	78	17%	33%	50%	0%
Thistle	58	29%	40%	29%	2%
Johnsongrass	55	13%	33%	53%	1%
Velvetleaf	43	33%	35%	30%	2%
Chickweed	41	20%	53%	27%	0%
Purslane	37	22%	43%	32%	3%
Ragweed	37	22%	46%	32%	0%
Cocklebur	35	3%	60%	31%	6%
Bermuda grass	34	3%	35%	59%	3%
Morning glory	34	12%	47%	35%	6%
Broadleaf weeds, generally	31	39%	45%	16%	0%
Galinsoga	31	6%	48%	45%	1%
Redroot pigweed	29	24%	48%	20%	8%
Crabgrass	21	14%	52%	29%	5%
Giant ragweed	25	12%	32%	48%	8%
Mustard	20	45%	40%	10%	5%
None	5	–	–	–	–

5.2
PEST
MANAGEMENT:
PROBLEM
IDENTIFICATION
AND
MANAGEMENT
DIFFICULTY

5.2B Problem Diseases

1,005 responses. Respondents identified 239 diseases or disease classes. Diseases that were mentioned ten or more times are listed below, arranged in descending order of number of responses.

Disease category	Total number of responses	Level of management difficulty [% of all respondents for the disease category indicated]			
		Able to manage adequately	Moderate difficulty managing	Serious difficulty managing	Management difficulty not indicated
Diseases, in general	119	75%	21%	3%	1%
Powdery mildew	60	23%	43%	28%	6%
Late blight (<i>Phytophthora</i>)	50	2%	30%	62%	6%
Blight	49	20%	41%	39%	0%
Early blight (<i>Alternaria</i>)	44	18%	40%	40%	2%
None	41	—	—	—	—
Mildew	33	18%	48%	28%	6%
Scab	26	23%	54%	19%	
Fire blight	23	17%	52%	26%	5%
Botrytis	20	20%	55%	25%	0%
Fusarium wilt	17	24%	35%	29%	12%
Brown rot	16	6%	50%	32%	12%
Apple scab	14	28%	28%	43%	1%
Bacterial wilt	14	14%	14%	71%	1%
Fungal diseases, generally	14	7%	57%	21%	15%
Rust	14	14%	78%	14%	7%
Blossom end rot	13	15%	46%	38%	1%
Anthracoise	13	31%	38%	23%	8%
Mastitis	13	23%	61%	15%	3%
Mold	12	8%	59%	0%	33%
Verticillium	11	9%	45%	45%	1%
Mosaic	10	0%	40%	60%	0%
Root rot	10	0%	40%	50%	10%

5.2C Problem Insects

1,782 responses. Respondents identified 212 insects or types of insects. Insects that were mentioned ten or more times are listed below, arranged in descending order of number of responses.

Insect category	Total number of responses	Level of management difficulty [% of all respondents for the insect category indicated]			
		Able to manage adequately	Moderate difficulty managing	Serious difficulty managing	Management difficulty not indicated
Insects, in general	89	68%	25%	6%	1%
Cucumber beetle	156	17%	42%	36%	5%
Flea beetle	143	10%	48%	38%	4%
Aphids	126	33%	50%	12%	5%
Colorado potato beetle	120	31%	40%	26%	3%
Codling moth	66	21%	32%	47%	0%
Leafhopper	61	13%	42%	44%	1%
Grasshoppers	57	28%	35%	37%	0%
Squash bug	46	8%	24%	65%	3%
Mites	37	38%	43%	14%	5%

cont'd...

5.2
PEST
MANAGEMENT:
PROBLEM
IDENTIFICATION
AND
MANAGEMENT
DIFFICULTY

cont'd...

Nematodes	36	19%	36%	39%	6%
Mexican bean beetle	34	12%	35%	44%	9%
Flies	30	17%	60%	20%	3%
European corn borer	27	22%	55%	15%	8%
Tarnished plant bug	27	4%	19%	74%	3%
Cabbage looper	24	42%	29%	29%	0%
Japanese beetle	23	4%	44%	44%	8%
Potato leafhopper	23	0%	30%	65%	5%
Corn earworm	22	18%	27%	46%	9%
Cabbage worm	19	53%	42%	5%	0%
None	19	—	—	—	—
Whitefly	19	11%	63%	16%	9%
Cutworm	18	39%	44%	11%	6%
Thrips	17	23%	35%	35%	7%
Symphylans	16	0%	31%	63%	6%
Plum curculio	14	14%	0%	86%	0%
Stink bug	14	14%	21%	64%	1%
Alfalfa weevil	13	39%	31%	15%	15%
Wireworm	13	8%	46%	46%	0%
Leafroller	12	0%	67%	33%	0%
Carrot rust fly	11	9%	73%	18%	0%

5.2D Problem Animals

1,305 responses. Respondents identified 81 animals or types of animals as problem pests. Animals receiving twenty or more responses are listed below.

Animal category	Total number of responses	Level of management difficulty % of all respondents for the animal category indicated			
		Able to manage adequately	Moderate difficulty managing	Serious difficulty managing	Management difficulty not indicated
Animals, in general	48	88%	10%	2%	0%
Deer	360	31%	35%	30%	4%
Gophers	135	24%	46%	24%	6%
Raccoons	101	18%	52%	27%	3%
Woodchucks (groundhogs)	95	35%	45%	15%	5%
Rabbits	79	46%	34%	16%	4%
Mice	53	21%	53%	26%	0%
Birds	51	31%	39%	22%	8%
Slugs	38	5%	53%	37%	5%
Moles	27	19%	48%	22%	11%
None	27	—	—	—	—
Voies	26	12%	46%	42%	0%
Coyotes	24	21%	38%	41%	0%
Squirrels	24	13%	46%	38%	3%
Dogs	22	27%	36%	27%	10%

5.3
ORGANIC
INSECT PEST
MANAGEMENT
STRATEGIES AND
MATERIALS

Q — *Which of the following insect pest management strategies and materials do you use, and how frequently? (Select category.)*

Respondents were asked to indicate their frequency of use pertaining to each of the pest management strategies or materials provided below right. Responses are sorted in descending order of frequency used.

# of responses	Frequency of Use				Pest management strategy or material
	Never	Rarely or as a last resort	On occasion	Frequently or regularly	
1,087	18%	1%	7%	74%	Crop rotations
1,037	39%	5%	18%	38%	Beneficial insect habitat
967	60%	7%	12%	21%	Beneficial vertebrate habitat
1,045	43%	12%	27%	18%	Bacillus thuringiensis (Bt)
1,031	61%	10%	18%	11%	Beneficial insect, mite or nematode releases
1,032	65%	11%	13%	11%	Dormant or summer oils
1,046	49%	18%	23%	10%	Insecticidal soaps
1,045	52%	21%	18%	9%	Botanical insecticides (e.g. pyrethrum, rotenone, ryania, sabadilla, quassia, neem...)
990	60%	13%	18%	9%	Trap crops
1,014	78%	6%	8%	8%	Pheromones or mating disruption
995	95%	3%	1%	1%	Viral pathogens (e.g. granulosis virus')

5.4
ORGANIC CROP
DISEASE AND
NEMATODE
MANAGEMENT
STRATEGIES AND
MATERIALS

Q — *Which of the following crop disease and nematode management strategies and materials do you use, and how frequently? (Select category.)*

Respondents were asked to indicate their frequency of use pertaining to each of the crop disease and nematode management strategies and materials provided below right. Responses are sorted in descending order of frequency used.

# of responses	Frequency of Use				Disease/nematode management strategy or material
	Never	Rarely or as a last resort	On occasion	Frequently or regularly	
1,110	15%	1%	4%	80%	Crop rotations
1,074	22%	3%	22%	53%	Disease resistant varieties
1,058	33%	7%	22%	38%	Compost or compost tea application
1,046	42%	9%	27%	22%	Companion planting
1,046	60%	14%	14%	12%	Sulfur or sulfur-based materials
1,039	66%	15%	12%	7%	Copper-based materials
991	76%	10%	10%	4%	Solarization

5.5
ORGANIC WEED
CONTROL
METHODS

Q — *Which of the following weed control methods do you use and how frequently? (Select category.)*

Respondents were asked to indicate their frequency of use pertaining to each of the weed control strategies provided below right. Responses are sorted in descending order of frequency used.

# of responses	Frequency of Use				Weed control strategy
	Never	Rarely or as a last resort	On occasion	Frequently or regularly	
1,129	7%	4%	14%	75%	Mechanical tillage
1,137	5%	7%	13%	75%	Weeding by hand or with hand implements
1,097	15%	2%	8%	75%	Crop rotations
1,093	14%	5%	23%	58%	Cover crops
1,072	23%	9%	24%	44%	Mulches
1,063	33%	9%	29%	29%	Planting date adjustment
1,032	44%	12%	21%	23%	Smother crops
1,035	55%	7%	18%	20%	Row width adjustment
1,058	64%	9%	16%	11%	Flaming or burning
1,050	67%	6%	11%	16%	Grazing
1,018	78%	8%	7%	8%	Ridge tillage
995	80%	10%	7%	3%	Solarization

5.6
ORGANIC
FERTILIZATION
AND FERTILITY
MANAGEMENT
STRATEGIES

Q — *Which of the following fertilization and fertility management strategies and materials do you use and how frequently? (Select category.)*

Respondents were asked to indicate their frequency of use pertaining to each of the fertilization and fertility management strategies or materials provided below right. Responses are sorted in descending order of frequency used.

# of responses	Frequency of Use				Fertilization/fertility management strategy or material
	Never	Rarely or as a last resort	On occasion	Frequently or regularly	
1,118	7%	3%	18%	72%	Cover crops
1,099	17%	5%	21%	57%	Compost applications
1,082	22%	10%	34%	34%	Gypsum or lime
1,074	31%	11%	25%	33%	Animal by-products (e.g. fish products, bone & blood meal, feather meal, etc.)
1,066	36%	10%	25%	29%	Kelp or seaweed applications
1,058	27%	13%	34%	26%	Mineral amendments (other than gypsum and lime)
1,093	43%	16%	19%	22%	Uncomposted manure applications
1,024	52%	14%	20%	14%	Compost tea applications

5.7
ORGANIC
LIVESTOCK
MANAGEMENT
STRATEGIES

Q— *Which of the following livestock management strategies do you use for your organically-managed herd (or flock, etc.) and how frequently? (Select category.)*

Respondents were asked to indicate their frequency of use pertaining to each of the livestock management strategies provided below right. Responses are sorted in descending order of frequency used.

# of responses	Frequency of Use				Livestock management strategy
	Never	Rarely or as a last resort	On occasion	Frequently or regularly	
338	21%	1%	6%	72%	Pasture foraging, grazing
333	27%	2%	10%	61%	Rotational grazing
335	33%	6%	14%	47%	Mineral or vitamin supplements
332	50%	15%	10%	25%	Vaccines
326	46%	10%	24%	20%	Diatomaceous earth
326	52%	11%	21%	16%	Herbal remedies or homeopathy
320	73%	7%	12%	8%	Direct-fed microbials—“probiotics”
314	84%	6%	5%	5%	Biodynamic treatments
316	95%	3%	1%	1%	Acupuncture
328	63%	32%	5%	0%	Antibiotics

5.8
GENETICALLY
ENGINEERED
ORGANISMS:
COMPATIBILITY
WITH ORGANIC
SYSTEMS

Q— *To what extent do you agree or disagree with this statement: “Genetically engineered (recombinant-DNA) inputs are compatible with organic farming systems?” (Select category.)*

Agree or disagree	<i>n=1,192</i> %	# of responses
Strongly disagree	60%	713
Somewhat disagree	12%	144
Don't know / undecided	16%	189
Somewhat agree	5%	55
Strongly agree	5%	66
No response	2%	24

5.9 ORGANIC MATERIALS: SOURCES AND DISTANCE TO AND FROM THE FARM

Q — *Where do your organic farming inputs and materials come from? (Match categories.)*

1,154 respondents. Respondents were asked to match the materials/equipment source, below, with the materials/equipment categories that they use, at left. For example, referring to “seed for market crops”, a respondent could indicate that they both produce this on farm, and order it by mail (only the activity is inferred, not the quantity of material obtained.)

Material used	total # of users	On-Farm Materials/Equipment Production			Off-Farm Materials/Equipment Source				
		Produce at least some on-farm # (%) of users	Produce all used on-farm # (%) of users	Utilize off-farm sources # (%) of users	From a neighboring farm within 20 miles # (%) of users	From a local farm or farm supplier within 50 miles # (%) of users	From a regional farm or farm supplier within 100 miles # (%) of users	From a distant farm or farm supplier more than 100 miles # (%) of users	By mail order # (%) of users
Seed for market crops	955	295 (31%)	43 (5%)	911 (95%)	59 (6%)	258 (27%)	186 (19%)	223 (23%)	519 (54%)
Transplants for market crops	650	485 (74%)	393 (60%)	255 (39%)	66 (10%)	88 (14%)	47 (7%)	63 (10%)	39 (6%)
Cover crop seed	980	128 (13%)	34 (3%)	946 (96%)	79 (8%)	553 (56%)	221 (23%)	128 (13%)	147 (15%)
Livestock feed	473	221 (47%)	133 (28%)	340 (72%)	58 (12%)	208 (44%)	59 (13%)	41 (8%)	3 (<1%)
Animal manures for compost	889	442 (50%)	312 (35%)	577 (65%)	365 (41%)	156 (18%)	56 (6%)	29 (3%)	3 (<1%)
Green waste for compost	672	567 (84%)	514 (76%)	156 (23%)	81 (12%)	59 (9%)	10 (1%)	2 (<1%)	2 (<1%)
Finished compost	847	592 (70%)	511 (60%)	336 (40%)	69 (8%)	151 (18%)	70 (8%)	65 (8%)	3 (<1%)
Mineral soil amendments	872	11 (1%)	8 (1%)	864 (99%)	16 (2%)	402 (46%)	249 (29%)	257 (29%)	63 (7%)
Biological/blended fertilizers	579	17 (3%)	14 (2%)	565 (97%)	6 (1%)	213 (37%)	162 (28%)	190 (33%)	69 (12%)
Specialized equipment	700	102 (15%)	66 (9%)	634 (90%)	64 (9%)	221 (32%)	143 (20%)	232 (33%)	184 (26%)

SECTION 5 Overview

REVIEW

The *Third Biennial National Organic Farmers' Survey* is the first of OFRF's surveys to include a section on **Organic Management Concerns and Strategies**. This section provides detailed information about the specific problems that organic farmers face and the practices they use to manage them.

Used in conjunction with the **Organic Farming Research Priorities** (Sec.1), the management objectives and practices described herein can support more specific identification of the most pertinent areas of investigation that will help farmers better understand and improve organic farming systems.

In the first two parts (Secs.5.1 and 5.2A–D), respondents identify particular soil fertility and pest management concerns. Respondents listed in their own words their greatest soil fertility and management concerns, and their worst weed, insect/arthropod pest, disease, and/or animal pest problems (and indicated their level of difficulty in managing these particular problems). Sections 5.3 through 5.7 identify, from a list of management approaches, which strategies and methods or materials farmers use to manage their pest problems and address their soil fertility concerns. In these questions, growers also indicated the frequency of use for each management strategy or material.

In Section 5.8, growers indicate whether they agree or disagree that recombinant-DNA inputs are compatible with organic farming systems. Sec.5.9 provides details about the source and availability of crop seeds and other organic inputs.

Summary Results and Discussion

In the data section, responses concerning management concerns on organic farms (Secs.5.1–5.2) are presented separately from those focused on organic management strategies (Secs.5.3–5.7). (For ease of presentation, results with similar response structures are grouped together.) However, in the summary we will take a look at some of the relationships between concerns and strategies within topic areas (e.g. soil fertility management concerns compared with soil management strategies), and some of the additional questions that these results raise.

During our review, it is important to consider that correlations between specific crops or systems and geographic regions may be significant. As with most other areas of this survey, the aggregated results provide initial clues that can be followed-up by cross-tabulations with other variables. As more detailed analysis of these results is conducted in the future by OFRF and other investigators, the relationships between specific management issues and farm practices can be drawn with greater precision for the purposes of building research hypotheses and evaluating the impacts of regulatory decisions.

Soil Fertility Management Concerns Compared with Soil Management Strategies (Secs. 5.1–5.6)

Farmers were asked to list in their own words up to four soil fertility and/or soil tilth management issues of greatest concern on their farms. The greatest number of respondents (46%) stated **that building and maintaining organic matter levels** is one of their greatest concerns. This was followed by **developing soil biological activity** (20% of respondents), **reducing soil compaction** (17%), **balancing soil pH** (17%), and **balancing soil nutrients** (17%).

Among the soil fertility management practices listed, **cover crops** were indicated as the strategy used most frequently or regularly by the greatest number of respondents (72%). This was followed by **compost applications** (57% of respondents), **gypsum or lime** (34% of respondents), and **animal by-products** (33% of respondents).

SECTION 5
REVIEW

Additional areas of inquiry to follow-up the results of this data include: What are the specific relationships or benefits obtained from cover cropping and the other practices listed? What are the specific impacts on organic matter content, soil biological activity, etc.? Are these benefits quantified by organic farmers?

Weed Management Problems Compared With Weed Management Strategies (Sec. 5.2A and Sec. 5.5)

Out of all pest categories (insects, diseases, weeds or animals), weeds received the greatest attention from respondents, with 2,146 responses identifying 241 weeds or classes of weeds as difficult to manage. **Foxtail, pigweed** and **quackgrass** were listed the most frequently as weed problems. **Bermuda grass, Johnsongrass** and **bindweed** were indicated as being the most difficult weeds to manage.

Weed control methods most **frequently or regularly** used are **mechanical tillage** (by 75% of respondents), **weeding by hand or with hand implements** (75% of respondents), and **crop rotations** (75% of respondents).

The ranking of weed management as a top research priority is corroborated by the “management problems” data. The limited number of weed management methods available to organic growers probably enhances the difficulty of managing certain types of weeds. The reliance on mechanical and hand tillage for weed management is probably correlated to the high level of difficulty assigned to the management of rhizomatous weed species, which are easily spread rather than killed by tillage. Another interesting topic for comparative research projects is the frequency of certain weed species in organic cropping systems, as compared to their non-organic counterparts.

Insect Management Problems Compared With Insect Management Strategies (Secs. 5.2C–5.3)

Insects and other arthropods received 1,782 responses identifying 212 insects or arthropods. **Cucumber beetles** (striped and spotted combined) were listed most frequently as a difficult pest, followed by **flea beetles, aphids, Colorado potato beetles, codling moth, leafhoppers** and **grasshoppers**. **Plum curculio, tarnished plant bug, squash bug, potato leafhopper,** and **symphylans** were indicated as the most difficult to manage.

Crop rotations were indicated as the strategy most **frequently or regularly** used (by 74% of respondents) to control insects. Other most **frequently or regularly** used insect management strategies are **beneficial insect habitat** (38% of respondents) and **beneficial vertebrate habitat** (21% of respondents). **Bt** is used by 45% of respondents either **frequently or regularly** or **on occasion**.

This data presents a wide range of information as well as implications for organic management and “integrated pest management”, and other approaches to pesticide “use/risk reduction”. Notably, the most problematic insect pests for many organic farmers (cucumber beetles and fleas beetles) are not usually considered economic pests for operations relying on standard chemical insecticides. Is the absence of chemical insecticides related to the emergence of these two species as problems? Are there other aspects of organic management that are responsible?

Also of note is the frequency of use of **Bacillus thuringiensis** (Bt). It is the most frequently used insect pest control input. This is of particular concern in the context of resistance to Bt toxins which is likely to emerge from widespread use of new crop varieties genetically engineered to produce recombinant-Bt.

SECTION 5 Animal Pest Management (Sec. 5.2D)

REVIEW

Animal pests received 1,305 responses identifying 81 animals or animal types. **Deer** were listed the most frequently, followed by **gophers, raccoons, woodchucks, rabbits** and **mice**. **Voles, coyotes, squirrels** and **slugs** leading as the most difficult to manage.

(No question was asked concerning specific animal pest management strategies.)

Disease/Nematode Management Problems Compared With Disease Management Strategies (Secs. 5.2B and 5.4)

Diseases received 1,005 responses, which identified 239 diseases or disease classes. **Powdery mildew, Phytophthora** (late blight), **blight** (in general), and **Alternaria** (early blight) were listed most frequently as disease problems. **Bacterial wilt, mosaic viruses, Phytophthora** and **Verticillium** were indicated as the most difficult to manage.

Crop rotations lead as the most **frequently or regularly** used disease management and nematode control strategy (by 80% of respondents), followed by the use of **disease resistant varieties** (53% of respondents).

When looked at in conjunction with insect pest and disease management strategies, these results underscore that crop rotations are a cornerstone of organic farmers' methods for achieving a variety of management objectives. What are the limitations of this multiple-solution practice and what are the parameters for potential improvement? Are there tradeoffs in optimizing this practice for the different benefits?

Livestock Management Strategies (Sec. 5.7)

(A separate question concerning livestock management problems was not asked. Livestock producers did provide responses to questions about pest management problems, but these responses constituted only a small fraction of the responses to those questions).

Livestock producers rely most **frequently or regularly** on **pasture foraging, and grazing** (72% of respondents), **rotational grazing** (61% of respondents) and **mineral or vitamin supplements** (47% of respondents) as livestock management strategies. Notably, **antibiotics** are not used frequently by any respondents, and 63% of respondents never use them.

Genetically Modified Organisms as Inputs-Compatibility with Organic Systems (Sec. 5.8)

Farmers were asked to indicate to what extent they agree or disagree with the following statement:

Genetically engineered (recombinant-DNA) inputs are compatible with organic farming systems.

Seventy-two percent of respondents indicated that they **somewhat or strongly disagree** with this statement. Ten percent indicated that they **somewhat or strongly agree** with this statement, and 16% indicated that they are **undecided** or **do not know** whether they agree or disagree with this statement.

It is important to note that this question is presented in terms of "system compatibility." Another way to view this issue is in terms of genetically engineered products' "appropriateness for organic labeling regulations." Organic farmers' perceptions of consumer expectations of organic labels as "free from genetic engineering" would presumably influence the response if the question were asked in the latter form, and the level of disagreement might be even higher.

SECTION 6
REVIEW

Organic Materials: Source and Distance to and from the Farm (Sec. 5.9)

These results provide an overview of where organic farmers obtain farming inputs. A problem often expressed by organic farmers, and an important factor affecting the sustainability of organic farms, is that organic inputs are difficult to obtain from sources close to the farm (the ***distance or transport of organically allowable inputs*** is ranked third out of ten categories as a barrier to organic production—please refer to survey Section 6.3).

Considering that organic farmers indicate that they are most concerned with building soil organic matter levels (Sec. 5.1), we will review what the results say about organic matter inputs, and what this information might tell us.

Sources of green waste for compost

The results show that out of all respondents who are green waste “users” (672), most (84%) produce at least some of their own green waste for compost, and 76% produce all of the green waste that they use on farm. Twenty-three percent utilize off-farm green-waste sources. For most (12%), these sources are within 20 miles of the farm.

Sources of animal manures for compost

Out of all respondents who are animal manure “users” (889), 50% produce at least some of this on farm, and 35% produce all their animal manures on farm. Sixty-five percent of respondents use off-farm sources, with 41% of respondents using sources within 20 miles of the farm.

Sources of finished compost

Out of all respondents who are finished compost “users” (847), 70% produce at least some of their own finished compost on-farm. Sixty percent produce all of their finished compost on-farm, with 40% going to off-farm sources. Respondents go further to obtain finished compost products than other organic matter materials, with 8% getting finished compost from more than 100 miles away.

The results suggest that while organic farmers, as a practice, cycle their own nutrients produced on-farm, they rely to a significant degree upon off-farm sources for organic matter materials, especially animal manures and finished compost. The need for off-farm resources for organic materials is likely dependent upon region, farm size and farming system—variables that are not detectable when looking at the group as a whole. As stated previously, these variables may be cross-tabulated by OFRF or other investigators at a later date. Additional questions that arise include: To what degree are respondents satisfied with the level of organic matter they are able to produce and/or obtain from off-farm sources? What factors most inhibit on-farm organic matter production, and what systems design aspects can improve this? To what degree do availability and/or cost effect the potential to purchase each of these materials from off-farm sources?

The results clearly show that respondents generally must obtain other organic soil amendments from greater distances. Out of 872 respondents who use ***mineral soil amendments***, 29% obtain these inputs from sources more than 100 miles away. Of the 579 respondents who utilize ***biological/blended fertilizers***, 33% obtain these inputs from more than 100 miles away. These results reflect a scarcity of these resources at the local level, and while a number of farmers indicate that they obtain these materials by mail order, (12% of respondents for blended fertilizers, 7% of respondents for mineral amendments) shipping costs on these bulk items add significantly to their cost. Further areas of inquiry should identify to what degree farmers are satisfied with their fertilization programs, and how cost and distance of these particular inputs effect their use.

SECTION **6** Organic Production Constraints & Challenges

INTRODUCTION

Objectives

The objectives of the **Organic Production Constraints and Challenges** section are:

- 1) To identify barriers to transitioning to organic production;
- 2) Identify barriers to organic production and marketing as they currently exist for all organic farmers;and,
- 3) Identify barriers to organic livestock production.

Formats

Respondents identify themselves as farmers who either transitioned to organic farming from conventional practices,or who began farming with organic production practices (6.1).An open-ended question asked those who transitioned from conventional production to identify in their own words what their greatest barriers were to transitioning to organic (6.2).Sections 6.3 and 6.4 identify farmers' current constraints to organic production and marketing,as expressed by their rankings of a list of potential constraints. Barriers to organic livestock production are represented in Section 6.5,where respondents who currently produce livestock conventionally (but not organically) are asked to identify barriers to conversion.

6.1
DID FARMERS
TRANSITION
FROM
CONVENTIONAL
PRODUCTION OR
START WITH
ORGANIC?

Q — *Organic farmers can be classified as either starting from “scratch” as an organic producer, or as “transitioning” from conventional production. How did you start farming organically? (Select response.)*

1,161 respondents. 1995 survey results are provided for comparison.

1997 # of responses	1997 n=1,192 %	1995 n=945 %	Response category
686	58%	56%	Began farming with organic production
475	40%	40%	Transitioned from conventional production
30	2%	4%	No response

6.2
FOR
TRANSITIONING
FARMERS,
GREATEST
BARRIERS TO
ORGANIC
PRODUCTION

Q — *If you transitioned from conventional farming, what were your greatest barriers to transitioning to organic production? (Fill-in.)*

405 respondents provided written responses, which have been assigned to the following categories (categories were chosen by the data reviewer, please see Methodology; Results Analysis). Multiple responses are possible for each respondent. Arranged in descending order of number of responses, as assigned to each category. Examples of individual responses (in italics, in respondents’ own words) are also provided.

6.2A **Greatest barriers: Categories and Individual Responses**

# of responses	n=405 %	Greatest barriers to organic production: categories and individual responses (in italics)
115	28%	Weed control, management, or pressure: <i>Learning to rely on tillage for weed control. Fear of weeds. Looking at weeds. Controlling weeds the first years. Stopping spraying for weeds.</i>
69	17%	Information and experience: <i>Re-education. The learning curve. I thought I was smarter than I was. Know how! Second and third were unnecessary disaster years.</i>
46	11%	Markets—finding, establishing or developing markets for transitional and/or organic products.
37	9%	Pest control: <i>Slugs. Mites. Scale. Codling moth. Cutworms. Psylla. Ant. Gophers. Bacterial wilt. Fireblight.</i>
32	8%	Fertility management.
28	7%	Transition period—no organic labeling or price premiums during transition time: <i>Lower income while transitioning. No market for transitional crops. No premium price during transition. Just the waiting.</i>
23	6%	Frame of mind—For positive thinking types these included: <i>Attitude. Belief. Courage. Mindset.</i> On the darker side: <i>Nerves. Stupidity. Ignorance. Uncertainty. Fear!</i>
21	5%	Materials—costs of materials and where to find them. Everything from seeds to manures to granular fertilizer: <i>Finding appropriate fertilizer at a decent price.</i>
17	4%	Soil restoration: <i>Bringing soil back to life. Dead soil. Conditioning soil. Rebuilding soil ecosystem. Getting soil balanced. Getting life back in the soil.</i>
16	4%	Organic feed costs, quality and/or supply: <i>Our cows do not like the organic grain we purchase since it is a mash and has no molasses.</i>
14	3%	Yields—potential or actual reductions, especially during transition, maintaining yields: <i>Reduced yields at first.</i>
15	3%	Organic regulations—Figuring out and/or dealing with organic certification regulations, paperwork and record keeping. <i>Complexity of certification process. Figuring out the regulations. Getting better organized.</i>
13	3%	Costs, financial concerns, concerns about profitability.
13	3%	Labor and time increases with organic practices, adjustments in labor and management: <i>Product segregation in mixed operations.</i>

cont’d...

6.2
FOR
TRANSITIONING
FARMERS,
GREATEST
BARRIERS TO
ORGANIC
PRODUCTION

cont'd...

10	2%	Lack of support,mentors or examples: Cooperative Extension of no help.Land grant mentality.
9	2%	Nitrogen sources
9	2%	No problems!
9	2%	Animal health,no antibiotic usage.
8	2%	Land eligibility (size,location,buffer zones,previous chemical use...)
8	2%	Inadequate equipment (especially for changes in weed management).
6	1%	Production quality-obtaining desired quality
5	1%	Neighbor's comments and negative attitudes of neighbors
5	1%	Convincing partners (wives,husbands,landowners, renters, farm partners...)
4	1%	Cost of certification
5	1%	Increased costs of organic production and marketing.

6.2B In Their Own Words

Selected responses to: *What were your greatest barriers to transitioning to organic production?*

Here are a few more examples of farmers'full responses,including the farmer's state, number of years farming, number of years farming organically and number of years certified organic:

State	Total years farming	Total years organic	Years certified organic	Barriers to organic production (in growers' own words)
CA	25	7	5	No premium price for organic during three year transition period.Learning curve (major crop losses!).
CA	—	16	10	Restoring the health of the soil and developing a market for produce.
FL	10	8	1	Never did use pesticides,difficult to figure out how to make and use organic fertilizers.
GA	40	20	4	Twenty years ago, getting assistance from professional and state organizations as to what to do.
IA	20	6	5	Poor soil health, inadequate equipment, limited knowledge of plant health.
IL	26	12	12	Being sure yields could be maintained without excessive weed pressure;adequate fertility.
IL	35	8	5	Social, psychological, landlord and spouse acceptance.Capacity to naturally manage pests.
ID	22	18	10	Uncertainty, fear, lack of knowledge, weeds, market information.
MI	38	5	3	Lower income during transitional years.
MD	11	1	0	Information! All conventional/lifetime sources looked at me like I was from Mars and had no answers to any of my questions.
MN	25	6	4	We lost a lot of money in opportunity income and had a difficult time with the banker.
NE	7	7	3	What the neighbors thought (but even that didn't bother me).
NJ	23	10	9	Ignorance, misinformation, finances, marketing (in that order).
NY	17	14	11	Learning, sorting out from a wide variety of approaches what would work best here, weaning from chemical inputs.
OR	21	3	0	Surviving the three years of transitional organic farming but selling at conventional prices, deciding which varieties to plant.
TX	18	7	7	Emotional stress from conventional neighbors trying to force area-wide spray programs.
VT	7	5	2	Breaking down conventional thought and USDA accepted practices.
WA	42	25	10	Disagreement between my husband and I.
WI	30	8	5	Total lack of information at the university, state and federal level.

6.3
CURRENT
CONSTRAINTS TO
ORGANIC
PRODUCTION

Q — *In your experience, to what degree do any of the following currently serve as a constraint or problem specific to organic production? (Rank category.)*

Respondents were asked to rank the following categories from: 1= not a constraint or problem, to 5 = serious constraint or problem. Responses are listed in descending order of ranking.

# of respondents	Not a constraint or problem ←————→ Serious constraint or problem					Ranking	Organic production constraint
	1	2	3	4	5		
1,126	18%	14%	23%	25%	20%	3.13	Cost of organically allowable inputs
1,126	22%	14%	21%	18%	24%	3.08	Uncooperative or uninformed extension agents
1,119	21%	16%	23%	22%	18%	3.02	Distance or transport of organically allowable inputs
1,124	24%	17%	26%	21%	12%	2.82	Sourcing or finding organically allowable inputs
1,130	26%	18%	22%	22%	12%	2.78	Achieving desired yields
1,131	26%	27%	22%	17%	8%	2.56	Information on organic practices unavailable or hard to find
1,118	28%	23%	24%	17%	8%	2.54	Effectiveness of organically allowable inputs and methods
1,130	32%	26%	24%	11%	7%	2.35	Personal lack of knowledge about organic practices
1,131	56%	15%	13%	9%	7%	1.97	Social pressure from other farmers or community to farm conventionally
1,098	67%	10%	10%	5%	8%	1.76	Pressure from lenders to farm conventionally

6.4
CURRENT
CONSTRAINTS TO
ORGANIC
MARKETING

Q — *In your experience, to what degree do any of the following circumstances currently serve as a constraint or problem to organic marketing? (Rank category.)*

Respondents were asked to rank the following eleven categories from: 1= not a constraint or problem, to 5 = serious constraint or problem. Responses are listed in descending order of ranking.

# of respondents	Not a constraint or problem ←————→ Serious constraint or problem					Ranking	Organic production constraint
	1	2	3	4	5		
1,139	14%	15%	25%	25%	21%	3.25	Lack of consumer understanding about organic food
1,131	24%	17%	23%	20%	16%	2.87	Lack of organic marketing networks
1,126	20%	21%	27%	20%	12%	2.84	Inability to find best price
1,129	27%	16%	24%	19%	14%	2.78	Distance between producer and market or delivery point
1,144	32%	19%	19%	17%	13%	2.61	Finding organic markets
1,122	33%	20%	20%	14%	13%	2.55	Competition with unverified “claimed” organic
1,130	31%	20%	21%	19%	9%	2.55	Obtaining access to existing organic markets
1,121	44%	24%	15%	10%	7%	2.14	Reliable or prompt payment
1,122	48%	21%	15%	10%	6%	2.06	Failure of buyers to honor commitment
1,119	47%	21%	20%	8%	4%	2.02	Oversupply of legitimate organic product in existing markets
1,119	69%	16%	9%	3%	3%	1.56	Lack of acceptance of certification documentation in certain markets

6.5
BARRIERS TO
ORGANIC
LIVESTOCK
PRODUCTION

Q — *If you produce livestock conventionally and have considered changing these livestock to organic practices, what production considerations have prevented you from doing so to date?* (Select each category that applies, or fill in “other” response.)

233 respondents. Multiple responses possible for each respondent.

# of responses	n=233 %	Barrier to organic livestock production
137	59%	Price and/or availability of organic feed
131	56%	Lack of organic production regulations and developed market
60	31%	Other (fill-in):
15	6%	Animal health:difficulty controlling parasites and diseases
11	5%	Infrastructural needs:housing,buildings,buffer zones,land base
6	3%	Costs too high in relationship to available price
5	2%	Too much paperwork/red tape/transition time
5	2%	Unfamiliar with practices and regulations
4	2%	Lack of certified processing facilities
3	1%	Lack of certifiable water source
1	<1%	Certification fees too high for small herd

SECTION 6
REVIEW

Overview

The **Organic Production Constraints and Challenges** section presents the results of respondents’ past and current challenges to organic production, as experienced by farmers who have transitioned from conventional to organic farming practices, and by farmers who began farming organically from the start.

Summary Results and Discussion

Transitioned Farmers and Their Greatest Barriers to Organic Production (Secs. 6.1–6.2)

A total of 475 respondents (40%) indicated that they transitioned from conventional to organic farming practices. A significant portion of this group (405 respondents) shared, in their own words, the most significant barriers that confronted them during their transition (being “in their own words” this could consist of any production, social or other perceived “barrier”). In the results we share many of these direct responses, which illustrate their experiences more completely.

Not surprisingly, the greatest percentage (28%) stated that **weeds** were their greatest impediment, and expressed in a variety of ways their need to change the way they perceived weeds as farm managers. The second largest segment of respondents (17%) stressed that they were lacking in **information and experience**. Many respondents indicated that it is still difficult, as it was twenty years ago, to find adequate information when making the decision to transition, and that this information is crucial to heading off difficult and potentially disastrous results. Eleven percent said finding **markets** was among their greatest barriers, especially during the **transition period**, and related to this 7% stated directly that the transition period was most difficult when it came to prices and marketing. This does represent a significant segment of the group, but does the response rate suggest that the problems of price and marketing during transition are difficult—but bearable? **Pest control** (9%), **fertility management** (8%) and **soil restoration** (4%) again reflect the variety of changes needed to begin organic farm management, and the need to learn new management practices, even for experienced farmers.

Costs are mentioned in a variety of ways: **materials** costs and availability (5%), **feed costs** (4%), **costs in general** (3%), costs in **labor and time** (3%), **cost of certification** (1%), **increased cost of organic production and marketing** (1%)—all of which require changes in farm expense budgets during transition. A few respondents mentioned social concerns, such as **neighbors’ comments** (1%) and **convincing partners** (1%).

SECTION 6
REVIEW

We did not ask farmers-who-started-farming-organically-from-scratch to name their own barriers (and now of course wish we had, for comparison). The results show that 56% of respondents began farming organically from scratch, and the results also show that the average age of organic farmers (47.5 years of age) is significantly younger than that of the general population of farmers in the U.S. (please refer to Section 8.13), suggesting that organic farming practices are attracting a new and younger population of farmers to the profession and art of production.

Current Constraints to Organic Production and Marketing (Secs. 6.3–6.4)

All respondents (transitioning and non-transitioning) ranked a list of topics as current constraints to organic production and marketing, based on their own experience. On the production side (Sec. 6.3), out of a list of ten potential “constraints”, **the cost of organically allowable inputs** was ranked first as the most serious constraint or problem. This was followed by **uncooperative or uninformed extension agents** (ranked 2nd), and **distance or transport of organically allowable inputs** (ranked 3rd), followed by **sourcing or finding organically allowable inputs** (ranked 4th).

On the marketing side (Sec. 6.4), out of a list of eleven potential “constraints”, the **lack of consumer understanding about organic food** was ranked first as the most serious constraint or problem to organic marketing. This was followed by a **lack of organic marketing networks** (ranked 2nd), **inability to find best price** (ranked 3rd), and **distance between producer and market or delivery point** (ranked 4th).

The results of Section 6.4, regarding marketing constraints, are strikingly similar to the results of a question on this topic from OFRF’s first biennial survey, conducted in 1993 (the comparative results are not presented with this data). The response structure of the 1993 was open-ended, and in fact served as the foundation for this multiple category question. The four top-ranked responses were identical to these, indicating that while the organic market has grown, organic farmers are still faced with the same basic marketing constraints, underscoring the need for further consumer education efforts and market infrastructural support.

The results of both the production and marketing constraint responses reflect that the geographic distances to and from farming resources and markets is a significant constraint for organic farmers. Organic markets tend to exist in suburban and urban areas, and for smaller family farms (please refer to **Section 8: Farm Management and Demographics**), transportation costs from rural areas to urban market centers are high. Farmers indicate (Section 4) that they would like to increase their ability to market locally, direct-to-retail and direct-to-consumer. This underscores the need for consumer education that reaches beyond urban areas, the development of local organic farm supply resources, and market infrastructures that promote local marketing.

Barriers to Organic Livestock Production (Sec. 6.5)

Many farmers of certified organic crops also produce livestock which are produced and marketed conventionally. We asked those respondents who produce livestock conventionally and have considered changing these livestock to organic practices, to indicate what production considerations have prevented them from doing so. 233 livestock producers answered. Of the two categories provided, **the price or availability of organic feed** was indicated as being a slightly greater barrier (by 59% of respondents) than the **lack of organic production regulations and developed market** (56% of respondents). Of the fill-in responses received, the issue of managing **animal health** was identified by 6% of respondents, and the required **infrastructural needs** was mentioned by 5% of respondents.

SECTION 7 Organic Certification

INTRODUCTION

Objectives

The objectives of the **Organic Certification** section are:

- 1) To identify respondents' levels of satisfaction with their own certification agency and the "state" of organic certification at the industry level; and
- 2) Identify respondents concerns and hopes regarding implementation of the National Organic Program.

Formats

Section 7.1 identifies whether respondents are certified by one or more agency (obtained from a closed-ended category selection). Sections 7.2 and 7.3 contain the results of respondent rankings regarding the quality of performance of their own certifier(s) and the performance of the certification industry as a whole. Section 7.4 presents the results of open-ended responses about organic farmers concerns and hopes regarding implementation of the National Organic Program.

7.1
NUMBER OF
CERTIFICATION
AGENCIES USED

Q — *How many certification agencies is your farm currently certified by? (Select category.)*

1,151 respondents. 1995 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	Number of certifiers
1,060	89%	90%	One certifying agency
91	8%	7%	Two or more certifying agencies
31	3%	3%	No response

7.2
RATE YOUR
CERTIFIER

Q — *How would you rate your own certification agency(ies) in the following areas? (Rank category.)*

# of respondents	Poor	Good	Excellent	Certification agency "qualities"
1,163	2%	26%	72%	Adherence to certification standards
1,163	4%	26%	70%	Credibility as a certification agency
1,164	5%	37%	58%	Quality of inspections
1,162	7%	41%	52%	Communication of certification requirements
1,155	12%	48%	40%	Efficiency of application and renewal procedures
1,146	17%	49%	34%	Quality of member services
1,163	15%	57%	28%	Cost of certification

7.3
RATING OF
CERTIFICATION
INDUSTRY'S
PERFORMANCE
BASED ON SCALE
AND TYPE OF
OPERATION

Q — *How would you rate the overall performance of organic certifiers as a group in upholding organic certification standards at the following levels? (Rank category.)*

Respondents could select 0 = don't know, or rank certifier performance as a whole from: 1 = poor, to 5 = excellent.

# of respondents	Don't know 0	Certifier performance rating, if "known"					Combined rating 0 - 5	Level
		Poor 1	2	3	4	Excellent 5		
1,150	24%	2%	2%	13%	26%	33%	3.14	Small farm level
1,125	51%	3%	4%	14%	15%	13%	1.76	Large farm level
1,121	65%	3%	5%	11%	9%	7%	1.18	Processor level
1,119	66%	4%	5%	10%	8%	7%	1.12	Handler/distributor level
1,121	72%	7%	5%	8%	4%	4%	.75	Imported product level

7.4
HOPES AND
CONCERNS
REGARDING
FEDERAL
ORGANIC
STANDARDS

Q — *In anticipation of the Proposed Federal Rules being published and this survey reaching you while the comment period is "alive," given what you understand today, what are your greatest concerns and/or hopes regarding the implementation of the federal standards required by the U.S. Organic Foods Production Act? (Fill-in.)* Respondents could list up to two "concerns" and up to two "hopes." Note: these responses reflect organic farmers thoughts just after the Proposed Rule was published on December 16, 1997. Survey returns were accepted during January-March 1998.

7.4
HOPES AND
CONCERNS
REGARDING
FEDERAL
ORGANIC
STANDARDS

7.4A Concerns Regarding Federal Organic Standards.

1,582 responses were received, which have been assigned to the following categories (categories were chosen by the data reviewer, please see Methodology; Results Analysis). Multiple responses are possible for each respondent. Arranged in descending order of number of responses, as assigned to each category. Categories consisting of more than one response are listed below.

# of responses	Concern
302	that organic standards will be weakened. In respondents' words, that they will be: <i>compromised, corrupted, lax, lowest common denominator, watered down, diluted, not strict enough, prostituted, blurred, bastardized, undermined...</i>
223	that genetically modified organisms will be allowed, do not want genetically modified organisms allowed
112	that costs and fees will be too high, and more specifically:
28	to small farmers especially
7	to certifiers
6	that costs and fees should be commensurate with size of farm
3	don't want to pay fees to federal government in addition to certifier and state
3	that fees will be a deterrent to farming organically
107	that food irradiation will be allowed
88	that federal regulations will lead to increased bureaucracy, be too complicated and take too much time
88	that organic rules process will be influenced and corrupted by agribusiness and political interests, and by other federal agencies
79	that sewage sludge will be allowed
71	that the standards will undermine consumer confidence and trust, and destroy the integrity of the organic label and industry
64	that standards will be geared toward large corporate farms, and will hurt small farmers
57	that the standards will allow currently prohibited practices or materials, and in particular:
27	antibiotics, drugs, parasiticides in livestock
15	animal confinement/factory farming
8	pesticides/pesticide residues
2	synthetic inerts
53	that there will be cheating, abuse, lack of enforcement, no support to provide enforcement
51	that federal standards will not be as stringent as, or consistent with, standards of current certifier
46	government incompetence, ineptness, corruption
44	that there will be more paperwork
29	that the government is ignorant of organic principles and is not committed to them
28	that definitions will be vague and contain too many loopholes
28	that higher or more stringent certification will not be allowed beyond the federal standard
27	that there will be overregulation
23	that the regulations are not "organic", are arbitrary and not consistent with definition or meaning
21	that easy standards will cause a market flood and lower organic prices
19	against federal organic regulations as currently written, do not want them established
14	that they will result in loss of local emphasis and control
12	that animal feeds should be 100% organic (not 80%)
12	that the regulations will not adhere to recommendations of the National Organic Standards Board
11	that the federal definition will be product-based, not process-based
11	that the rules will be too restrictive
10	that imports will not be held to domestic standard
10	that conventional farmers will switch for price only
9	that the rule will disallow any alternative labeling
8	don't know, have not seen the rule or read enough of it
8	that USDA will own the term "organic"
6	that the standards are incompatible with the Organic Foods Production Act

cont'd...

7.4
HOPES AND CONCERNS REGARDING FEDERAL ORGANIC STANDARDS

cont'd...

5	that the regulations will ruin,undo years of hard work
5	that the process as it stands will drag out implementation
4	that the \$5,000 exclusionary limit is too low
4	that federal regulations should be a minimum standard,not a maximum
3	that there will be a loss of diversity at all levels
3	that the rules ignore land stewardship

7.4B Hopes Regarding Federal Organic Standards

1,258 responses were received,which have been assigned to the following categories (categories were chosen by the data reviewer, please see Methodology;Results Analysis). Multiple responses are possible for each respondent.Arranged in descending order of number of responses,as assigned to each category. Categories consisting of more than one response are listed below.

# of responses	Hopes
137	that federal organic rules will establish a level playing field for all US organic producers
111	that organic standards are not compromised,that a stringent standard will be implemented
108	that there is greater consumer education and awareness about organic food and farming
67	that a federal program will lead to an increase in consumer demand,organic market expansion
52	that there is strong enforcement;that fraudulent and unverified claims are eliminated
52	that federal rules are at least as stringent as and/or consistent with current organic standards
45	that costs and fees for certification are low, that it is and remains economically feasible
45	that the proposed rule will not be implemented
41	that federal regulations will help small farmers,not hurt them,and that organic farming will remain profitable to the small farmer
37	that the federal regulations will not be too complicated,bureaucratic,or involve too much paperwork
35	that consumer confidence in organic is maintained and built upon
31	that there will be limited federal authority and involvement,that authority will rest with certifier/state
30	that the federal government and USDA get out of the process of organic certification altogether
30	that federal organic regulations encourage more conversions to organic farming, expansion of organic farming practices
30	that genetically modified organisms are not allowed in the national organic program
29	that USDA will listen to organic farmers and the industry voice
27	that the rules are withdrawn and overhauled, rewritten
26	that there is freedom to certify and label to a higher standard than the federal standard,that it will be a minimum standard
26	that the federal program will lead to healthy ecosystems,holistic and sustainable practices,land stewardship and good,healthy food for all
24	that there will be more and better access to information about organic farming,more organic farming research and more infrastructural support
24	that the rule adheres to the recommendations of the National Organic Standards Board and recognizes their authority
18	that the organic meaning and ideal will be upheld
16	that the regulations will support and promote a local and regional production and distribution infrastructure
15	that the organic community and certification agencies become unified and fight for an acceptable rule
14	that there will be meat labeling and livestock standards
14	not much hope,no hope,hopeless
13	that corporations and agribusiness will not influence the outcome of the rule
13	that producers will be able to stay with their current certification agency
13	that prices will be good under a federal program
13	that the rule will be internationally acceptable for export/trade in organic products
10	that sewage sludge is not allowed in the national organic program

cont'd...

7.1
NUMBER OF
CERTIFICATION
AGENCIES USED

cont'd...

10	that food irradiation is not allowed in the national organic program
10	that USDA will listen to consumers concerning what they want
9	that consumer's rights to unadulterated organic foods are preserved
8	that the quality and integrity of organic foods is maintained and improved
8	that there will be improved access to organic inputs and materials, particularly seed
8	that the cost of certification will be subsidized (suggestions: by the federal government, by pesticide users)
8	that there is clear and strict food labeling, especially regarding genetically modified organisms
6	that there will be a speedy finalization and implementation of the rule
6	that the current system remains
6	that a federal program will get the "attention" of conventional farmers
6	that the federal government doesn't screw it up
5	that the regulations become consistent with the Organic Foods Production Act
5	that imported products are held to the same standard
5	that the government "wakes up" and learns what organic is about
4	that the rule requires clear and complete labeling of materials, including inert ingredients
4	that the Cooperative Extension service will become educated in organic practices
3	that the organic industry will be self-regulated
3	that the rule will be implemented "as is"
3	that the regulations will expedite the review of new materials
2	that genetically modified organisms will be allowed
2	revolution

SECTION 7
REVIEW

Overview

The **Organic Certification** section was designed to identify in general how organic farmers feel about the current system of organic certification, and their feelings about the proposed National Organic Program, as presented in USDA's Proposed Rule, published December 16, 1997. In reference to the latter, it is important to recognize that these responses reflect information that farmers had about the Proposed Rule during the first part of 1998 (survey returns were accepted through March 1998).

Summary Results and Discussion

Number of Certifiers Used (Sec. 7.1)

Eighty-nine percent of growers indicated using only one certification agency. Eight percent of respondents, a total of 91 farmers, use two or more certification agencies. This suggests that for almost one in ten organic farmers, market barriers exist that require farmers to seek (and pay for) certification by more than one entity.

Rating Individual Certifier Performance (Sec. 7.2)

Farmers rated their own certification agency's performance in a number of categories. In general, respondents indicated having a high degree of satisfaction with their current certification agency and/or agencies. Seventy-two percent gave their certification agency the highest possible score of excellent for their **adherence to certification standards**. Certifiers were rated lowest in the areas of **quality of member services** (66% of respondents rated their own certifier as **good** or **poor** in this category), and **cost of certification**. Although the **cost of certification** received the lowest ratings of all categories provided, the majority of respondents (57%) rated their own certifier as good in this category, while 28% rated the **cost of certification** as **excellent**. This indicates that, while the cost of certification may not be a favorite aspect of respondents' experience with their certifier, they are relatively comfortable with certification costs as they stand. Certifiers received high ratings for their **credibility as a certification agency** (70% of respondents rated their certifier as **excellent**) and for their **quality of inspections** (58% of respondents rated their certifier as **excellent**).

Rating Organic Certification Industry Performance (Sec. 7.3)

Looking at organic farmers' confidence in the certification "industry" as a whole, respondents indicat-

SECTION 7
REVIEW

ed that they are not well informed about the “larger picture” of organic certification. Respondents did express a relative level of comfort with the manner in which organic certifiers currently uphold certification standards at the **small farm level**. Thirty-three percent of respondents who had an opinion gave the certification industry the highest possible score of “5” (on a 0-5 scale where 0 = “don’t know,” 1=poor and 5=excellent), for the overall integrity of organic certification at this level. However, respondents were much less certain about organic standards enforcement at the **large farm, processor, handler/distributor and imported product levels**. In each of these categories, the majority of respondents (ranging from 51% to 72% for these categories, respectively) indicated that they **don’t know** how well certifiers uphold organic standards in these areas.

Concerns and Hopes About the Proposed National Organic Program Standards (Secs. 7.4A-B)

Farmers were asked to indicate in their own words their greatest concerns regarding implementation of the federal organic standards required by the U.S. Organic Foods Production Act. The greatest number of respondents (302) said they were the most concerned that **organic standards will be weakened**. 223 respondents indicated that they **do not want genetically modified materials allowed** in the national organic program, 159 indicated concern that **costs and fees will be too high**, and 107 respondents indicated concern that **food irradiation will be allowed**.

In general, these top responses (as well as others receiving fewer mentions) are reflective of the mood during the early days following the release of the Proposed Rule, and represent the emphatic response by farmers and consumers in opposition to “the big three”, (genetically modified organisms, sewage sludge, and food irradiation) as allowable in products with the organic label. While a revised Proposed Rule has not yet been released as of publication of these results, USDA has since stated that these materials and processes will not be allowed within organic production processes under a national program.

It is conceivable that if growers were asked this question today, other issues would rise to a greater level of importance. A review of the spectrum of responses reflects a wide range of thoughts and feelings about the proposed national organic program, many of which remain pertinent (including the possibility of higher costs and weakened standards). As other examples, 71 respondents expressed concern that **the standards will undermine consumer confidence and trust**. Sixty-four respondents expressed the concern that the **rules will favor large corporate farms and/or will hurt small farms**. Fifty-three respondents fear **cheating, abuse, lack of enforcement and/or no support to provide enforcement**. Twenty-eight respondents expressed concern that **higher or more stringent certification will not be allowed beyond the federal standard**.

Respondents’ hopes regarding implementation of the proposed national organic program remain especially pertinent, and if asked today would likely have changed less than their concerns. The greatest number of respondents (137) indicated their hope that the **federal organic rules will establish a level playing field for all US organic producers**. 111 respondents expressed their hope that **organic standards will not be compromised**, and 108 hoped that a national program will lead to **greater consumer education and awareness about organic food and farming**. Fifty-two respondents indicated hope that **there is strong enforcement and/or that fraudulent and unverified claims are eliminated** (suggesting that there is concern among farmers about enforcement under the current system). Thirty respondents indicated their hope that **federal organic regulations will encourage more conversions to organic farming and the expansion of organic farming practices**. In contrast to this, it should be noted that a number of farmers (21) expressed fear (under “concerns”) that **easy or weakened standards would cause a market flood of “organic” product and lower prices**. However, it is remarkable that a visible segment of the population would seek to encourage expansion within their market, underscoring that they feel strongly about organic farming as a good farming practice, not just a marketing tool.

SECTION 8 Farm Management and Demographics

INTRODUCTION

Objectives

The objectives of the **Farm Management and Demographics** section are:

- 1) To collect basic demographic information about organic farms and farmers, including farm acreage, number of farm employees, level of education, organic farming income, location of farm and respondents' gender; and
- 2) To identify demographic changes and trends based on a comparison of these results with the results of previous OFRF surveys.

Formats

The simplest section to tabulate and review, these results present responses to mostly close-ended multiple choice questions.

8.1
TYPE OF
OPERATION: ALL
ORGANIC OR
MIXED
OPERATION

Q — *Is all of your production organic, or do you have a mixed organic and conventional operation? (Select category.)*

1,181 respondents. 1995 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	Response category
891	75%	79%	All organic
290	24%	20%	Mixed operation
11	1%	1%	No response

8.2
BUSINESS
STRUCTURE OF
FARMING
OPERATION

Q — *Which of the following business structures best describes your farming operation? (Select category.)*

1,183 respondents. 1993 and 1995 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Response category
857	72%	67%	70%	Single family—sole proprietor
180	15%	16%	14%	Family partnership
66	6%	6%	6%	Corporation
41	3%	5%	4%	Partnership—other than family
24	2%	**	3%	Other
10	1%	<1%	1%	Property management
5	<1%	1%	**	Cooperative
9	1%	1%	2%	No response
13	1%	1%	**	“Other” categories: Non-profit, educational, research
4	<1%	<1%	**	University-affiliated educational, research
2	<1%	<1%	**	Trust

8.3
FULL OR PART
TIME FARMER

Q — *Do you farm full or part time? (Select category.)*

# of respondents	n=1,192 %	Response category
733	62%	Full time
440	37%	Part time
19	1%	No response

8.4
FARM
MANAGEMENT

Q — *Management staffing: How many people, including yourself, are involved in major decisions regarding farm planning, production, marketing and other management decisions? (Fill in a number for each category.)*

8.4A Number of Farm Managers

# of responses	Managers	Total # of managers per category	Average # per category	Median # per category
895	Full-time managers	1,764	2	1
494	Part-time managers	952	2	2

Total number of managers, all respondents: 2,716 full and part-time managers

8.4
FARM
MANAGEMENT

8.4B Farm Managers—Grouped by Number per Farm

# of responses	Category	Number of Managers (top row)							
		Number of respondents per category (bottom rows)							
		1	2	3	4	5	6	7	8 or more
895	Full-time manager(s)	448	352	58	20	6	2	2	7
494	Part-time manager(s)	235	178	38	15	8	5	1	4

8.5
FULL TIME, PART
TIME AND
SEASONAL
EMPLOYEES

Q— How many full-time, part-time and/or seasonal paid employees worked on your farm in 1997? (Fill in a number for each category.)

8.5A Total Number of Farm Employees

# of responses	Employee category	Total # of employees per category	Average # per category	Median # per category
375	Full-time, year round	1,962	5	1
283	Full-time,seasonal	3,115	11	3
232	Part-time, year round	811	4	1
587	Part-time,seasonal	5,296	9	2

Total number of employees,all respondents: 11,184 full and part-time employees

8.5B Farm Employees—Grouped by Number per Farm

# of responses	Category	Number of employees (top row)									
		Number of respondents per category (bottom rows)									
		1	2	3	4	5	6-10	11-20	21-50	51-100	>100
375	Full-time, year round	193	83	27	12	12	24	15	5	0	4
283	Full-time,seasonal	80	57	38	16	14	28	18	19	7	6
232	Part-time, year round	122	55	15	16	4	12	6	1	0	1
587	Part-time,seasonal	68	127	64	42	38	88	28	18	3	10

8.6
FARM ACREAGE

Q— Indicate the acreage you currently farm that applies to the following categories. (Fill in.)

8.6A Acres Farmed

Farmers were asked to indicate (fill in) the total number of acres that they currently farm, and their organic acreage.

# of responses	Category	Average acreage	Total acreage	Number of acres (top row)									
				Number of acres per category (bottom rows)									
				<=2	>2 to 5	>5 to 15	>15 to 30	>30 to 50	>50 to 100	>100 to 500	>500 to 1000	>1000	
1,183	Acres farmed,total	208	245,529	143	153	189	113	84	128	263	60	50	
1,182	Organic acreage	140	164,966	161	163	201	135	85	128	247	34	28	

8.6B Acres Leased and Owned

Q— Farmers were asked to indicate (fill in) the number of acres that they either lease or own.

# of responses	Average Category	Total # of acres	# of acres
422	Acres leased	237	100,285
981	Acres owned	175	171,803

8.7
NET FAMILY
INCOME

Q — *In 1997, what percentage of your net family income came from organic production? (Select category.)*

1,143 respondents

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Percentage of net family income
566	48%	49%	42%	1% - 25%
203	17%	15%	25%	26% - 50%
139	11%	11%	15%	51% - 75%
234	20%	17%	14%	76% - 100%
49	4%	8%	4%	No response

8.8
GROSS ORGANIC
FARM INCOME

Q — *What was your farm's total gross organic farming income in 1997? (Select category.)*

1,149 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Gross organic income
81	7%	**	**	No income or loss
236	20%	27%	26%	Less than \$5,000
251	21%	23%	18%	\$5,000 to \$14,999
174	15%	13%	13%	\$15,000 to \$29,999
121	10%	9%	9%	\$30,000 to \$49,999
113	9%	10%	9%	\$50,000 to \$99,999
98	8%	7%	10%	\$100,000 to \$249,000
40	3%	3%	2%	\$250,000 to \$499,999
12	1%	1%	1%	\$500,000 to \$999,999
18	1%	<1%	2%	\$1 million to \$4.9 million
4	<1%	**	1%	\$5 million to \$19.9 million
1	<1%	**	**	Over \$20 million
43	4%	7%	6%	No response

** not evaluated for the year indicated.

8.9
NUMBER OF
YEARS FARMING

Q — *What is the total number of years you have been farming? (Fill in.)*

1,167 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Number of years farming
226	19%	22%	20%	1 to 5 years
242	20%	22%	21%	6 to 10 years
144	12%	15%	17%	11 to 15 years
192	16%	16%	18%	16 to 20 years
245	21%	15%	10%	21 to 30 years
71	6%	5%	5%	31 to 40 years
32	3%	3%	5%	41 to 50 years
15	1%	1%	2%	> 50 years
25	2%	1%	1%	No response

8.10
NUMBER OF
YEARS FARMING
ORGANICALLY

Q — *How many years have you been farming organically? (Fill-in.)*
1,176 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Number of years farming organically
423	35%	39%	36%	1 to 5 years
342	29%	31%	29%	6 to 10 years
152	13%	11%	16%	11 to 15 years
140	12%	10%	11%	16 to 20 years
97	8%	6%	5%	21 to 30 years
12	1%	<1%	<1%	31 to 40 years
5	<1%	<1%	1%	41 to 50 years
3	<1%	<1%	<1%	> 50 years
16	1%	1%	1%	No response

8.11
NUMBER OF
YEARS CERTIFIED
ORGANIC

Q — *How many years has your farm been certified organic? (Fill in.)*
1,155 respondents. 1995 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	Years certified organic
13	1%	**	Currently in transition
8	1%	1%	Less than 1 year
302	25%	29%	1 to 2 years
391	33%	35%	3 to 5 years
337	28%	25%	6 to 10 years
69	6%	5%	11 to 15 years
27	2%	1%	16 to 20 years
8	1%	<1%	>20 years
37	3%	2%	No response

** not evaluated for the year indicated.

8.12
STATE

Q — *In what state is your farm located? (Fill in.)*
1,180 respondents from 44 states.

State	# of Responses	State	# of Responses	State	# of Responses	State	# of Responses
AK	0	IL	32	MT	11	RI	7
AL	1	IN	14	NC	13	SC	1
AR	0	KS	22	ND	13	SD	13
AZ	2	KY	19	NE	23	TN	1
CA	179	LA	3	NH	11	TX	28
CO	27	MA	24	NJ	14	UT	4
CT	25	MD	20	NM	14	VA	7
DE	0	ME	63	NV	0	VT	33
FL	12	MI	44	NY	68	WA	90
GA	7	MN	21	OH	60	WI	76
HI	10	MO	14	OK	1	WV	4
IA	39	MS	0	OR	61	WY	0
ID	21	PA	28				

8.13
AGE

Q — *What is your age? (Fill in.)*

1,176 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Age
2	<1%	<1%	**	<=20 years of age
58	5%	3%	3%	21 to 30 years of age
241	20%	27%	33%	31 to 40 years of age
467	39%	39%	35%	41 to 50 years of age
267	22%	18%	14%	51 to 60 years of age
100	8%	8%	9%	61 to 70 years of age
41	3%	3%	2%	>70 years of age
16	1%	1%	4%	No response
Average age	47.5	46.5	45.5	
Median age	46	45	43	

**not evaluated for the year indicated.

8.14
EDUCATION

Q — *What is your level of formal education? (Select category.)*

1,175 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Level of education
23	2%	<1%	<1%	No formal education
32	3%	2%	2%	Some high school
145	12%	12%	27%	Completed high school
307	26%	26%	**	Some college
386	32%	34%	39%	Completed college
72	6%	6%	8%	Graduate work
210	18%	19%	20%	Graduate degree
17	1%	1%	4%	No response

**not evaluated for the year indicated.

8.15
GENDER

Q — *Your gender. (Select category.)*

1,171 respondents. 1995 and 1993 survey results are provided for comparison.

1997 # of respondents	1997 n=1,192 %	1995 n=945 %	1993 n=550 %	Gender
251	21%	21%	24%	Female
894	75%	77%	73%	Male
26	2%	**	**	Both (couples or partners)
21	2%	2%	3%	No response

**not evaluated for the year indicated.

SECTION 8
REVIEW

Overview

Of all the elements comprising the *Third Biennial National Organic Farmers' Survey*, the **Farm Management and Demographics** section remains the most similar to previous surveys. It is our goal to utilize these results to develop a sequence of demographic information about organic farms and farmers that will help identify changes and trends over time. Where possible, the results of the previous surveys are provided for comparison.

These results are largely from multiple choice response structures (or short fill-in responses, as would apply to topics such as **age** and **acreage**). As such, the figures largely speak for themselves. There are

SECTION 8 some trends and highlights worth mentioning, however, and these are discussed below.

REVIEW

Summary Results and Discussion

Type of Operation: All Organic or Mixed Operation (Sec. 8.1)

Seventy-five percent of respondents indicate having **all organic** operations, with 24% having **mixed operations**. Compared with the second biennial survey results (1995), the number of mixed operations has risen from 20% of respondents, suggesting an increase in the rate of transition to organic practices by conventional farmers.

Business Structure of Farming Operation (Sec. 8.2)

As past survey results have shown, by far the majority of organic farms are family farms. These results show that 72% of respondents' farms are **single family—sole proprietor**-based operations, and this figure has not changed significantly from previous survey results.

Full or Part Time Farmer, Farm Management, Number of Managers and Employees (Sec. 8.3–Sec. 8.5)

Sixty-two percent of respondents (733) are **full-time** farmers. 448 respondents indicate that their farms employ one **full-time manager**, and 352 respondents indicate employing two **full-time managers**, with all respondents together employing 2,716 full and **part-time farm managers**. 375 respondents indicate that they employ at least one additional **full-time, year-round employee**, and 283 respondents indicate employing at least one additional **full-time, seasonal employee**, with all respondents together employing 11,184 full and part-time employees.

Farm Acreage (Sec. 8.6)

All respondents report farming a total of 164,966 acres organically, with an average of 140 organic acres per farm. 324 respondents (27%) farm five or fewer acres organically; 336 respondents (28%) farm six to thirty acres; 213 respondents (18%) farm thirty-one to 100 acres; and 309 respondents (26%) farm more than 100 acres.

Net Family Income and Gross Organic Farm Income (Secs. 8.7–8.8)

Twenty percent of respondents indicate that 76 to 100% of their **net family income** came from organic production in 1997. This figure has increased from a reported 14% in 1993 and 17% in 1995. Approximately one-half of respondents (48%) indicated receiving 1% to 25% of their income from organic farming. Gross farming incomes from organic production appear to have changed little over the course of the three surveys. 27% of respondents indicate receiving less than \$5,000 (or a loss) in organic farming income in 1997. The largest percentage of respondents (46%) reported gross farm incomes between \$5,000 to \$49,000, and approximately 23% of respondents reported gross organic farming incomes of \$50,000 or more.

Number of Years Farming, Years Farming Organically and Certified Organic (Secs. 8.9–8.11)

Respondents indicate farming an average of 16.7 years (in 1995 16.2 years and in 1993 16.1 years); farming organically an average of 10.2 years (in 1995 9.1 years and in 1993 10.2 years) and being certified as organic for an average of 5.4 years (in 1995 4.7 years—this question was not asked in 1993).

State, Age and Education and Gender (Secs. 8.12–8.15)

Surveys were returned from farmers in forty-four states. The average age of respondents is 47.5 years (46.5 years in 1995 and 45.5 years in 1993). Though respondents' average age has risen slightly since 1993, the average age of respondents indicates that the population of organic farmers is considerably younger than the average age of all farmers in the U.S., which is approximately 60 years of age. 18% of respondents indicate having graduate degrees and one-fifth of respondents are women.

APPENDIX **A** Favorite Resources for Organic Production Information

Compiled from **Section 2: Information Resources**

The following pages are a compendium of those resources named by respondents as their favorite sources for organic production information. These are listed by category, in descending order of their “usefulness”, as ranked by respondents in Section 2.2. Where possible, we have included contact information for these sources. This list is provided as a resource for other potential users, and as a means to acknowledge the support these individuals and organizations have provided to the organic farming community.

Note: This appendix lists individuals and companies as they have been named by survey respondents. We encourage corrections to this information, and any contact information corresponding to the individuals and companies we were unable to find (those listings where no address or phone number is provided). **A listing in this appendix does not constitute an endorsement by OFRF of any services or products provided by these individuals, organizations or companies.**

Personal Contacts

OTHER FARMERS

Ranked 1st

Other Farmers were ranked first by respondents as their favorite resource for organic production information. Seventy respondents shared the names of their favorite farmers to “consult” with, ranging from individually named farmers to broader categories such as “neighbors,” or members of particular growers associations. Because of the confidentiality we are providing farmers who respond to our survey, other farmers named will remain confidential as well.

FIELD CONSULTANTS

Ranked 2nd

Favorite **Field Consultants** for organic production information—63 respondents. Arranged by state. **For field consultants named more than once, the number of responses received is shown in parentheses following the name.**

California

Amigo Cantisano (5)
Organic Ag Advisors
P.O. Box 1622
Colfax, CA 95713
916-637-2864

Sam Earnshaw
P.O. Box 2965
Santa Cruz, CA 95063
831-476-6432

Ralph Jurgens
New Era Farm Service
23004 Rd 140
Tulare, CA 93274

Cynthia Lashbrook
Four Seasons Ag Consulting
12230 Livingston-Cressey Rd.
Livingston, CA 95334

Doug O'Brien
2714 Placer St.
Santa Cruz, CA 95062

Sierra Ag

Bob Schaffer
Native Cultures
4770 Cavedale Rd.
Glen Ellen, CA 95442
707-938-8665

Jim Stewart
Fred Thomas

Idaho
Woody Deryckx
3736 Cape Horn Rd.
Concrete, WA 98237
360-826-3655

Indiana
Ben Chadd
Maine
Charlie Armstrong

Michigan
Joe Scrimger (5)
Bio-Systems
Clifford, MI 48727
517-635-2864

Missouri

Carroll Montgomery
Rt. 1, Box 364
Dexter, MO 63841

Nebraska

New Horizons

New York

William Brinton
Woods End Laboratory
Old Home Road
Rt. 2, Box 1850
Mt. Vernon, ME 94352
207-293-2457

Ohio

Ag Restore

Oregon

Tom Ward

Vermont

Sarah Flack

Washington

Mariah Cornwoman
1221 1/2 Gary St.
Wenatchee, WA 98801

Wilbur Ellis

Steve Harris

Oliver Kienholz

Brian McWhorter

Jeff Sample

Wisconsin

Bio Source Components
Threshold IPM

Multi-State

(CO, PA, SD)

Neil Kinsey

573-683-3880

(IA, MI, MO, WI)

MidWestern Bio-Ag (16)
Hwy. ID Box 126
Blüe Mounds, WI 53517
1-800-327-6012

SUPPLIERS Ranked 3rd

Favorite **Suppliers** for organic production information-70 respondents.
Arranged alphabetically.

Suppliers receiving more than three responses were: Johnny's Selected Seeds (64), Peaceful Valley Farm Supply (33), Integrated Fertility Management (20), Fedco Seeds (13), Ohio Earth Food, Inc. (4), and Harmony Farm Supply and Nursery (4). All other suppliers received three or fewer responses.

AgRestore, Inc.
94 E. Bremer Ave.
Waverly, IA 50677
agrestore@agrestore.com
<http://www.agrestore.com>

AgriEnergy Resources
21417 1950E St.
Princeton, IL 61356
815-872-1190
815-872-1928 (fax)
agrier@TheRamp.net

AgLife

Chr. Hansen BioSystems
4015 W. Maple St.
Milwaukee, WI 53214
1-888-828-6600
<http://www.chrhansen.com/>

Bountiful Gardens
18001 Shafer Ranch Rd.
Willits, CA 95490
707-459-6410

Burpee Seed Co.
023763 Burpee Building
Warminster, PA 18974
1-800-888-1447
1-800-487-5530 (fax)
<http://www.burpee.com>

Dripworks
380 Maple St.
Willits, CA 95490
1-800-616-8321

Fedco Seeds
P.O. Box 520
Waterville, ME 04903
207-873-7333

Fertrell Company
P.O. Box 265
Bainbridge, PA 17502
717-367-1566
717-367-9319 (fax)
<http://www.fertrell.com>

Garden City Seeds, Inc.
778 Hwy. 93 N.
Hamilton, MT 59840
406-961-4837
406-961-4877 (fax)
seeds@juno.com

Green Seed Co.
P.O. Box 29247
Atlanta, GA 30359
404-633-2778

The Green Spot
Department of Bio-Ingenuity
93 Priest Rd.
Barrington, NH 03825
1-800-443-4437
603-942-8925
<http://www.hortnet.com/ecgei/ger/Greenspot.html>

Growers Chemical Co.

Harmony Farm Supply and Nursery
P.O. Box 460
Graton, CA 95444
707-823-9125
707-823-1734 (fax)
info@harmonyfarm.com
<http://www.harmonyfarm.com>

Horizon Herbs
P.O. Box 69
Williams, OR 97544
541-846-6704
herbsd@aol.com

Integrated Fertility Management
333-B Ohme Gardens Rd.
Wenatchee, WA 98801
506-662-3179
800-332-3179 (orders)

Johnny's Selected Seeds
Foss Hill Rd.
Albion, ME 04910
207-437-4290

Lakeland Equipment

Major Seed Co

MidWestern Bio-Ag
Hwy. ID Box 126
Blue Mounds, WI 53517
1-800-327-6012

Northwest Irrigation Network
(crop water use and water conservation service)

IRZ Consulting
505 E. Main
Hermiston, OR 97838
541-567-0252
irz@eoni.com
<http://www.irz.com/NIN/>

Ohio Earth Food, Inc.
5488 Swamp St. NE
Hartville, OH 44632
330-877-9356
330-877-4237 (fax)

Ornamental Edibles
3622 Weedin Ct.
San Jose, CA 95124
408-946-7333
408-946-0181

W. Osborne Seed Co. Intl.
1679 Hwy. 99 S.
Mt. Vernon, WA 98273

Peaceful Valley Farm Supply
P.O. Box 2209
Grass Valley, CA 95945
530-272-4769
530-272-4794 (fax)
contact@groworganic.com
<http://www.groworganic.com>

Profiseed, Inc.
1691 Hwy. 65
Hampton, IA 50441
518-456-5955

Rainflo

Ronnigers Potato Farm
Star Route, Rd. 73
Moyie Springs, ID 83845
208-267-7938
208-267-3265

Seeds of Change
P.O. Box 15700
Santa Fe, NM 87505
505-438-8080
505-438-7052 (fax)
<http://www.seedsofchange.com>

Shur-Gro Farm Services
Box 128
Shoal Lake, Manitoba
ROJ 1Z0
CANADA
204-759-2688

Silver Seed Greenhouses
P.O. Box 62
Bivalve, MD 21814
410-873-2942
410-873-2728 (fax)

Snow Pond Farm Supply
RR 2, Box 4075
Belgrade, ME 04917
1-800-768-9998
<http://www.snowpond.com>

Stokes Seeds
P.O. Box 548
Buffalo, NY 14240-0548
717-695-6980
1-888-834-3334
<http://vaxxine.com/seeds/>

Territorial Seed Co.
206-8475 Ontario St.
Vancouver, BC
V5X 3E8
CANADA

Timeless Seeds

Winett Irrigation

**GROWERS'
ASSOCIATIONS,
ORGANIC
CERTIFICATION
PERSONNEL, AND
OTHER NON-
PROFIT
ORGANIZATIONS**

Ranked 4th, 5th, 9th Favorite **Growers' Associations** (4th), **Organic Certification Personnel** (5th) and **"Other" Non-Profit Organizations** (9th) for organic production information — 132 respondents, 146 respondents, and 66 respondents, respectively.

Arranged by state, and alphabetically. *For organizations named more than three times, the number of responses received is shown in parentheses following the name*

Certification organizations are often growers' associations; and growers' associations and certification organizations are often non-profit organizations. Because of this, we have chosen to list all of the three groups together in the following format:

Label Notes:

If the group is a certification organization, it is labeled "C".

If it is not a certification organization, but is a growers' association, it is labeled "G".

If it is neither a certification organization nor a growers association, it is labeled "N" for non-profit organization.

California

G Bio-Dynamic Farmers and Gardeners Association
P.O. Box 29135
San Francisco, CA 94129
1-888-516-7797
Biodynamic@aol.com
Publications, conferences, seminars and research on biodynamic practices.

N Bio-Integral Research Center (BIRC) (4)
P.O. Box 7414
Berkeley, CA 94707
510-524-2567
Information on IPM and least toxic pest control.

C California Certified Organic Farmer (CCOF) (20)
Diane Bowen, Executive Director
1115 Mission Street
Santa Cruz, CA 95060
831-423-2263
<http://www.ccof.org>
Certification and trade association for organic producers in CA.

N Committee for Sustainable Agriculture (CSA) (2)
406 Main St., Ste. 313
Watsonville, CA 95076
831-763-2111
831-761-8988
Sponsor Ecological Farming Conference and other S.A. conferences in CA.

N Community Alliance with Family Farmers (CAFF)
P.O. Box 363
Davis, CA 95617
530-756-8518
530-756-7857
caff@igc.apc.org
S.A. workshops & meetings, and pesticide reduction programs in CA.

N Ecology Action

John Jeavons
5798 Ridgewood Rd.
Willits, CA 95490
707-459-0150
707-459-5409

Information on biointensive mini-farming.

N Occidental Arts and Ecology Center

15290 Coleman Valley Rd.
Occidental, CA 95465
707-874-1557
oaec@igc.org

Permaculture, seed saving, ecological gardening & living practices.

N Organic Farming Research Foundation (OFRF) (2)

P.O. Box 440
Santa Cruz, CA 95061
831-426-6606
research@ofrf.org

National organic research grants program.

Connecticut

C Northeast Organic Farming Association (NOFA-CT) (11)

P.O. Box 386
Northford, CT 06472-0386
203-484-2445
203-484-7621 fax

NOFACT@Connix.com

<http://www.connix.com/~nofact/>
Certification and marketing assistance in CT and New England.

Florida

G Florida Organic Growers and Consumers (FOG)

Marty Mesh
P.O. Box 12311
Gainesville, FL 32604
352-377-6345
352-377-8363 fax
fogoffice@aol.com

Certification and education in FL and internationally.

Hawaii

C Hawaii Bio-Organic Growers Association

Robert Faust, Managing Officer
P.O. Box 800
Honolulu, Kona, HI 96726
808-328-2083
808-328-9760 fax

Organic and "bio-rational" certification program.

Idaho

N Palouse Clearwater Environmental Institute (PCEI)

P.O. Box 8596
Moscow, ID 83843
208-882-1444
208-882-8029

pcei@moscow.com

S.A. education lectures and tours, and mini grants program.

Indiana

N Hoosier Organic Marketing Education (HOME)

8364 S SR 39
Clayton, IN 46118
317-539-6935 (phone & fax)
cvof@iquest.net

Organic marketing network for Indiana.

GROWERS'
ASSOCIATIONS,
ORGANIC
CERTIFICATION
PERSONNEL, AND
OTHER NON-
PROFIT
ORGANIZATIONS

- C Indiana Certified Organic**
Val Carr
1168 N CR 575 W
Greencastle, IN 46135
765-653-8933
Vcarr@ccrtc.com
Non-membership certification in IN.
- Iowa**
- G Heartland Organic Marketing Cooperative**
Ken Rosmann
1240 Ironwood Rd.
Harlan, IA 51537-4102
712-627-4217
Midwest processing and marketing cooperative.
- N Practical Farmers of Iowa**
Nan Bonfils, Program Assistant
Room 2104, Agronomy Hall
Iowa State University
Ames, IA 50011
515-294-8512
nanb@iastate.edu
Facilitate farmer-based research and farmer/scientist cooperation.
- G Organic Farmers Marketing Association (OFMA)**
P.O. Box 2407
Fairfield, IA 52556
515-472-3272
erorganic@aol.com
<http://web.iquest.net/ofma/>
National marketing association.
- Kansas**
- G Kansas Organic Producers**
Edward P. Reznicek
RR2, Box 23
Goff, KS 66428
913-939-2032
Marketing cooperative in KS.
- N Kansas Rural Center**
2002 E.1600 Rd.
Lawrence, KS 66044
913-841-7044
Promote family farming and S.A. practices, marketing issues.
- Kentucky**
- N Community Farm Alliance**
200 Short St., #10
Berea, KY 40403
606-986-7400
Working to develop sustainable farming systems in KY.
- C Kentucky Dept. of Agriculture**
C. Hope Crain, Program Coordinator
500 Metro St. 7th Floor
Frankfort, KY 40601
502-564-6676 ext.263
502-564-7852 fax
Certification in KY.
- G Kentucky Organic Farming and Gardening Association**
Nancy Hobbs, President
380 Humble Rd.
Campbellsville, KY 42718
502-465-9045
e-mail: charmwood@eagleweb.net
Education outreach for organic production and marketing in KY.
- G Kentucky Organic Growers**
Pam Clay
620 S. Broadway, Ste. 206
Lexington, KY 40508
606-233-7845
Growers association.
- Maine**
- C Maine Organic Farmers and Gardeners Association (MOFGA) (31)**
Eric Sideman
P.O. Box 2176
Augusta, ME 04338-2176
207-622-3118
Certification, education, marketing, apprenticeship, & policy programs.
- Maryland**
- G Maryland Certified Organic Growers Coop**
Rick Hood
e-mail: GIFTCAL@aol.com
<http://www.mdpps.com>
Growers association in MD.
- C Maryland Dept. of Agriculture**
Bob Pooler, Coordinator for Organic Program
Marketing Services
50 Harry S. Truman Pkwy., Rm 210
Annapolis, MD 21401
410-841-5770
410-841-5987 fax
<http://www.mda.state.md.us/>
Certification in MD.
- N Maryland Organic Food and Farming Association (MOFFA)**
Doug Britt, President
e-mail: mcdougo@aol.com
- N Henry A. Wallace Institute for Alternative Agriculture**
9200 Edmonston Rd., Ste. 117
Greenbelt, MD 20770
301-441-8777
301-220-0164
Research, education, and policy for S.A. Publishes American Journal of Alternative Agriculture.
- Massachusetts**
- C Northeast Organic Farming Association (NOFA-MA) (9)**
411 Sheldon Rd.
Barre, MA 01005
978-355-2853
978-355-4046 fax
e-mail: JACKKITT@aol.com
<http://ma.nofa.org>
Certification and education in MA and New England.
- G Organic Trade Association (OTA)**
P.O. Box 1078
Greenfield, MA 01302
413-774-7511
413-774-6432
e-mail: ota@igc.apc.org
<http://www.ota.com>
Trade association for North America.
- Michigan**
- N Michigan Agricultural Stewardship Association (MASA)**
Tom Guthrie
7301 Milo Rd.
Delton, MI 49046
616-623-2261
616-623-5038
On-farm research, extension partnerships, & education about S.A.
- N Michigan Integrated Food & Farming Systems (MIFFS)**
P.O. Box 4903
East Lansing, MI 48826
517-353-3209
517-353-7186
Promote S.A. through community-based models.
- C Organic Growers of Michigan**
Craig Kovacic, President
5605 Ewalt
Imlay City, MI 48444
810-724-1476 phone/fax
e-mail: cvkegg@ibm.net
Certification and grower association.
- N Seven Ponds Nature Center**
3854 Crawford Rd.
Dryden, MI 48428-9776
810-796-3200
Wildlife and nature conservation center.
- Minnesota**
- N Midwest Organic Alliance**
400 Selby Ave., Ste. T
St. Paul, MN 55102
651-265-3678
651-265-3679
e-mail: moa7@aol.com
<http://www.midwestorganic.org/>
Marketing association.

GROWERS'
ASSOCIATIONS,
ORGANIC
CERTIFICATION
PERSONNEL, AND
OTHER NON-
PROFIT
ORGANIZATIONS

C Organic Growers and Buyers Association (OGBA)

Sue Cristan
7362 University Ave., NE Ste. 208
Fridley, MN 55432
612-572-1967
612-572-2527 fax
800-677-6422

International certification.

G Sustainable Farming Association of Minnesota

Ralph Lentz
RR 2 Box 78
Lake City, MN 55041
612-345-2557

S.A. education in Minnesota.

Montana

N Alternative Energy Resource Organization (AERO)

25 S.Ewing, Rm. 214
Helena, MT 59601
406-443-7272
406-442-9120

e-mail: aero@desktop.org

Rural planning, land use, and sustainable farming systems in MT.

Nebraska

N Nebraska Sustainable Agriculture Society

1200 N St., Ste. 610
Lincoln, NE 68508
402-471-0817
402-471-8690

e-mail: crisc@navix.net

On-farm research, demonstration & education projects on S.A. in NE.

C Organic Crop Improvement Association (OCIA)

National Office
John Moore, C.O.O.
Krista Kennedy
1001 Y Street, Ste. B
Lincoln, NE 68508
402-477-2323

402-477-4325 fax

http://www.ocia.org

International certification through network of local chapters.

New Hampshire

C New Hampshire Dept. of Agriculture

Bureau of Markets
Vickie Smith
P.O. Box 2042
Concord, NH 03302-2042
603-271-3685
603-271-1109 fax

Certification in NH.

New Jersey

N New Jersey Farm Bureau

168 W. State St.
Trenton, NJ 08608
609-393-7163
609-599-1209
e-mail: NJFB@pluto.njcc.com
http://www.fb.com/njfb/

Farmer membership organization.

C Northeast Organic Farming Association (NOFA-NJ)

Emily B. Rosen, Acting Executive Director, Technical Director
Karen Anderson, Certification Administrator
33 Titus Mill Road
Pennington, NJ 08534
609-737-6848

609-737-2366 fax

e-mail: nofanj@aol.com

http://www.nofa.org

Certification and technical support.

New Mexico

N Center for Holistic Management

Allan Savory
1007 Luna Circle NW
Albuquerque, NM 87102
505-842-5252
505-843-7900

Information on range and natural resource management.

N New Mexico Apple Council

C New Mexico Organic Commodity Commission

Joran Viers
516 Chama St. NE #D
Albuquerque, NM 87108-2027
505-266-9849

Certification, technical assistance, and market networking.

New York

C Demeter Association

Anne Mendenhall, Director
Britt Road
Aurora, NY 13026
315-364-5617
315-364-5224 fax

International certification for biodynamic farms.

G Fingerlakes Organic Growers Coop

G New York State Vegetable Growers

G North America Blueberry Council

c/o Lewis & Neale, Inc.
49 East 21 St.
New York, NY 10010
212-420-8808
212-254-2452
e-mail: laneale@aol.com
http://www.fspronet.com/nabc/
Marketing group for blueberry growers.

C Northeast Organic Farming Association (NOFA-NY) (11)

Patricia Kane, Administrator
26 Towpath Rd.
Binghamton, NY 13904
607-724-9851

607-724-9853 fax

e-mail: nofany@aol.com

http://www.nofa.org

Certification, workshops.

N Regional Farm & Food Project

27 Elm St.
Albany, NY 12202
518-426-9331

518-465-8349

e-mail: lizbrian@juno.com

New England S.A. education, farmer-to-farmer workshops, marketing projects.

North Carolina

C Carolina Farm Stewardship Association

Laura Lauffer, Executive Director
Sarah Slover, Certification Coordinator
Alyx Perry, Education Coordinator
P.O. Box 448
Pittsboro, NC 27312

919-542-2402

919-542-7401 fax

e-mail: cfsa@sunsite.unc.edu

http://sunsite.unc.edu/cfsa/index.htm

Certification, workshops, tours, and marketing assistance for North and South Carolina.

G Carolina Organic Growers

Marty Thies
87 Maney Branch Rd.
Weaverville, NC 28787
704-658-2156

Grower association in NC.

North Dakota

C Farm Verified Organic (FVO)

Annie Kirschenmann, Program Manager
5449 45st. SE
Medina, ND 58467
701-486-3578

701-486-3580 fax

International certification services.

GROWERS'
ASSOCIATIONS,
ORGANIC
CERTIFICATION
PERSONNEL, AND
OTHER NON-
PROFIT
ORGANIZATIONS

N Northern Plains Sustainable Agriculture Society (NPSAS)
Theresa Podoll, Executive Secretary
9824 79th St. SE
Fullerton, ND 58441
701-883-4304
S.A. education, tours, conferences in ND, SD, and neighboring region.

Ohio

C Ohio Ecological Food and Farm Association (OEFFA) (14)
Sylvia Upp, Cert. Coordinator
P.O. Box 82234
Columbus, OH 43202
614-294-FOOD
614-291-FARM fax
e-mail: oeffa@iwaynet.net
<http://www.greenlink.org/oeffa>
Certification, apprenticeship program, conferences & tours.

Oregon

N Northwest Coalition for Alternatives to Pesticides (NCAP)
P.O. Box 1393
Eugene, OR 97440
541-344-5044
541-344-6923
Policy reform and education program to reduce pesticide use in OR, WA, ID, MT and CA.

C Oregon Tilth (13)
Yvonne Frost, Certification Director
1860 Hawthorne Ave. NE, Ste. 200
Salem, OR 97303
503-378-0690
503-378-0809 fax
International certification and certification policy.

Pennsylvania

N Pennsylvania Association for Sustainable Agriculture (PASA)
P.O. Box 419
Millheim, PA 16854
814-349-9856
814-349-9840
Conferences, field days, on-farm demonstrations to promote S.A. in PA and Northeast.

C Pennsylvania Certified Organic
Leslie Zuck, Executive Director
P.O. Box 452
Centre Hall, PA 16828
814-364-1344
814-364-2330
e-mail: paorganics@aol.com
Certification in PA.

N Rodale Institute Research Center
611 Siegfriedale Rd.
Kutztown, PA 19530
610-683-6383
610-683-8548
info@rodaleinst.org
Organic research, education, and demonstration farm.

Rhode Island

C Rhode Island Organic Certification Comm.
Resource Marketing
Division of Agriculture
Dept. of the Environmental
Management
Dennis Martin
235 Promenade St.
Providence, RI 02908
401-222-2781 X-4509
401-222-6047 fax
Certification for RI

Texas

C Texas Dept. of Agriculture (6)
Leslie McKimmon, Organic
Certification Coordinator
P.O. Box 12847
Austin, TX 78711
512-475-1641
512-463-8225 fax
Certification for TX.

G Texas Organic Cotton Growers Association
Mark Wilkes, President
Rte. 1, Box 72
Meadow, TX 79345
806-585-6557
Grower association for TX cotton.

G Texas Organic Growers Association (TOGA)
Sue Johnson
P.O. Box 15211
Austin, TX 78761
512-842-1131
Education resource, publish Texas Organic Resource Directory.

Vermont

C Northeast Organic Farming Association (NOFA-VT)
Enid Wonnacott, Executive Director
Kirsten Bower, Office Manager
P.O. Box 697, Bridge St.
Richmond, VT 05477
802-434-4122
802-434-4154 fax
<http://www.nofavt.org/>
Certification, technical assistance, apprenticeship and consumer education programs.

Virginia

N Nature Conservancy
International Headquarters
1815 N. Lynn St.
Arlington, VA 22209
703-841-5300
<http://www.tnc.org>
International conservation and land acquisition group.

Washington

C Washington Dept. of Agriculture
Food Safety and Animal Health
Organic Food Program
Miles McEvoy, Program Manager
Suzanne Schillander
P.O. Box 42560
Olympia, WA 98504-2560
360-902-1877
360-902-2087 fax
Certification in WA.

G Washington Tilth Producers

P.O. Box 85056
Seattle, WA 98145
206-892-3952
SA in WA, conferences and policy updates.

West Virginia

C Mountain State Organic Growers and Buyers (MSOGBA)
Marion Harless
Rt. 1, Box 98-I
Kerens, WV 26276
304-636-5505
Certification, education and marketing

Wisconsin

G Coulee Region Organic Producers Pool (CROPP)
P.O. Box 159
La Farge, WI 54639
608-625-2602
Producers' marketing cooperative.

N Wisconsin Rural Development Center
Denny Caneff
125 Brook Wood Dr.
Mt. Horeb, WI 53512
608-437-5971
608-437-5972
Promote policy and research, and information on rotational grazing and organic production.

Canada

G Ginseng Growers Association of Canada
Mike Atkins, President
395 Queensway West, 2nd Fl.
Simcoe, Ontario N3Y 2NY
CANADA
519-426-7046
519-426-9087
Growers association.

BUYERS

Ranked 6th

Favorite **Buyers** for organic production information —52 respondents.
Arranged by state. None received more than two responses.

California

Canandaigua WineCo.
Frey Winery
New Leaf Stores
Potsdam Cooperative

Colorado

Boulder Fruit Express
Mountain Sun
Sundrop Grocery
Wild Oats

Illinois

OCIA

Iowa

American Health & Nutrition
Profiseed, Int'l.

Michigan

American Soy Products
Eden Foods
Uncle Luke's Feed Store

Montana

Timeless Seeds
Mtn. Flour & Grain

Nebraska

Grain Place Foods

New York

Jonathan Organics

North Carolina

Berry Hill Irrigation
Carolina Organic Growers

North Dakota

Prairie Organic

Oregon

Cascadian Farms
Daily Grind

Pennsylvania

New Morning Farm

Texas

Frontier Herbs
HEB
THD
Whole Foods

Wisconsin

CROPP Cooperative

Also receiving general mentions:
Farmers market customers, chefs.

**OTHER
GOVERNMENT
AGENCIES**

Ranked 7th

Favorite "**Other**" **Government Agencies** for organic production information—91 respondents. Eighty-four respondents listed ATTRA (Appropriate Technology Transfer to Rural Areas) as their favorite information resource in this category. Comments about ATTRA: "Very good," "good publications," "is the best!" ATTRA, P.O. Box 3657, Fayetteville, AR 72702 (800) 346-9140

**UNIVERSITY-
BASED
RESEARCHERS**

Ranked 8th

Favorite **University-Based Researchers** for organic production information—108 respondents. Arranged by state. Some contacts also appear under Cooperative Extension Advisors. (We have attempted to list names and contact information accurately—any corrections are welcome.) For researchers named more than once, the number of responses received is shown in parentheses following the name

* denotes contact person not listed by name on survey.

California

Robert Bugg (2)
Sustainable Agriculture Research &
Education Program
University of California, Davis (3)
Davis, CA 95616
530-757-3279
rlbugg@ucdavis.edu

Marita Cantwell De Trejo
Department of Vegetable Crops
University of California, Davis
Davis, CA 95616
530-752-7305
530-752-4554
micantwell@ucdavis.edu

Nicholas J. Mills
Assistant Professor
ESPM/Insect Biology
University of California, Berkeley
201 Wellman
Berkeley, CA 94720-3112
509-642-1711
NMILLS@NATURE.Berkeley.EDU

Sean Swezey (3)
Center for Agroecology and Sustainable
Food Systems
University of California, Santa Cruz
1156 High St.
Santa Cruz, CA 95064
831-459-4367
findit@cats.ucsc.edu

Mark Van Horn
Student Experimental Farm
University of California, Davis
Davis, CA 95616
530-752-7645
530-952-4361

University of California, Riverside
Agricultural Experiment Station & Ag.
Operations
909-787-5906
College of Natural & Agricultural
Science Dean's Office
311 College Bldg. North

University of California, Riverside
Riverside, CA 92521
909-787-7292
909-787-4190 fax
lisa.arth@ucr.edu
http://cnas.ucr.edu

Colorado

Colorado State University
Agricultural Research Development and
Education Center
4616 NE Frontage Rd.
Ft. Collins, CO 80524
970-491-2405
970-491-2355

Bill Brown

Connecticut

Robert Durgy
Department of Plant Science
University of Connecticut
Storrs, CT 06268
860-870-6935
RDURGY@canrl.cag.uconn.edu

UNIVERSITY-
BASED
RESEARCHERS

Florida

Institute of Food & Agriculture Services
University of Florida
P.O. Box 110200
Gainesville, FL 32611-0200
352-392-1784
352-392-4965
research@gnu.ifas.ufl.edu
http://research.ifas.ufl.edu/visit/

Georgia

Glendon H. Harris, Jr.
Assistant Professor
Crop & Soil Sciences-CES
Rural Development Center
Tifton, GA 31793-1209
912-386-3194

Idaho

Corrine Lyle*
College of Agriculture
University of Idaho
Moscow, ID 83843
208-885-5883
208-885-6654

Indiana

Purdue University
Cooperative Extension Service
103 Agriculture Admin. Bldg.
West Lafayette, IN 47907
317-494-8494
317-494-5876
bpu@mace.cc.purdue.edu

Iowa

Matt Liebman (5)
Associate Professor
Cropping Systems Agronomist
Department of Agronomy
Iowa State University
3218 Agronomy Hall
Ames, IA 50011-1010
515-294-7486
515-294-3163
mliebman@iastate.edu

Wendy Wintersteen*
Director of Agriculture & Natural
Resources Extension
132 Curtiss Hall
Iowa State University (4)
Ames, IA 50011-1050
515-294-7801
515-294-5334
x1lagdir@exnet.iastate.edu

Kansas

Rhonda R. Janke
Associate Professor
Kansas State University (4)
2014 Throckmorton Hall
Manhattan, KS 66506-5501
785-532-5776
785-532-6094
rjanke@oz.oznet.ksu.edu

Chuck Marr

Horticulture, Forestry, Resource
Kansas State University
2021 Throckmorton Hall
Manhattan, KS 66506-5506

Kentucky

Marion Simon*
Kentucky State University (3)
P.O. Box 196
Frankfort, KY 40601
502-227-6437
502-227-5933
msimon@gwmail.ksu.edu

Robert Hadad (3)

University of Kentucky
N310A Ag.Science, North
Lexington, KY 40546

Maine

Gary Anderson*
5741 Libby Hall, Room 10
University of Maine (6)
Orono, ME 04469-5741
207-581-3240
207-581-3325
garya@umce.umext.maine.edu

Maryland

William J. Kenworthy
Professor
Natural Resources Science
Rm. 3107, H.J. Patterson Hall
University of Maryland
College Park, MD 20742-5821
301-405-1324
wk7@umail.umd.edu

K. Marc Tefteau*

Wye Research & Education Center
P.O. Box 169
Queenstown, MD 21658
410-827-8056
410-827-8039
Kt4@umail.umd.edu

Massachusetts

John Howell*
University of Massachusetts (2)
210 Stockbridge Hall
Amherst, MA 01003
413-545-4768
413-545-6555
howell@umext.umass.edu

Michigan

Richard Harwood (3)
Mott Professor
Crop & Soil Sciences Dept.
Michigan State University
A 260 Plant and Soil Sciences Bldg.
East Lansing, MI 48824
517-432-1611
rharwood@pilot.msu.edu

Montana

Jim Sims
Montana State University
Plant, Soil & Environmental Sciences
Bozeman, MT 59717-0312
406-994-5073
406-994-3933

G. Jackson

Nebraska

John Doran
USDA-REF-ARS-NPA-S&WCR
University of Nebraska
E. Campus, Keim Hall, Rm. 116
Lincoln, NE 68583
402-472-1510
402-472-0516
jdoran@unlinfo.unl.edu

New Hampshire

Bruce A. Marriott*
122 Taylor Hall
University of New Hampshire (6)
59 College Rd.
Durham, NH 03824
603-862-2033
603-862-1585
bruce-marriott@unh.edu

New Mexico

Raymond E. Gomez*
New Mexico State University
Cooperative Extension Service
369 Alcalde St.
Alcalde, NM 87511
505-852-3215
505-852-2857
gr@nmsu.edu

New York

Michael P. Hoffmann (2)
Associate Professor
Cornell University
Judd Falls & Tower Rd.
Department of Entomology
Insectary Bldg.
Ithaca, NY 14853
607-255-1327
607-255-1720
mph3@cornell.edu

Anusuya Rangarajan
Department of Fruit & Vegetable
Science
Cornell University
134-A Plant Science Bldg.
Ithaca, NY 14853
607-255-1780
607-255-0599

UNIVERSITY-
BASED
RESEARCHERS

Ohio

Steven Baertsche*
32 Agriculture Admin. Bldg.
Ohio State University (2)
2120 Fyffe Rd.
Columbus, OH 43210
614-292-4077
614-292-3747
Baertsche.1@osu.edu

Benjamin Ray Stinner (3)
Professor
OARDC-Wooster
Ohio State University
Thorne
Wooster, OH 44691
330-263-3737
Stinner.1@osu.edu

Oregon

Bill Braunworth*
Oregon State University
138 Strand Ag. Hall
College of Agriculture Sciences
Corvallis, OR 97331-0817
541-737-1317
541-737-3178
braunwob@ccmail.orst.edu

Pennsylvania

Pennsylvania State University (2)
214 Armsby Bldg.
University Park, PA 16802
814-863-8638
814-865-3746

Rhode Island

David Caruso*
134 Woodward Hall
University of Rhode Island
Kingston, RI 02881
401-874-2599
401-792-4017
caruso@uriacc.uri.edu

South Dakota

Larry Tidemann*
South Dakota State University
Cooperative Extension Service
Ag. Hall 152, Box 2207D
Brookings, SD 57007
605-688-4147
605-688-6733
tidemanl@mg.sdstate.edu

Texas

Roland Smith*
Texas A&M University (2)
Texas Ag. Extension Service
College Station, TX 77843-2124
409-845-1751
409-845-3140

Washington

Jay Brunner (5)
Washington State University
Tree Fruit Research & Extension Center
1100 N. Western Ave.
Wenatchee, WA 98801
509-663-8181
509-662-8714

David Granatstein

Statewide Coordinator
Center for Sustainable Agriculture &
Natural Resources
Washington State University
1100 N. Western Ave.
Wenatchee, WA 98801
509-663-8181
509-662-8714

West Virginia

William B. Bryan
Agriculture, Forestry & Conservation
Sciences
West Virginia University
P.O. Box 6108
Morgantown, WV 26506

Wisconsin

Rick Klemme*
University of Wisconsin
1450 Linden Dr., Rm. 126
Madison, WI 53706
608-262-5201
608-262-4376
klemme@wisplan.uwex.wisc.edu

COOPERATIVE
EXTENSION
ADVISORS

Ranked 10th

Favorite **Cooperative Extension Advisors** —122 respondents. Arranged by state. Some contacts also appear under University-Based Researchers. We have attempted to list names and contact information accurately—corrections are welcome. For Cooperative Extension Advisors named more than once, the number of responses received is shown in parentheses following the name.

* denotes contact person not listed by name on survey.

California

Larry Bettiga
Farm Advisor
University of California
Cooperative Extension, Santa Cruz &
Monterey Counties
1432 Freedom Blvd.
Watsonville, CA 95076-2796
831-763-8040
209-763-8006
cesantacruz@ucdavis.edu

Janet Caprile
University of California
Cooperative Extension, Contra Costa
County
75 Santa Barbara Rd., 2nd Fl.
Pleasant Hill, CA 94523-4215
510-646-6540
jlcaprile@ucdavis.edu

Ben Faber

University of California
Cooperative Extension, Ventura County
UCCE office
702 County Square Dr.
Ventura, CA 93003-5404
805-645-1451
805-645-1474
bafaber@ucdavis.edu

Calvin "Benny" Fouché (2)

Farm Advisor
University of California
Cooperative Extension, San Joaquin
County
420 S. Wilson Way
Stockton, CA 95205-6243
209-468-2085
209-462-5181
bfouché@ucdavis.edu

Lonnie Hendricks, Farm Advisor

University of California
Cooperative Extension, Merced County
2145 W. Wardrobe Ave.
Merced, CA 95340
209-385-7403
209-722-8856
cemerced@ucdavis.edu

**University of California
Cooperative Extension, Mendocino
County**

Mendocino County Ag. Center
Courthouse
Ukiah, CA 95482
707-463-4495

**COOPERATIVE
EXTENSION
ADVISORS**

Gene Miyao, Farm Advisor

University of California Cooperative
Extension, Yolo County
70 Cottonwood St.
Woodland, CA 95695
530-666-8143
530-666-8736
emmiyao@ucdavis.edu

Bill Olson

Butte County Ag. Advisor
2279 Del Oro Ave., Ste. B
Oroville, CA 95965
916-538-7201

Richard Smith (4)

University of California
Cooperative Extension
1432 Abbott St.
Salinas, CA 93901
831-759-7357
831-758-3018

Sean Swezey

Center for Agroecology and Sustainable
Food Systems
University of California, Santa Cruz
1156 High St.
Santa Cruz, CA 95064
831-459-4367
findit@cats.ucsc.edu

Ron Voss

Department of Vegetable Crops
University of California, Davis
Davis, CA 95616

John F. Williams (2)

Farm Advisor
University of California Cooperative
Extension, Sutter-Yuba Counties
142-A Garden Hwy.
Sutter County Agricultural Bldg.
Yuba City, CA 95991-5593
530-822-7515
530-673-5368

Yolo County Cooperative Extension

70 Cottonwood St.
Woodland, CA 95695
916-666-8143
916-666-8736

Colorado

Chet Anderson

Fresh Herb Co.
4114 Oxford Rd.
Longmont, CO 80503

Arkansas Valley Research Center

27901 Road 21
Rocky Ford, CO 81067
719-254-6312
719-254-6312 fax
avaes@coop.ext.colostate.edu

Whitney Cranshaw

Extension Worker & Researcher
Colorado State University
Department of Entomology
Ft. Collins, CO 80523
303-491-6781
303-491-0564
wcransha@ceres.agsci.colostate.edu

Rogers Mesa Research Center

Hotchkiss, CO 81419
970-491-2405

Tri River Extension

Connecticut

**Connecticut Agricultural
Experiment Station**

123 Huntington St.
New Haven, CT 06511
203-974-8500
<http://www.state.ct.us/caes/>

Georgia

**University of Georgia Cooperative
Extension Service**

Athens, GA 30602
706-542-1861
706-542-4131
<http://www.ces.uga.edu>

Stephen P. Brady

Public Service Assistant
Gwinnet Justice & Admin. Center
Lawrenceville, GA 30045-6935
770-822-7700
uge1135@uga.cc.uga.edu

Newton County Extension

1115 Usher St. NE
Covington, GA 30014
770-784-2010
770-784-2083
uge2217@uga.edu

Carol Propes *

Forsyth County Extension

County Government Bldg.
101 E. Maple St.
Cumming, GA 30040
770-887-2418
770-887-2403
uge1117@uga.edu

Gwinn Gy

Hawaii

Dale Sato
University of Hawaii
Pearl City CES, Urban Garden Center
HITAGR
808-453-6059
808-453-6052
satohd@avax.ctahr.hawaii.edu

Idaho

University of Idaho

Cooperative Extension System
Ag. Science Room 111
Moscow, ID 83844-2333

Danny Barney

Extension Horticulturist
Sandpoint Research & Extension
Center
University of Idaho
2105 N. Boyer
Sandpoint, ID 83864
208-263-2323
208-263-4470
dbarney@uidaho.edu

Kevin M. Laughlin

EM Power Coordinator
Idaho Water Resources Research Inst.
205 Morrill Hall
University of Idaho
Moscow, ID 83844-3011
208-885-2170
208-885-6431
lauglin@uidaho.edu

Jeff Rast

University of Idaho Ext. Educator
Camas County Extension
Fairfield, ID
jrast@uidaho.edu

Robert Stoltz

Extension Entomology Specialist
Twin Falls Research & Extension
Center
University of Idaho
P.O. Box 1827
Twin Falls, ID 83303-1827
208-736-3600
208-736-0843
bstoltz@uidaho.edu

Illinois

Edward Ballard

Extension Agent
Animal Systems (swine)
Effingham Extension Center
1209 Wenthe Dr.
Effingham, IL 62401-1697
217-347-5126
217-347-5150

A. Eaton

Indiana

Purdue University
Cooperative Extension Service
103 Agriculture Admin. Bldg.
West Lafayette, IN 47907
317-494-8494
317-494-5876
bpu@mace.cc.purdue.edu

**COOPERATIVE
EXTENSION
ADVISORS**

Iowa

Iowa State Extension
2517 Park Ave.
Muscatine, IA 52761
<http://www.exnet.iastate.edu>
Kansas

Mark A. Johnson*
Director of Extension
Director of Agricultural Experiment
Station

Kansas State University (4)
114 Waters Hall
Manhattan, KS 66506-4008
913-532-6147
mjohnson@oz.oznet.ksu.edu
<http://www.oznet.ksu.edu>

Maine

**University of Maine Cooperative
Extension (2)**

495 College Ave.
Orono, ME 04473-1294
207-581-2942
207-581-1301
<http://www.umext.maine.edu/UMCEhomedpage>

**University of Maine Cooperative
Ext.**

Sustainable Agriculture Office
495 College Ave.
Orono, ME 04473-1294
207-581-2942
1-800-870-7270 (in ME)
207-581-1301 (fax)
triffin@umce.umext.maine.edu

Richard Brzozowski

Cumberland County Extension
P.O. Box 9300
15 Chamberlain Ave.
Portland, ME 04104-9300
207-780-4205
1-800-287-1471 (in ME)
207-780-4382 (fax)
rbrz@umce.umext.maine.edu

Richard Kersbergen (2)

Waldo County Extension
RR 4, Box 4645
Belfast, ME 04915-9627
207-342-5971
1-800-287-1426 (in ME)
1-800-924-4909 (fax)
richardk@umce.umext.maine.edu

David E. Yarborough

Extension Blueberry Specialist
University of Maine
Deering Hall 414
Orono, ME 04473
207-581-2923
davey@umce.umext.maine.edu

Maryland

University of Maryland Cooperative
Extension
<http://www.agnr.umd.edu/CES/>

H. Reed

Calvert County Extension
P.O. Box 486
Prince Frederick, MD 20678
410-535-3662

Wayne Shaft

Wicomico County Extension
P.O. Box 1836
Salisbury, MD 21802
410-749-6141

Massachusetts

University of Massachusetts Extension
<http://www.umass.edu/umext/>

Cranberry Experiment Station

Glen Charlie Rd.
East Wareham, MA 02538-0569
501-295-2212
501-295-6387

Ruth V. Hazzard

Extension Specialist
Dept. of Entomology, West
Agricultural Engineering Bldg
Box 30210
University of Massachusetts
Amherst, MA 01003-0210
413-545-3696
413-545-5858
rhazzard@umext.umass.edu

John Howell (2)

Extension Specialist
University of Massachusetts
Western Extension Center
210 Stockbridge Hall, Box 30099
Amherst, MA 01003-0099
413-545-4768 or 4769
413-545-6555
howell@umext.umass.edu

Michigan

Richard M. Hodupp
Extension & Natural Resources Agent
Lapeer County Extension
1575 Suncrest Dr.
Lapeer, MI 48446-1138
810-667-0341
810-667-0355
hodupp@msue.msu.edu

Robert R. Tritten

Dist. Extension Hort./Marketing Agent
Genesee County Extension
County Bldg. #2
G-4215 W. Pasadena Ave.
Flint, MI 48504-2376
810-732-2177
810-732-1400
tritten@msue.msu.edu

Montana

Judy Wargo
Chouteau County

Nebraska

University of Nebraska Cooperative
Extension
<http://www.ianr.unl.edu/>

Dodge County Extension

1206 W. 23rd St.
Fremont, NE 68025-2504
402-727-2775
dodge@unlvm.unl.edu
<http://www.ianr.unl.edu/ianr/dodge/>

Charles Francis

University of Nebraska
225 Keim Hall
Lincoln, NE 68583

Terry Gompert

University of Nebraska Cooperative
Extension
P.O. Box 45
Center, NE 68724
402-288-4430
402-288-4207

Knox County Extension

Box 45
Center, NE 68724-0045
402-288-4224
cnty3121@unlvm.unl.edu

Jane Sooby (2)

High Plains Agricultural Lab
3257 Rd. 109
Sidney, NE 69162

Paul Swanson, Extension Educator

Adams County Extension
Box 30
Hastings, NE 68902-0030
402-461-7809
cnty4141@unlvm.unl.edu

New Hampshire

William G. Lord

University of New Hampshire
Cooperative Extension
Plant Biology Department
131 Main St.
Durham, NH 03824
603-862-3203
603-862-4757
wgl@christa.unh.edu

Cheryl Smith

Ext. Specialist, Plant Health
Plant Biology Department
Rm. 242, Spaulding Life Sciences Bldg.
38 College Rd.
Durham, NH 03824-3544
603-862-3841
603-862-2717
cheryl.smith@unh.edu

**COOPERATIVE
EXTENSION
ADVISORS**

Steve Turaj
Coos County Agricultural Educator
North County Resource Center
629A Main St.
Lancaster, NH 03584
603-788-4961
603-788-3629
Steven.Turaj@unh.edu

New Jersey

Daniel Kluchinski
Rutgers Cooperative Extension
930 Spruce St.
Trenton, NJ 08648
609-969-6830

New Mexico

Raymond E. Gomez*
**New Mexico State University
Cooperative Extension Service**
369 Alcalde St.
Alcalde, NM 87511
505-852-3215
505-852-2857
gr@nmsu.edu

Socorro County Extension
214 Neal Ave. NW
Socorro, NM 87801
505-835-0610
505-838-4066

New York

**Cornell University Cooperative
Extension (4)**
<http://www.cce.cornell.edu>

Brian Caldwell (2)
Cornell Cooperative Extension
56 Main St.
Oswego, NY 13827

Carol MacNeil
Cornell Cooperative Extension
480 N. Main St.
Canadaigua, NY 14424
716-394-3230

L. Stevens

North Carolina
North Carolina State University
Extension
<http://www.ces.ncsu.edu>

Mark O'Farrell (2)
Chatham County Extension
Agricultural Bldg.
15 South2
North Dakota Ag. Experiment Station
315 Morrill

North Dakota State University
Fargo, ND 58105
701-231-7655
701-231-8520
exp.dir@ndsuent.nodak.edu

Oregon

Dan McGrath
Oregon State University Cooperative
Extension
3180 Center St. NE
Salem, OR 97301
503-588-5301
503-585-4940
mcgrathd@mar3.oes.orst.edu

Bill Rogers

Ag/Forestry/4-H Agent
Lincoln County Extension
29 SE Second St.
Newport, OR 97365-4496
541-574-6534
William.Rogers@orst.edu
<http://osu.orst.edu/dept/lincext/>

Pete Gonzales

Pennsylvania

**Pennsylvania State University
Cooperative Extension (2)**
[http://www.cas.psu.edu/docs/COEXT/
COOEXT.html](http://www.cas.psu.edu/docs/COEXT/COOEXT.html)

Daniel J. Royse (2)
Professor
Dept. of Plant Pathology
Mushroom Research Center
316 Buckhout Lab
Pennsylvania State University
University Park, PA 16802
814-865-7322
djr4@psu.edu

South Dakota

Larry Tidemann*
**South Dakota State University
Cooperative Extension Service**
Ag. Hall 152, Box 2207D
Brookings, SD 57007
605-688-4147
605-688-6733
tidemanl@mg.sdstate.edu

Texas

**Texas Agricultural Extension
Service**
P.O. Box 38
Overton, TX 75684
903-834-6191
903-834-7140
<http://agextension.tamu.edu/>

Gillespie County Extension
95 Frederick Rd.
Fredericksburg, TX 78624
830-997-3452
830-997-6378
w-botard@tamu.edu

Vermont

Vernon Grubinger (4)
Extension Vegetable & Berry Specialist
Director of Center for Sustainable
Agriculture
University of Vermont (5)
590 Main St.
Burlington, VT 05405-0059
802-656-0233
802-656-8874
Vernon.Grubinger@uvm.edu

Washington

**Washington State University
Extension**
<http://ext.wsu.edu/>

San Juan County Extension
P.O. Box 609
Friday Harbor, WA 98250-0609
360-378-4414
360-378-2187
schultzt@wsu.edu

Timothy Smith
Chelan County Extension
Douglas Okenogan Bldg.
400 Washington St.
Wenatchee, WA 98801-2855
509-664-5540
smitht@wsu.edu

Chris Smith

Wisconsin

University of Wisconsin Extension
<http://www.uwex.edu/ces/dir.html>

Lee Cunningham*
Ag. Agent
Walworth County Extension
W3929 County Rd. NW
Elkhorn, WI 53121
414-741-3190
414-741-3189
lee.cunningham@ces.uwex.edu

Arden Hardie*
Ag. Agent
Jackson County Extension
Jackson County Courthouse
307 Main St.
Black River Falls, WI 54615
715-284-4257
715-284-7600
arden.hardie@ces.uwex.edu

Paul Hartman
Horticulture Agent
Brown County Extension
Agriculture/Extension Center
1150 Bellevue St.
Green Bay, WI 54302-2259
920-391-4610
920-391-4617
paul.hartman@ces.uwex.edu

Dwight Swenson

**STATE
AGRICULTURAL
DEPARTMENTS**

Ranked 11th

Favorite **State Agriculture Departments** for organic production information-18 respondents. Arranged alphabetically. None received more than one response.

California Dept.of Food & Ag.
Colorado Dept.of Ag.
Idaho Dept.of Ag.
Kentucky Dept.of Ag.

Massachusetts Dept.of Ag.
Maine Dept.of Ag.
New Hampshire Dept.of Ag.
Texas Dept.of Ag.

Washington Dept.of Ag.
Wisconsin Dept.of Ag.

USDA OFFICES

Ranked 12th

Favorite **USDA National or Regional Offices** for organic production information-31 respondents. Arranged alphabetically. For offices named more than once, the number of responses received is shown in parentheses following the name.

Agricultural Marketing Service
National Agricultural Library (2)
Natural Resources Conservation Service (3)

Regional offices in Florida, Idaho, Delaware
SARE (6)
Soil and Water Conservation Service (6)

Places and Things

**FARMING &
GARDENING
BOOKS**

Ranked 1st

Favorite **Farming & Gardening Books** for organic production information-209 respondents. Arranged alphabetically by title, author, and publisher..

Highest scorers: Eliot Coleman books: *The New Organic Grower* and *The Four Season Harvest* (64 mentions), Books by Rodale Press (48), Acres, USA books (8)

Titles:

Backyard Market Gardening
Business of Herbs
Common Sense Pest Control
Encyclopedia of Organic Gardening
Gardening West of the Cascades
Growing Great Garlic
Hands-On Agronomy

Herbal Renaissance
Metro Farm
Pastured Poultry Profits
Secrets of the Soil
Soul of the Soil
Seed Starters Handbook
Sell What You Sow

Steel in the Field
The Joy of Gardening
(The) Real Dirt
Weeds and What They Tell
Weeds: Control Without Poisons

Authors:

William Albrecht
Wendell Berry
Sir Albert Howard
Wes Jackson

John Jeavons
Herbert Koepf
Nicolas Lampkin
Bill Mollison

Joel Salatin
Steve Solomon
Martha Stewart
Charles Walters

Publishers: Bio-Dynamic Publishing, Sunset Books

**CONFERENCES
AND SEMINARS**

Ranked 2nd

Favorite **Conferences & Seminars** for organic production information-150 respondents. Arranged alphabetically. *For conferences and seminars named more than once, the number of responses received is shown in parentheses following the name.*

Acres, USA Conference (9)
December 10-12, 1998

Neil Kinsey Pre-Conference Seminar
December 7-9, 1998
Radison Hotel South, Minneapolis, MN

Acres, USA
P.O. Box 8800
Metairie, LA 70011-8800
504-889-2100, info@acresusa.com

Bio-Dynamic Farmers and Gardeners Association Conference (4)
October 1999
Spring Valley, NY

BFGA
P.O. Box 29135
San Francisco, CA 94129
1-888-516-7797, Biodynamic@aol.com

CONFERENCES
AND SEMINARS

Carolina Farm Stewardship Conference (2)
13th Annual Sustainable Agriculture Conference
Elliot Coleman, keynote speaker
November 6-8,1998
The Madren Center, Clemson University, Clemson,SC

Carolina Farm Stewardship Association
P.O. Box 448
Pittsboro,NC 27312
919-542-2402,cfsa@intrex.net
<http://sunsite.unc.edu/cfsa/>

Common Ground Fair (2)
September 25-27,1998
Unity, ME

Farmer to Farmer (6)
November 6-8,1998
Bar Harbor, ME

Maine Organic Farmers and Gardeners Association
P.O. Box 2176
Augusta,ME 04338-2176
207-622-3118

C.R.O.P.P./Organic Valley Grower Meetings
C.R.O.P.P. holds two regional meetings per year, exclusively for their dairy cooperative members. They also participate and contribute to various national and regional conferences and seminars sponsored by other organizations.

For C.R.O.P.P. membership information:
P.O. Box 159
La Farge,WI 54639
608-625-2602

Eco-Farm (16)
January 20-23,1999
Asilomar, Pacific Grove,CA

Committee for Sustainable Agriculture
406 Main St.,Ste.313
Watsonville,CA 95076
831-763-2111

EcoFair (2)
The organizers of EcoFair are in the process of establishing a permanent site for an eco-village,which will house future conferences and workshops relevant to organic farming. For more information about this project please contact Cathy Blackwood-512-445-4624.

In the meantime,the Texas Organic Growers Association will be holding a conference in early 1999 which may serve some of the same constituency as EcoFair did.

Texas Organic Growers Association Marketing Conference
January 16,1999
Red Lion Inn, Austin,TX

TOGA
P.O. Box 15211
Austin,TX 78761
Sue Johnson-512-842-1131

Farming For The Future (5)
8th Annual
February 12-13,1999
Penn State Conference Center, State College, PA

Pennsylvania Association for Sustainable Agriculture
P.O. Box 419
Millheim, PA 16854
814-349-9856

Farm Direct Marketing Association Conference
November 20-21,1999
Pasco Doubletree, Pasco, WA

Pacific Northwest Farm Direct Marketing Association
P.O. Box 4612
Pasco, WA 99302
509-547-5538

Lighthouse Farm Network
monthly chapter meetings throughout California

Reggie Knox
Community Alliance with Family Farmers
P.O. Box 363
Davis,CA 95617
831-457-1007
<http://www.caff.org>

Mountain State Organic Growers and Buyers Association Conference
October 31-November 1,1998
Elk River Touring Center, Slaty Fork,WV

Marion Harless
MSOGBA
Rt.1,Box 98-I
Kerens,WV 26276
304-636-5505

New Mexico Organic Commodity Commission Conference
January 16,1999
Santa Fe,NM

NMOCC
Joran Viers,Executive Director
516 Chama St.NE,Rm. D
Albuquerque,NM 87108
505-266-9849
nmocc@nm-us.campus.mci.net

Northeast Organic Farming Association Summer Conference (24)
August 13-15,1999
Hampshire College,Amherst,MA

NOFA-MA
411 Sheldon Rd.
Barre,MA 01005
413-247-9264,JACKKITT@aol.com
<http://www.nofa.org>

**CONFERENCES
AND SEMINARS**

Ohio Ecological Food and Farm Association Annual Conference (4)
March 13-14, 1999
Wilmington College, Wilmington, OH

OEFFA
P.O. Box 82234
Columbus, OH 43202
614-267-3663, oeffa@iwaynet.net
<http://www.greenlink.org/oeffa>

Organic Crop Improvement Association Seminars (3)

OCIA National Office
1001 Y Street, Ste. B
Lincoln, NE 68508
402-477-2323
402-477-4325
<http://www.ocia.org>

Organic Growers and Buyers Association Annual Meeting

includes workshops for certification application and for inspectors
February 27, 1999
Hutchinson, MN

OGBA
7362 University Ave., NE, Ste. 208
Fridley, MN 55432
1-800-677-6422

Practical Farmers of Iowa Annual Meeting

to include some sessions on organic
January 8-9, 1999
Gateway Holiday Inn, Ames, IA

Swine Systems Options Conference

co-sponsor, along with the Leopold Center
February 17, 1999
Scheman Center, Iowa State University, Ames, IA

Field Days

June to September 1999
various locations

Nan Bonfils, Program Assistant, PFI
Room 2104, Agronomy Hall
Iowa State University
Ames, IA 50011
515-294-8512, nanb@iastate.edu

Sustainable Agriculture Working Group Workshops (5)

There are no workshops planned for 1999 at this time.

Kai Siedenburg
California SAWG
P.O. Box 1599
Santa Cruz, CA 95061
831-457-2815
831-457-1033

Upper Midwest Organic Farming Conference (18)
10th Annual, "Organic Works at Home and Around the World"

March 5-6, 1999
Sinsinawa Mound Center, Sinsinawa, WI

for conference flier call 715-772-6819
Faye Jones, Conference Coordinator
N7834 County Rd. B
Spring Valley, WI
715-722-3153, fjeoc@win.bright.net
<http://agile.net/UMOFC/>

Washington Tilth Producers' Annual Conference and Trade Show (3)

"Farming for Our Future: Supporting Local Organic Agriculture"
November 13-15, 1998
Ellensburg, WA

Washington Tilth Producers
P.O. Box 85056
Seattle, WA 98145
206-892-3952

**FARMING &
GARDENING
PERIODICALS**

Ranked 3rd

Favorite **Farming & Gardening periodicals** for organic production information-370 respondents. (A total of 75 titles were identified) Highest ranking titles were:

Title	Responses
<i>Organic Gardening</i>	94
<i>Acres, USA</i>	84
<i>Growing for Market</i>	73
<i>The Natural Farmer</i>	29
<i>Small Farm Journal</i>	19
<i>Stockman Grass Farmer</i>	16
<i>American Vegetable Grower</i>	9

Responses grouped by acreage:

For those indicating Organic Gardening as favorite periodical, average organic farm acreage = 45.8 acres.
For those indicating Acres, USA as a favorite periodical, average organic acreage = 214.2 acres.
For those indicating Growing for Market as a favorite periodical, average organic acreage = 12.9 acres.

FIELD DAYS & ON-FARM DEMONSTRATIONS

Ranked 4th

Favorite **Field Days & On-Farm Demonstrations** for organic production information-61 respondents. Arranged by state. For field days and demonstrations named more than once, the number of responses received is shown in parentheses following the name.

California

CAFF Lighthouse Breakfast events and BIOS/BIFS workshops (4)
CSA tour
Full Belly Farm
Herbert Ranch Compost Workshops
SAREP U.C.Davis Field Days
Tulare Farm Show

Connecticut

Connecticut Ag. Extension workshops

Georgia

SAWG

Idaho

Carver's Apple Ranch

Iowa

UMOFC

Kansas

Heartland Mill
Kansas State Univ.
OCIA

Kentucky

Kentucky State Univ.
Univ. of Kentucky workshops

Maine

Farmer to Farmer Conference
MCGA
MOFGA (2)
Common Ground Fair

Massachusetts

Cooperative Extension
MARS Twilight Meetings
Organic Farming Conference, U-Mass.

Michigan

Michigan State University
Kellogg Biological Station
OGM Workshops

Missouri

Iowa OCIA Tours Workshop

New York

Draft Horse Progress Days
Empire Farm Days
NOFA-NY events (2)

North Dakota

NPSAS Field Days

Ohio

OEFFA Farm Tours (5)
Rodale Farm (2)

Oregon

Ecological Farming Conference
Tilth Conference

Washington

Extension-sponsored events
Tilth tours (2)

Wisconsin

Grazing conference
Michael Fields Ag. Institute events
Midwest Bio Ag field days

VIDEO & AUDIO TAPES

Ranked 5th

Favorite **Video and Audiotapes** for organic production information-45 respondents. Arranged alphabetically. For video/audiotapes named more than once, the number of responses received is shown in parentheses following the name.

Acres-USA tapes & video theater (2)
Anne & Eric Nordell videotape (5)
Ecological Farming Conference audio-tapes
Farmers & Their Weed Control Machines (3)
Gardening Naturally
Graze New York

Growing and Selling Lettuce
Holistic Resource Management
Kenneth and Winifred Hoffman
Salad Making for Profit (2)
My Father's Garden (2)
NOFA Videotapes (5)
OCIA
Oregon Extension

Oregon Tilth videos
PASA Conference
SARE Videos (2)
Steel in the Field video
Univ. of Maine Extension
Woods End Lab

INTERNET WEBSITES

Ranked 6th

Favorite **Internet Websites** for organic production information-16 respondents. Arranged alphabetically.

AFSIC (<http://www.nal.usda.gov/afsic>)
ATTRA (<http://www.attra.org/>)
Cornell Univ. (<http://www.cce.cornell.edu>)
Jim Duke's
Herb Marketing Network (<http://herbnet.com>)
ITRM (?)
National Agricultural Library (<http://www.nal.usda.gov>)
OFMA (<http://web.iquest.net/ofma/>)

Permaculture Network (<http://sunsite.unc.edu/london/permaculture.html>)
SARE (<http://www.uvm.edu/~nesare>)
SAREP (<http://www.sarep.ucdavis.edu/>)
Standards sites
Sustainable Farming Connection (<http://sunsite.unc.edu/farming-connection>)
USDA (<http://www.usda.gov/>)
NOP page (<http://www.ams.usda.gov/nop>)

EMAIL GROUPS

Ranked 7th

Favorite **Email Groups & Subscriptions** for organic production information-13 respondents. Arranged alphabetically. For email groups/subscriptions named more than once, the number of responses received is shown in parentheses following the name.

Ag Alert	Oregon Tilth	SANET (4)
American Vegetable Grower	Sturbridge-VT Vegetable Growers	SAED-SHARE-L
Growing for Market	DOMBIRD	NSAS Newsletter
OGBA	Permaculture (2)	U-Mass,Amherst

RADIO

Ranked 8th

Favorite **Radio Programs/Stations** for organic production information-19 respondents. Arranged by state. For radio programs/stations named more than once, the number of responses received is shown in parentheses following the name.

NPR's Living on Earth—Bill Duesing (2)	WIBW local farm radio	<u>New York</u> CBC Gardening Talk Show,
Public Radio in general (6)		
Weather channels (2)	<u>Minnesota</u> Market to Market	<u>South Dakota</u> Agritalk
<u>California</u> Amigo Cantisano (2)	<u>Montana</u> KMON Ag Reports	<u>Texas</u> Howard Garret Show WBAP (5) John Dromgoole-KLBJ
<u>Georgia</u> Walter Reeves-WSB Atlanta	<u>New Jersey</u> Ralph Snedsmith—WOR	<u>Washington</u> KPCU Seattle
<u>Kansas</u> Agritalk		

TV

Ranked 9th

Favorite TV (Broadcast) for organic production information-35 respondents. Arranged alphabetically. For TV programs/stations named more than once, the number of responses received is shown in parentheses following the name.

<i>Ag Day-CBS</i>	<i>Gardening Naturally (2)</i>	<i>HGTV (5)</i>
<i>California Heartland (4)</i>	<i>Victory Garden (9)</i>	<i>Market to Market (2)</i>
<i>Channel Earth (2)</i>	<i>Made in Maine</i>	<i>Your Organic Garden</i>
<i>Farm Bureau California Ag Report</i>	<i>Learning Channel</i>	

APPENDIX **B** Favorite Resources for Organic Marketing Information

Compiled from **Section 2: Information Resources**

The following is a compendium of those resources named by respondents as their favorite sources for organic marketing information. These are listed by category, in descending order of their “usefulness” as ranked by respondents in Section 2.4. This list is provided as a resource for other potential users, and as a means to acknowledge the support these individuals and organizations have provided to the organic farming community.

Note: This appendix lists individuals and companies as they have been named by survey respondents. We encourage corrections to this information. ***A listing in this appendix does not constitute an endorsement by OFRF of any services or products provided by these individuals, organizations or companies.***

BUYERS

Ranked 1st

Favorite **Buyers** for organic marketing information—97 respondents. Arranged alphabetically by name or type of buyer. ***For buyers named more than once, the number of responses received is shown in parentheses following the name.***

Ambrosia	Green Methods	Real Food Co.
American Health and Nutrition (2)	Hancock County Organic Growers	Rhea's
Besteman Produce	health/natural food chains in general	Robert's Seed
Bread and Circus	health/natural food stores in general (5)	Sfogleia Fine Pastas
CF Fresh (2)	Heartland Organic (2)	Sundrop Groceries
Colorado Gorge Organic Fruit	HEB	Sunrich
CROPP (6)	Jonathan Organics	Sunwest Foods
Carolina Organic Growers (2)	local stores in general (4)	THD
Charlie's Produce (2)	Lundberg Family Farms	Timeless Seeds
chefs in general	Mifflin Street Coop	Tree of Life
Clarkson Grain Co.(2)	Mountain People's Warehouse	Veritable Vegetable (3)
Community Mercantile	Montana Flour & Grain	Vermont Organic Grain
co-ops in general (8)	Mycal	VitaSpelt Corp.
Dixon Ridge Farm	restaurants in general (5)	Walnut Acres
Eagle's Nest Grove	New Organics Company	Wild Oats
Earl's Organics (4)	Organically Grown Coop (5)	Whole Foods (3)
Eden Foods (2)	Park Slope Cooperative	Willimantic Food Coop
farmers marketing coops in general(3)	PetoSeed	Willy Street Coop
Fresh Fields	Prairie Organic	
Good Food Store (2)		
Grain Place Foods (2)		

OTHER FARMERS	<u>Ranked 2nd</u>	Favorite “Other Farmers” for organic marketing information—59 respondents. <i>(Individual farmers named will remain confidential).</i>			
INDIVIDUAL CONSUMERS/CUSTOMERS	<u>Ranked 3rd</u>	Favorite Individual Consumers/Customers for organic marketing information—32 respondents. Arranged alphabetically by type. Number of responses per category are in parentheses. CSA members (9) farmers market customers (23)			
PERIODICALS	<u>Ranked 4th</u>	Favorite Periodicals (newsletters & magazines) for organic marketing information—109 respondents. Arranged alphabetically by title. <i>For periodicals named more than once, the number of responses received is shown in parentheses following the name.</i>			
		<table border="0" style="width: 100%;"> <tr> <td style="width: 33%; vertical-align: top;"> <p><i>Acres, USA</i> (10) <i>CCOF Newsletter</i> Capital Press newspaper <i>Co-op America</i> <i>Food & Wine</i> <i>Furrow</i> Garlic Seed Foundation Georgia Market Bulletin Good Fruit <i>Grassfarmer Magazine</i> <i>Growing for Market</i> (56) Heartland Newsletter, Inc.</p> </td> <td style="width: 33%; vertical-align: top;"> <p><i>Kitchen Garden</i> Martha Stewart MOFGA Newsletter <i>Natural Business</i> <i>Natural Farmer</i> (3) <i>Natural Foods Merchandiser</i> (2) <i>Natural Pharmacy</i> New Hampshire Market Bulletin NOFA Newsletter (5) <i>Nut Grower Magazine</i> OCIA Newsletter Oregon Tilth Newsletter (<i>In Good Tilth</i>) (2)</p> </td> <td style="width: 33%; vertical-align: top;"> <p>Organic Farmers of Michigan newsletter <i>Organic Food Business News</i> <i>Organic Gardening Magazine</i> (12) Practical Farmers of Iowa newsletter <i>Small Farm Journal</i> (4) <i>Southern Sustainable Farmer</i> <i>Sunset</i> Tilth Newsletter, Tri-River newsletter</p> </td> </tr> </table>	<p><i>Acres, USA</i> (10) <i>CCOF Newsletter</i> Capital Press newspaper <i>Co-op America</i> <i>Food & Wine</i> <i>Furrow</i> Garlic Seed Foundation Georgia Market Bulletin Good Fruit <i>Grassfarmer Magazine</i> <i>Growing for Market</i> (56) Heartland Newsletter, Inc.</p>	<p><i>Kitchen Garden</i> Martha Stewart MOFGA Newsletter <i>Natural Business</i> <i>Natural Farmer</i> (3) <i>Natural Foods Merchandiser</i> (2) <i>Natural Pharmacy</i> New Hampshire Market Bulletin NOFA Newsletter (5) <i>Nut Grower Magazine</i> OCIA Newsletter Oregon Tilth Newsletter (<i>In Good Tilth</i>) (2)</p>	<p>Organic Farmers of Michigan newsletter <i>Organic Food Business News</i> <i>Organic Gardening Magazine</i> (12) Practical Farmers of Iowa newsletter <i>Small Farm Journal</i> (4) <i>Southern Sustainable Farmer</i> <i>Sunset</i> Tilth Newsletter, Tri-River newsletter</p>
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CONFERENCES & WORKSHOPS	<u>Ranked 5th</u>	Favorite Conferences and Workshops for organic marketing information—62 respondents. Arranged alphabetically by event/sponsor. <i>For conferences/workshops named more than once, the number of responses received is shown in parentheses following the name.</i>			
		<table border="0" style="width: 100%;"> <tr> <td style="width: 33%; vertical-align: top;"> <p>Biodynamic Association EcoFair-Texas Ecological Farming Conference (5) North American Farm Direct Marketing Conference (5) Farmer to Farmer Conference (2) Florida Organic Growers' Conference Iowa Extension Organic Conference International Ginseng Conference Kansas Organic Producers</p> </td> <td style="width: 33%; vertical-align: top;"> <p>Kansas Rural Center Kentucky State University (2) Univ. of Kentucky Maryland Organic Food and Farming Assoc. MOFGA (2) MSOGBA Nebraska Sustainable Agriculture Society NOFA workshops and conferences (14) Northeast CSA</p> </td> <td style="width: 33%; vertical-align: top;"> <p>OCIA (2) OEFFA (6) PASA (2) Rocky Mountain Farmers Union TOGA UMOFC (8) Virginia Biological Farming Assoc. WVHA</p> </td> </tr> </table>	<p>Biodynamic Association EcoFair-Texas Ecological Farming Conference (5) North American Farm Direct Marketing Conference (5) Farmer to Farmer Conference (2) Florida Organic Growers' Conference Iowa Extension Organic Conference International Ginseng Conference Kansas Organic Producers</p>	<p>Kansas Rural Center Kentucky State University (2) Univ. of Kentucky Maryland Organic Food and Farming Assoc. MOFGA (2) MSOGBA Nebraska Sustainable Agriculture Society NOFA workshops and conferences (14) Northeast CSA</p>	<p>OCIA (2) OEFFA (6) PASA (2) Rocky Mountain Farmers Union TOGA UMOFC (8) Virginia Biological Farming Assoc. WVHA</p>
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BOOKS	<u>Ranked 6th</u>	Favorite Books for organic marketing information—35 respondents. Arranged alphabetically by title, type or author. <i>For books named more than once, the number of responses received is shown in parentheses following the name.</i>			
		<table border="0" style="width: 100%;"> <tr> <td style="width: 33%; vertical-align: top;"> <p>Acres-USA books <i>Backyard Market</i> <i>Blue Book</i> <i>CAFF National Organic Directory</i> (5) Eliot Coleman <i>Farmers Market Cookbook</i></p> </td> <td style="width: 33%; vertical-align: top;"> <p><i>Farms of Tomorrow</i> <i>Guerilla Marketing</i> <i>Herbs for Sale</i> <i>Herbs as a Cash Crop</i> <i>Organic Encyclopedia</i> <i>Organic Gardening</i> by H.Garrett</p> </td> <td style="width: 33%; vertical-align: top;"> <p><i>Pay Dirt</i> Rodale Press (2) Joel Salatin <i>Sell What You Sow</i> by Eric Gibson (13) Booker Whatley</p> </td> </tr> </table>	<p>Acres-USA books <i>Backyard Market</i> <i>Blue Book</i> <i>CAFF National Organic Directory</i> (5) Eliot Coleman <i>Farmers Market Cookbook</i></p>	<p><i>Farms of Tomorrow</i> <i>Guerilla Marketing</i> <i>Herbs for Sale</i> <i>Herbs as a Cash Crop</i> <i>Organic Encyclopedia</i> <i>Organic Gardening</i> by H.Garrett</p>	<p><i>Pay Dirt</i> Rodale Press (2) Joel Salatin <i>Sell What You Sow</i> by Eric Gibson (13) Booker Whatley</p>
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NON-PROFIT ORGANIZATIONS

Ranked 7th

Favorite Non-Profit Organizations for organic marketing information—85 respondents. Arranged alphabetically by organization name/type. ***For organizations named more than once, the number of responses received is shown in parentheses following the name.***

AERO	GS Heirloom Seed Savers	OCIA (6)
Belfast Farmers Market	Great Northern Botanical Assoc.	OEFFA (2)
California Federation of Certified Farmers Markets	Heartland Organic Coop	Organic Growers of Michigan
Community Alliance with Family Farmers (4)	Hoosier Organic Marketing	OOGA
CCOF (7)	Kansas Organic Producers	Oregon Tilth
COAG (3)	Kansas Rural Center (3)	Organic Trade Assoc.
Carolina Farm Stewardship Assoc.	MOFFA-MD (2)	Palouse Clearwater Environmental Institute
Center for Land & People	MOFGA (11)	Rural Action-Athens OH
Center for Rural Affairs	Midwest Organic Alliance	South Whidby Tilth
farmers markets in general (3)	Missouri Organic Assoc.	Sustainable Farming Association of Minnesota (2)
Florida Organic Growers	National Organic Marketing Coop.	Texas Organic Growers Assoc. (2)
food coops in general (3)	New Jersey Direct Marketing Assoc.	Wisconsin Farmland Conservancy
	NOFA (9)	
	North American Blueberry Council	

NON-GOVERNMENTAL MARKET INFORMATION SERVICES

Ranked 8th

Favorite Non-Governmental Market Information Services for organic marketing information—25 respondents. Arranged alphabetically by service name. ***For information services named more than once, the number of responses received is shown in parentheses following the name.***

American Vegetable Grower	Kansas Rural Center	Organic Food Business News
CROPP Cooperative	OCIA (2)	Organic Trade Assoc.
CCOF	Olympia Farmers Market	Pike Place-Seattle
Capitol Press	Organic Farmers Marketing Assoc. (3)	Red Book
Growing for Market (2)	Organic Farmers of Michigan (2)	Tilth Journal of Growers/Buyers
Hartman Report		

STATE OR FEDERAL AGENCIES

Ranked 9th

Favorite State or Federal Agencies for organic marketing information—39 respondents. Arranged alphabetically by agency name. ***For agencies named more than once, the number of responses received is shown in parentheses following the name.***

ATTRA (2)	Maryland Dept. of Agriculture	New Mexico Organic Commodity Commission
Connecticut Dept. of Agriculture	Missouri Alternative Agriculture Center	Texas Dept. of Agriculture
Colorado Dept. of Agriculture	Massachusetts DFA (2)	USDA (4)
Iowa Dept. of Agriculture	New Hampshire Dept. of Markets (2)	Vermont Dept. of Agriculture (3)
Illinois Dept. of Agriculture		Washington State Dept. of Health
Indiana Dept. of Commerce		

WEBSITES

Ranked 10th

Favorite Websites for organic marketing information—14 respondents. Only three actual sites were identified:

Biodynamic Association	California Federation of Certified Farmers Markets
	Organic Farmers Marketing Assoc. (2)