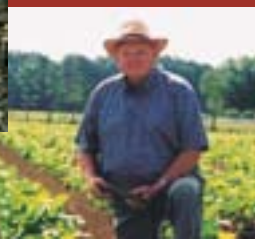
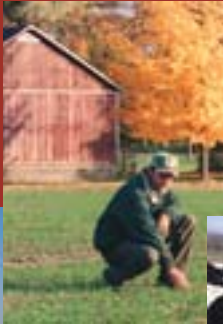


# Exploring Sustainability in Agriculture





# What is Sustainable Agriculture?

*“The best way to communicate the meaning of sustainable agriculture is through real-life stories of farmers who are developing sustainable farming systems on their own farms.”*

— John Ikerd, Agricultural Economist Emeritus, University of Missouri



Around the world, farmers and ranchers are experimenting with a different form of agriculture, a more sustainable way of producing and distributing food and fiber.

Their approaches are so varied that they defy a 25-word description. Instead, sustainable agriculture encompasses broad goals, and farmers and ranchers develop specific strategies for achieving them. Using a great variety of farming strategies allows producers to meet their needs: in their operations, their environments and their communities. The primary goals of sustainable agriculture include:

- *Providing a more profitable farm income*
- *Promoting environmental stewardship, including:*
  - *Protecting and improving soil quality*
  - *Reducing dependence on non-renewable resources, such as fuel and synthetic fertilizers and pesticides, and*
  - *Minimizing adverse impacts on safety, wildlife, water quality and other environmental resources*
- *Promoting stable, prosperous farm families and communities*

How producers reach those goals is as different as prairie flowers dotting a Midwest landscape.

A cattle rancher might divide his rangeland into sub-sections for his herd to graze in a rotational strategy to better manage natural resources like streams and soil while improving animal productivity. A field crop farmer might plant different crops each season – and include “cover crops,” non-cash crops grown for their benefit to the soil and ability to suppress weeds – to break up pest cycles, improve soil fertility and cut costs. A fruit and vegetable grower might try a new approach to selling her harvest, such as directly to restaurants in a nearby city, to gain a larger share of the consumer food dollar.

No single practice works in every field. No one recipe works on every farm. There are thousands of ways to farm more sustainably. This publication explores just 10. To view 50 in-depth profiles, check out *The New American Farmer* at [www.sare.org/newfarmer](http://www.sare.org/newfarmer).

This brochure was developed by the Sustainable Agriculture Research and Education (SARE) program, part of USDA's Cooperative State Research, Education, and Extension Service. SARE works to advance farming systems that are more profitable, environmentally sound and good for communities through an innovative grants program. See [www.sare.org](http://www.sare.org) or call (301) 504-5230 for more information about grant opportunities and program results.





## Carmen Fernholz

### SUMMARY

- Diversified crops on 350 acres of a 410-acre farm
- Barley, oats, wheat, flax, corn, soybeans and alfalfa grown organically
- Feeder-to-finish hog operation, 800 to 1,200 butchers sold annually

### BACKGROUND

When faced with a choice to get bigger or cut his cost of production, Fernholz chose to trim his inputs, convert to organic crop farming and revamp his marketing strategies. In 1994, he became certified after more than 20 years of experimenting and learning about which methods would work best. Now he grows diverse field crops and raises feeder-to-finish hogs using organic methods. He has taken charge of marketing the hogs by running a cooperative marketing project serving about 50 farmers to provide better sales for himself and his neighbors. He also participates in a 1,000-farmer “relationship

marketing” group that finds outlets for organic crops.

### PROFITABILITY

Fernholz manages his 350 acres of crops with a four-year rotation: a small grain – barley, oats or wheat – over-seeded with flax or alfalfa, followed by corn, then soybeans.

Premiums for organic grain are a welcome bonus, but are not the only reason to grow organically, Fernholz says. He receives about \$16.50 per bushel for his organic soybeans.

By using organic growing methods, “you generally have significantly fewer actual dollars expended to produce a crop,” he says. “You enhance the potential of making more profit that way. And if there is a premium, you’re that much farther ahead.”

Despite demanding labor requirements that go hand in hand with an organic cropping

system, Fernholz spends less each season than his conventional counterparts who buy costly pesticides and fertilizers. What he would spend on chemicals he can spend on labor – or do the work himself and avoid \$20 to \$30 an acre for fertilizer and another \$20 or \$30 an acre for herbicides.

Flax provides a particularly good opportunity for profits. Prices for organic flax have thus far soared above conventional; Fernholz sells flax for human consumption at \$1 a pound, which translates into about \$50 to \$60 dollars a bushel – compared to \$5 to \$8 a bushel for conventionally grown flax.

### ENVIRONMENTAL STRATEGIES

Fernholz’ four-year rotation enriches the soil with nitrogen from growing legumes. He practices ecological weed management, crowding out most weeds during the first year of his rotation when the small

grain is under-seeded, and, in ensuing years, through timely use of a rotary hoe and spring-tooth harrow.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Fernholz works closely with the University of Minnesota, with whom he is cooperating on a research project on organic conversion. He is a guest lecturer at the university’s St. Paul campus several times each year and participates in other events throughout the state. In 2002, he was a finalist for

## Madison, Minnesota

SARE’s Patrick Madden Award for Sustainable Agriculture.

In addition to helping area farmers with marketing, Fernholz serves as a willing mentor. In the spring, he averages three to four lengthy phone calls with other farmers every week. Over the years, he estimates, he has reached thousands of farmers, many of them at summer field days he has hosted for the last 15 years in conjunction with the university research project.



Photo by Jim Stoddard



## Travis and Amy Forgues

### SUMMARY

• 80 milking cows on 220-acre pasture-based, organic dairy farm

### BACKGROUND

Until 1991, the Forgues family ran their version of a traditional Vermont dairy farm. The cows spent most of their time in a barn, with occasional yard access. Grain and feed were hauled to them and manure collected and taken away. When son Travis left his parents' farm for college, the loss of this key partner cut into profits.

Searching for an alternative,

Henry and Sally Forgues met with a University of Vermont researcher who was one of the earliest advocates of management-intensive grazing. In 1988, Bill Murphy had received one of the first SARE grants to study the profitability of grass-based farming. Murphy went on to run a program for would-be graziers in Vermont. The Forgues were eager students and became what Travis Forgues calls "pioneers" in pastured dairying.

Travis returned to the farm in 1995 with his new wife, Amy. His father was grazing 40 cows

and Travis committed to building the herd – along with pasture to sustain them. Within a few years, they had transformed their property into 10-acre permanent paddocks, using movable fences to subdivide those into smaller areas. Today, they move the herd to fresh ground twice a day. During Vermont's long winter, the herd remains outside, but feeds on hay grown and baled on the farm. Throughout the year, the herd receives an organic cereal grain supplement.

### PROFITABILITY

By 1997, the Forgues' hard work paid off, and they received organic certification. They began shipping milk to a Vermont company, but then joined Organic Valley, a farmer-owned cooperative that accepts milk from farmers in 14 states, marketing the product by region. As members of the co-op, the Forgues are owners and, as such, help set pricing.

They strive to receive 23 cents a pound for milk, a strategy Travis calls "farm-gate" pricing, or fair compensation for their labor. By contrast, the industry average for milk produced and marketed conventionally is about half that.

"What we've found is that, if you treat your animals with a little respect, feed them 10 pounds of grain and hay, and ask them to do what they can do, they stay healthy," Travis said. "Some may think you can't make money off a 12,000-pound herd average, but we have a set price we're very comfortable with. And we don't want to be in the barn for 12 hours a day."

### ENVIRONMENTAL STRATEGIES

As a certified organic operation, the Forgues forego any chemical pesticides or fertilizers. They eschew hormones or antibiotics, and take a proactive approach to sick cows, culling them quickly if a home-

opathic remedy doesn't work.

After cows drop manure across the pastures, the multiple worms and insects in their "biologically alive" soil incorporate it rapidly.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Travis and Amy took a media relations training course and now participate in a co-op speakers bureau. They present at numerous venues, including the Boston Children's Museum and the board of Newsweek magazine, about the virtues of grass-based dairying.

Milking twice daily takes about four hours. Harvesting hay in the summer remains time-consuming, but Travis feels he is better off than when he was a confinement dairy worker. "You need to be sure you are enjoying what you're working for," he said.



Photo by Bill Duffalo





## Max Carter

### SUMMARY

- Cotton, corn, peanuts, soybeans, winter wheat and rye on 400 acres
- Conservation tillage, cover crops, innovative rotations

### BACKGROUND

In the early 1970s, the soil on Max Carter's farm was eroding at a fast clip. Like most cotton farmers, Carter cultivated each of his fields nearly year-round, turning over the soil to prepare weed-free seed beds. Like all his neighbors, he burned crop residues before each planting so the "trash" wouldn't clog his disk or harrow.

After days of planting when he couldn't see the front wheels of his tractor from all the dust, Carter vowed to find another way. He retained his rotation of wheat, corn, cotton, peanuts and soybeans, but stopped burning residue. Instead, he retrofitted a planter to create a small bare strip ahead of the seeder and drilled directly into

the residue.

As he fine-tuned his system, cover crops became an important part of Carter's rotation. In essence, he now creates extra residue by growing non-cash crops in the off-season, killing them, then planting into this soil cover for soil enhancement and weed suppression.

### PROFITABILITY

By eliminating burning and consolidating tillage and planting in one field trip, Carter shortened the time between harvesting one crop and planting another.

As long as he can keep his yields stable, Carter defines profitability in his system by the amount of inputs – fewer inputs equal more profit. Diesel fuel, equipment maintenance costs and chemical costs have decreased, which has helped his bottom line. If yields stay comparable to what he got when he conventionally

tilled – and so far they have – he'll do what's best for the soil. In a given year, he expects 45 to 50 bushels of wheat or soybeans per acre, two tons of peanuts per acre and nearly two bales of cotton per acre.

### ENVIRONMENTAL STRATEGIES

Carter's no-till practices have dramatically reduced soil loss from his farm. In the process, crop residues boosted the organic matter in Carter's soils. Since the higher organic matter improved his soil quality and water retention, he has significantly cut his irrigation costs. Higher soil quality also provides more fertility for the next crop. Finally, Carter now relies on spot spraying rather than cultivation to manage problem weeds, and his herbicide use has not increased in the no-till system.

Without the smoke from burning and dust from tillage, air quality has drastically improved around the neighbor-

hood. Max speaks with pride about the quail and other birds that have returned to his land, finding cover among the residue on his fields.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Today, conservation tillage is sweeping the area. There are 80 members in the Coffee County Conservation Alliance, an organization that Carter helped organize and served as past president. His farm is a showcase for conservation tillage, hosting numerous visitors and field days, and Carter has been

asked to speak at other events.

Carter likes to tell people that he got into conservation tillage because the old way was too much work, although one look around his well-kept farm will tell you that he's not afraid to put in some long days. The truth is, conservation tillage allows him to tend to other activities while his neighbors are out cultivating their fields during the winter and spring. "I was ready to retire, but then this started getting really interesting," Carter says.





## Ed Sills

### SUMMARY

- Rice, popcorn, wheat, dry beans, corn, cover crop seed on 3,000 acres
- 100 acres of almonds
- All crops grown organically

### BACKGROUND

Ed Sills' father, Thomas, began growing rice – and wheat, oats, and grain sorghum – in 1946. After Ed joined his father in the farming operation, they grew their first organic crop, 45 acres of popcorn, in 1985.

They planted an organic rice crop in 1986 and, seeing success, began to transition the rest of their farm crops to organic. 1995 was the last year any crops were raised with purchased chemicals.

Rice, grown on about 900 acres, remains the primary commodity, with the other crops adding market niches and a diverse rotation. Sills manages the fields with two-, three- and four-year rotational strategies, depending on soil type and condition. Turkey litter, obtained from the bedding of area free-range turkey producers, has become an effective fertilizer that Sills incorporates before planting corn, popcorn and rice.

Sills designed the 100-acre almond orchard, first planted in 1985, for easy care. The trees grow on berms to improve drainage. An annual cover crop of vetch on the orchard floor helps to improve soil

quality by increasing organic matter and water infiltration. Today, Sills sees healthy populations of beneficial organisms that help control pests, partly because he stopped spraying pesticides.

### PROFITABILITY

Sills takes advantage of organic premiums that range from 25 percent to 100 percent above conventional prices. Using his own processing equipment, he cleans and bags popcorn, wheat and beans for sale to the organic wholesale market, primarily to natural food distributors and processors.

Today, costs to raise rice organically are similar to their former conventional methods, and perhaps lower because Sills no longer purchases herbicides or commercial fertilizer. The main difference, Sills says, is that costs now are spread throughout the rotation.

During most of the 1990s, the

organic market grew. "Pricing has continued to be fairly strong, with some dips," Sills says. "But, overall, nothing compares with the conventional market, where prices are mostly below the cost of production."

### ENVIRONMENTAL STRATEGIES

Sills' farming system, heavily reliant on rotations, has improved the fertility and quality of his soil. In large part, his strategic rotations and use of cover crops have reduced insects and weeds. "There are a lot of weed problems in rice production," says Sills. "Many of my organic fields, especially the ones in my long rotation, are as clean as some conventional fields."

Orchard cover crops help improve soil quality by increasing organic matter and water infiltration rates. The vetch provides a home to beneficial organisms that control unwanted insects and helps fix soil nitrogen.

## Pleasant Grove, California

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Sills worked with University of California-Davis researchers to examine the benefits of on-farm residue. Sills has hosted field days to spread information about the best mix of residues to break down in the soil, provide nitrogen and improve soil.

Sills believes his products provide a supply to consumers who have few alternatives for organic field crops. With the advent of biotechnology, some consumers are asking for guarantees that some products do not contain genetically modified foods.

"One of the things farmers forget is that you have to grow something people want to buy," he says. "And that's one of the things we learned right away in the organic movement. We're producing something that people are asking for."



Photo by Neal Mitchell/Aspen





## Greg Gunthorp

## LaGrange, Indiana

### SUMMARY

- 1,000-1,200 pastured hogs
- Up to 8,000 range chickens and ducks annually
- 25 acres of feed corn on 130 acres

### BACKGROUND

Greg Gunthorp was raised on a farm only a mile from where he now lives with his wife, Lei, and their three young children. Gunthorp owns 65 acres and uses about 65 acres of his parents' farm.

Gunthorp's pigs farrow in his fields, graze year round on pastures sown in wheat, clover, rye and various grasses, and harvest their own corn. Gunthorp allows them to root through the stalks after the harvest on his father's farm. During the deepest part of winter, he adds hay and a corn-and-soybean feed to their diet.

The Gunthorps' chickens are housed in up to 20 shelters that offer outside access. Gunthorp

rotates his flocks from shelter to shelter to spread manure and minimize the birds' impact in any given area.

After perfecting his rotational grazing system, he turned to marketing. Now, "I spend more time marketing than I do farming," he says.

Meeting and getting to know the chefs at the best restaurants in Chicago are a major focus of his work. Gunthorp travels more than 100 miles to the city at least once a week to talk with chefs in their kitchens.

"Chefs appreciate how food is supposed to taste," he says. "They know how much flavor has been lost when producers grow anything, animal or vegetable, for a certain look or a certain weight, or for its ability to be packed conveniently instead of for its best taste."



He also sells his pork and poultry at a popular farmers market in Chicago. Gunthorp takes advantage of the crowds at the market to promote his burgeoning catering business.

### PROFITABILITY

It costs Gunthorp an average of 30 cents per pound to raise a

hog to maturity. He sells pork from between \$2 per pound to \$7 per pound for suckling pigs. Overall, Gunthorp's prices average 10 times what hogs fetch on the commodities market. The Gunthorps sell between 7,000 and 8,000 chickens and ducks at \$2 per pound.

### ENVIRONMENTAL STRATEGIES

Gunthorp's hogs and chickens are free-ranging. They have access to shelter and feed during bad weather, but spend most of their time foraging. As a result – and in marked contrast to conventional practices of raising hundreds and even thousands of animals at a time in confinement – Gunthorp experiences few of the manure disposal, disease, aggression and feeding difficulties that go along with more conventional methods.

Gunthorp also notes that he uses less energy and releases a lot less engine exhaust into the atmosphere as a pastured pork producer, because he doesn't use a combine to harvest grain, or trucks to haul the grain to storage, or huge fans and gas dryers to remove moisture from the feed. His hogs just knock down the corn once he lets them in his fields, where they eat stalk and all.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Gunthorp participated on the USDA's Small Farm Commission, serving as an adviser to former Agriculture Secretary Dan Glickman.

He is proud to say he is making enough money to keep his family healthy and happy. "We can get by just selling 1,000 pigs a year, and the smarter I can get at raising them and selling them, the better off we'll be," Gunthorp says.



## Bob Muth

### SUMMARY

- 11 acres in mixed vegetables and cut flowers
- Three-quarters of an acre in strawberries sold from a roadside stand
- 40 acres of hay

### BACKGROUND

Bob Muth grew up on a farm, but left New Jersey for a job as an extension agent. After a few years, he returned in 1990 to farm full time.

“I hear all this gloom and doom about farming,” he says, “but I like where I am and I wouldn’t change a thing about how I got here.”

Muth grows tomatoes, bell peppers, strawberries, okra, squash and melons. All the crops are set as transplants on plastic mulch and raised with drip irrigation. He sends vegetables to buyers ranging from “Mom and Pop” groceries to large food distributors, but to diversify his marketing, he is transitioning nine acres of vegetables to certified organic. Much of that went to 35 families who joined his community-

supported agriculture (CSA) enterprise, something Muth calls a “howling success” that he plans to expand to 100 families. (CSA provides weekly produce to “shareholders” who pay at the beginning of the season.)

He also sells strawberries and flowers directly to consumers and continues to market hay to horse farmers.

“As this area becomes more developed, marketing is becoming increasingly important. We are making deliberate steps to get closer to the final user,” he says.

### PROFITABILITY

Muth Farm provides for the family’s current needs and also generates enough income to save for retirement. The farm grosses between \$150,000 and \$300,000, so net profits vary, too. Muth, however, has been able to gradually build his savings. He rents all of his farm-

land, a strategy he describes as “one of my secrets to success.”

### ENVIRONMENTAL STRATEGIES

With about 15 percent clay and a tendency to crust when worked intensively, the gravelly sandy loam soil is challenging. Muth designs long rotations and makes extensive use of cover crops. Only about 20 percent of his 80 acres is in vegetable crops at any one time. He also adds extra organic matter by spreading the leaves collected by local municipalities on some of his fields each autumn.

In a typical rotation, after the vegetable crop is turned under in the fall, he covers the ground with up to six inches of leaves, about 20 tons per acre. The following spring, he works in the decomposing leaves. His soil-building program has now given him fields that test as high as 5 percent organic matter, unheard of for the mineral soils of southern New Jersey.

## Williamstown, New Jersey

One benefit is decreased soil and fertilizer runoff. To keep pesticide use down, Muth depends heavily on integrated pest management.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

To help with the vegetables, Muth hires four or five workers from Mexico from April to November. He rents an apartment for them year-round, gives them the use of a truck, and helps out with medical care and food. Considering them an integral part of his operation, Muth offers them a lot of responsibility and plans his plantings with their capabilities in mind.

A leader in sustainable agriculture in his area, Muth often speaks at growers’ meetings and hosts farm tours. He serves on his local agriculture board and the Administrative Council for the Northeast Region SARE program.

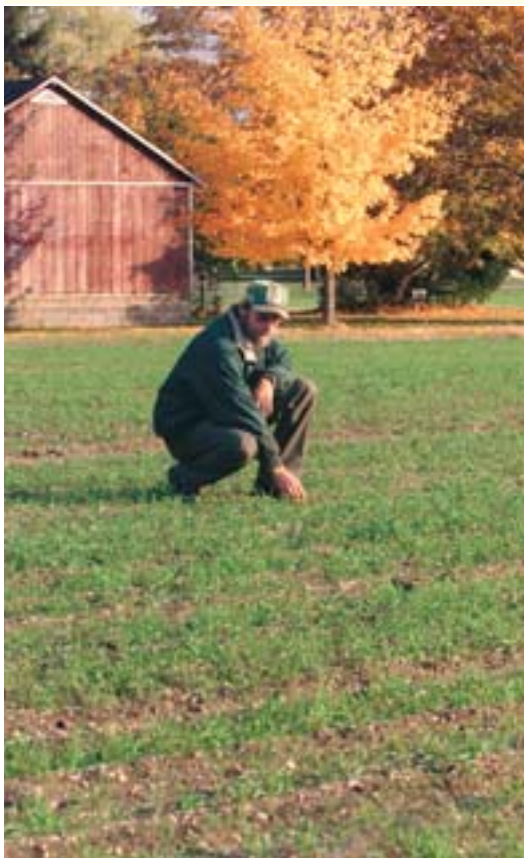


Photo by Christine Maltese





## Rosa Shareef

### SUMMARY

- Pastured poultry, goats and sheep on 10 acres
- Member of an 84-acre religious community dedicated to agriculture and rural life

### BACKGROUND

To learn more about raising poultry on pasture, Rosa and Alvin Shareef participated in a SARE grant project headed by Heifer Project International. Funded to help southern farmers with the “nuts and bolts” of alternative poultry systems, Heifer staff organized hands-on training sessions and provided start-up funds and processing equipment.

“I’m a city girl raised in New Jersey,” Rosa Shareef says. “My husband was born in Mississippi and raised in Chicago, so we needed as much education as we could get.”

Shareef subdivided her 10 acres into two permanent, five-

acre pastures, with smaller paddocks defined with electric fencing. To minimize disease potential, she rotates her poultry around one five-acre plot for a year, then switches them to the other plot for a year. The goats and sheep then rotate through the plot just vacated by poultry.

Using a simple design, the Shareefs made their own cages, which are enclosed with chicken wire and rest on wheels. They keep 50 to 95 chickens in each pen, moving it daily. The chickens harvest their own grass, bugs and worms, but the Shareefs also supplement their diet with a high-protein poultry feed.

### PROFITABILITY

Next to Alvin’s off-farm job as a teacher, the family’s most dependable source of income is the sale of their pastured broilers. They process about 100 chickens per month, in keeping with state regulations, at an average weight of about 4

pounds at \$1.50 per pound. Shareef calculates the cost of raising one of her broilers to an age of eight weeks at about \$3, so profits are roughly \$3. Multiplied by 100 birds per month, monthly profits hover around \$300.

The family raises about 50 turkeys a year for Thanksgiving sales. At 20 pounds each, they are real money-makers. Shareef also produces 20 meat goats annually, sold primarily to area Muslims who slaughter them for religious ceremonies.

In all, livestock sales contribute about 10 percent of their household income. “Good product at a good price tends to sell itself,” Shareef says. “All I have to do is keep working to make more of it.”

### ENVIRONMENTAL STRATEGIES

Founders of the religious community, New Medinah, planned to have minimal negative impact on the environ-

ment. All members of the community live in a concentrated section of the property that surrounds a school for the community’s children. That leaves lots of open space for gardens, pastures and woodlots.

## Sumral, Mississippi

### COMMUNITY, OUTREACH, QUALITY OF LIFE

To help young people, Shareef teaches kids in a community garden.

Members of New Medinah also



Photo by Lisa Mercer

The pastured animals deposit lots of fertilizing manure, and because the different grazers select different grasses and are moved daily, they add vigor to the pastures, Shareef says. That’s even during drought.

help each other grow their goat herds in a “pass-on” program by giving each other animals after their goats produce offspring. “By using livestock raised within your group, everyone knows how it was raised,” Shareef says.



## Bob Quinn

### SUMMARY

- Organically grown wheat – khorasan, durum, hard red winter and soft white – on 4,000 acres
- Buckwheat, barley, flax, lentils, alfalfa and peas
- Processing and direct-marketing of organic grain

### BACKGROUND

Soon after Bob Quinn took over the fourth-generation, 2,400-acre family ranch in 1978, he established a wheat buying/brokering company to increase his earnings through direct marketing. With a partner in California, Quinn began marketing the farm's high-quality, high-protein wheat to whole grain bakeries in the early 1980s. When the demand was greater than they could supply, Quinn began buying and marketing wheat from his neighbors.

As Quinn became more deeply involved in the grain aspect of his business, he decided to sell

his cattle and rent out the 700 acres of pastureland. In 1985, Quinn built a flour mill 50 miles from the farm and called the new company Montana Flour & Grains (MFG).

"I started getting requests at my flour mill for organic grain," Quinn recalls. "I was always interested in growing my own fertilizer and reducing herbicides and fertilizers."

He experimented with growing legumes like alfalfa, peas, clover and black medic to meet his soil nitrogen needs and, with successful results, moved the whole farm to organic production by 1989. Now he remains reliant on those "green manure" crops to provide the fertility for two or three subsequent cash crops in his four- to five-year rotation.

### PROFITABILITY

Quinn sells all his grain through MFG, which he recently sold to one of the employees. About

one half of the farm's production goes to Europe, including most of the khorasan wheat (marketed under the brand name of Kamut), all of the buckwheat and lentils, and some of the hard red winter and spring wheat. Quinn travels annually to food shows throughout the nation as well as in Europe and Japan to pro-



mote the Kamut brand wheat and organic agriculture.

Quinn receives premium prices, which average about 50 percent more than conventional prices, for his grain. Even with the organic certification, however, Quinn needs to raise top-quality products to receive the premium price.

### ENVIRONMENTAL STRATEGIES

Quinn's well-managed rotation disrupts insect, disease and weed cycles and builds soil quality – while producing a high-quality organic crop. He regularly scouts the fields, looking for insects, disease and weeds – each of which he manages strategically.

Quinn focuses on increasing the nutrient quality of the soil, following the adage, "feed the soil, not the plant." He addresses the root causes of disease and plant problems, rather than waiting and treating the symptoms that show up in the fields. Quinn's efforts reap an environ-

## Big Sandy, Montana

mental benefit, resulting in more fertile soil with less water and wind erosion, as well as a financial benefit.

"What we're really trying to do is focus on understanding the whole system and have a rotation that provides weed and pest management and quality crop production," Quinn says.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

In an effort to contribute to the revitalization of rural America in 1996, Quinn rented a neighboring farm and took on a partner, which brought a new farm family back to the land.

"Organic farming has certainly been more fun and more profitable than conventional farming," he says. "It's made me a better farmer because I'm forced to really study and learn what's going on with my fields, my crops, and weeds and diseases."





## Larry Thompson

## Boring, Oregon

### SUMMARY

- 43 fruit and vegetable crops on 140 acres
- Direct-marketing through farmstand, farmers markets, pick-your-own
- Educational seasonal events for school children, families

### BACKGROUND

Larry Thompson's parents, Victor and Betty, began raising raspberries, strawberries and broccoli in the rolling hills southeast of Portland in 1947. They sold their produce to local processors, where agents for the canneries always set the purchase price. In 1983, Larry took over the main responsibility of operating the farm and sought more profitable channels.

After Larry started working on the 140-acre farm, he quickly grasped that selling to the canneries failed to cover production expenses. The family flung open the farm gate to the suburban Portland community. They began by offering pick-

your-own berries and selling the fruit at a stand they built at the farm. Strawberry sales were so strong, Thompson decided to plant new varieties to extend the season.

The Thompsons soon attracted a loyal following, primarily from Portland 20 miles away. They began selling at area farmers markets, too. Today, the family and 23 employees raise 43 crops and sell them at six markets, two farm stands and through on-farm activities such as farm tours and pumpkin picking.

### PROFITABILITY

To Thompson, profitability means that at year's end, he has earned more money than he spent. "I reach that level consistently," he says.

As ruler of his destiny, rather than the more passive role the family once took with processors, Thompson makes sure he earns a profit. He figures the

cost of planting, raising and harvesting each crop, then doubles it in his asking price. His most profitable crop, consistently, is strawberries.

Retaining different marketing channels gives Thompson a chance to cross-promote.

### ENVIRONMENTAL STRATEGIES

Thompson is a dedicated advocate of crop rotations and planting a succession of flowering species to control pests without pesticides. He relies on cover crops to control weeds and provide habitat for beneficial insects.

Thompson allows native grasses and dandelions to grow between his berry rows. The dandelion blossoms attract bees, efficient berry pollinators. The mixed vegetation provides an alluring habitat that, along with flowering fruit and vegetable plants, draws insects that prey on pests. Late in the year, Thompson doesn't mow broccoli stubble.

Instead, he lets side shoots bloom, creating a long-term nectar source for bees into early winter.

Runoff used to be a major problem at Thompson Farms, which sits on erodible soils. Thanks to cover crops and other soil cover, virtually no soil leaves the farm anymore.

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Thompson was a finalist for SARE's 2002 Patrick Madden Award for Sustainable Agriculture. Many call him a pro at "relationship" marketing, forming bonds with customers who see a value in local produce raised with few chemicals. Thompson regularly offers tours – to students, other farmers, researchers and visiting



international delegations – to show off his holistic pest management strategies and bounty of colorful crops. As a result, the farm attracts people by the busload for educational seasonal events.

"Instead of seeing my farm as a secluded hideaway, I am getting the community involved, bringing them to see our principles in action," Thompson said.



## Richard and Peggy Sechrist

## Fredericksburg, Texas

### SUMMARY

- 50-head beef cattle herd
- 750-1,000 pastured chickens per month
- Certified organic beef and poultry sold to “natural foods” outlets

### BACKGROUND

It is fitting that Richard and Peggy met at a Holistic Resource Management class Peggy was teaching in 1994, as the couple credits holistic management as key to their accomplishments. After they married,

the Sechrists went through a process of setting three-part holistic goals for their ranch. Now, every decision rests on a clear foundation.

The Sechrists established a management-intensive grazing system for cattle on their dry Texas ranch. They use all organic practices for herd health and low-stress handling techniques. A few years later, they added pastured poultry and egg production to the ranch after an 18-month stretch without

measurable precipitation took a toll on their grazing pastures.

To market their products, they created a separate company, Homestead Healthy Foods. They built a customer base through mail-order sales, local phone orders, farmers markets, booths at fairs and shows, and small health food stores. Recently, they began selling beef and chicken through the Internet and natural foods distributors that reach 6 percent of the country.

### PROFITABILITY

Asked whether their changes in production practices and organic certification have increased the profitability of their ranch, Peggy responds positively. “Definitely,” she says. “Our distributors understood ‘organic’ and now understand ‘grass-fed,’” a distinction that translates to higher returns.

Having their own outlets to

consistently reach the local retail market, taking advantage of a booming wholesale market for their chickens and being able to distribute their beef through health food distributors all contribute to their financial success. They found other ranchers who meet their production standards from whom they can obtain beef if drought affects their supply.

### ENVIRONMENTAL STRATEGIES

The yearly average rainfall of 26 inches can come in short bursts in between long dry spells. The Sechrists work within the dry cycles by maintaining their pastures in native grasses. They graze three herds of cattle — one-year-olds, two-year-olds and a cow-calf herd — in a planned rotational approach.

Rotating the herds is based on a fairly sophisticated system of monitoring plant growth and recovery. The cattle are grass-fed, with alfalfa hay as needed as a supplement. The cattle

don’t receive any antibiotics or synthetic treatments.

“Our basic herd health is excellent,” Peggy says, adding that the local vet is amazed. “He feels that our pasture management is the most important factor.”

### COMMUNITY, OUTREACH, QUALITY OF LIFE

Despite their long hours, Richard and Peggy share information with other ranchers at workshops and conferences, and serve on leadership and advisory committees to sustainable agricultural programs.

Their marketing approach has brought them in closer touch with their community. At their store and through direct sales, they talk to people about nutrition and food system issues. “It’s gratifying to hear our customers express their appreciation,” Peggy says. “We want to build and serve a regional market, because that is our vision of a sustainable market.”



Photo by Peggy Jones





# How can you support sustainable ag in the marketplace?

If you care about how your food is produced, learn about and become an active participant in the food system. As a customer, your food-buying dollars become your clout, and where you choose to spend those dollars your vote for or against food production methods.

*Farmers markets* provide an opportunity for eaters to meet and talk directly with the people who grow their food. Farmers, too, can learn more about their customers. To find a farmers market near you, see <[www.ams.usda.gov/farmersmarkets](http://www.ams.usda.gov/farmersmarkets)>

*Community and school gardens* can provide an important source of fresh produce, particularly for under-served populations in low-income neighborhoods. They become a good source of information about growing food as well as places for community gatherings.

*Community supported agriculture (CSA) farms* allow people to buy shares in the farm harvest before the crops are planted. In exchange, “shareholders” receive fresh fruits and vegetables (and sometimes products such as cheese, flowers, eggs and meat), weekly throughout the season. CSA members accept part of the financial risks associated with farming and enjoy access to “their” farms for educational events and volunteer opportunities. To find a CSA farm near you, see <[www.sare.org/csa](http://www.sare.org/csa)>

*Pick-your-own farms and roadside stands* provide access to fresh produce directly from the farmer who grew it. Prices for pick-your-own are reduced in exchange for your labor, and the trip to the farm provides an excellent outing for groups, particularly children.

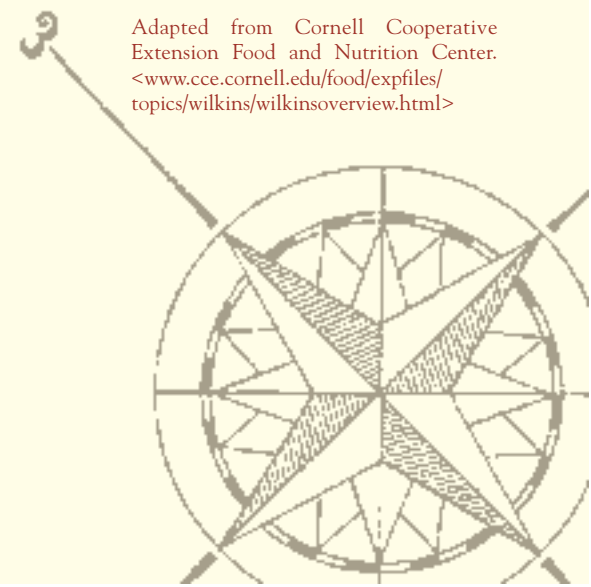
*Buying organic products* supports farmers who do not use synthetic pesticides or fertilizers and adhere to federal standards. Organic products provide premium prices to farmers and ranchers for their extra management time and risk. See <[www.ams.usda.gov/nop](http://www.ams.usda.gov/nop)> to learn more about organic labels.

*Talk to the source of your food* to learn more about how it is grown. Join and patronize food co-ops, ask grocery managers to buy from growers and processors who use sustainable methods, and ask for food origins on restaurant menus. If you express interest in eating sustainably produced and processed food, chances are that your suppliers will respond. See <[www.foodroutes.org](http://www.foodroutes.org)> for locations near you and scan for “eco” labels when shopping.

*Seek alternative sources for buying meat*, such as from producers who raise livestock on pasture. Local Extension offices at your land-grant university can point you to growers in your state, or go to <[www.eatwild.com](http://www.eatwild.com)> for a national list of alternative meat producers.

*Explore on-line options* for sustainably grown products, which also can make great gifts. National source lists are maintained at <[www.communityfood.com](http://www.communityfood.com)> and <[www.foodroutes.org](http://www.foodroutes.org)>, although other sources abound.

Adapted from Cornell Cooperative Extension Food and Nutrition Center.  
<[www.cce.cornell.edu/food/expfiles/topics/wilkins/wilkinsoverview.html](http://www.cce.cornell.edu/food/expfiles/topics/wilkins/wilkinsoverview.html)>







2

3

7

4

9

8

5

1





## Elements of Sustainability

Farmers and ranchers can choose many ways to improve their sustainability, and these vary from region to region, state to state and farm to farm. However, some common sets of practices have emerged, many of them aimed at greater use of on-farm or local resources. Some of those practices are illustrated here, each contributing in some way to long-term farm profitability, environmental stewardship and improved quality of life.

### 1 INTEGRATED PEST MANAGEMENT (IPM)

IPM is an approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks.

### 2 ROTATIONAL GRAZING

Management-intensive grazing systems take animals out of the barn and into the pasture to provide high-quality forage and reduced feed costs while avoiding manure buildup.

### 3 SOIL CONSERVATION

Many soil conservation methods, including strip cropping,

reduced tillage and no-till, help prevent loss of soil due to wind and water erosion.

### 4 WATER QUALITY/WETLANDS

Water conservation and protection have become important parts of agricultural stewardship. Practices such as planting riparian buffer strips can improve the quality of drinking and surface water, as well as protect wetlands.

### 5 COVER CROPS

Growing plants such as rye, clover or vetch after harvesting a grain or vegetable crop or intercropping them can provide several benefits, including weed suppression, erosion control and improved soil nutrients and soil quality.

### 6 CROP/LANDSCAPE DIVERSITY

Growing a greater variety of crops and livestock on a farm can help reduce risks from extremes in weather, market conditions or pests. Increased diversity of crops and other plants, such as trees and shrubs, also can contribute to soil conservation, wildlife habitat and increased populations of beneficial insects.

### 7 NUTRIENT MANAGEMENT

Proper management of manure, nitrogen and other plant nutrients can improve the soil and protect the environment. Increased use of on-farm nutrient sources, such as manure and leguminous cover crops, also reduces purchased fertilizer costs.

### 8 AGROFORESTRY

Agroforestry covers a range of tree uses on farms, including inter-planting trees (such as walnuts) with crops or pasture, growing shade-loving specialty crops in forests, better managing woodlots and windbreaks, and using trees and shrubs along streams as buffer strips.

### 9 ALTERNATIVE MARKETING

Farmers and ranchers across the country are finding that innovative marketing strategies can improve profits. Direct marketing of agricultural goods may include selling at farmers markets, roadside stands or through the World Wide Web; delivering to restaurants and small grocers; and running community-supported agriculture (CSA) enterprises.

# Three USDA-supported programs provide information about sustainable agriculture from a national perspective.

The Sustainable Agriculture Research & Education (SARE) program  
<[www.sare.org](http://www.sare.org)>

For: *Farmers/ranchers, agricultural educators, researchers*

\* Provides grant opportunities; maintains a diverse portfolio of research and education projects; synthesizes research results and on-farm experiences to develop books, introductory bulletins and educator guides; disseminates farmer-ready information.

Appropriate Technology Transfer for Rural Areas (ATTRA)  
<[www.attra.ncat.org](http://www.attra.ncat.org)>

For: *Farmers/ranchers, agricultural professionals and educators*

\* Answers questions about specific farming practices, alternative crop and livestock enterprises and innovative marketing approaches.

The Alternative Farming Systems Information Center (AFSIC)  
<[www.nal.usda.gov/afsic](http://www.nal.usda.gov/afsic)>

For: *Researchers, students, policy makers, farmers/ranchers and international requestors*

\* Collects, organizes and distributes information on alternative agriculture and provides high-level searching and information services from the National Agricultural Library's vast collection and world-wide databases

What can you do to support sustainable agriculture in the marketplace? See p. 13.

SARE works in partnership with Cooperative Extension and Experiment Stations at land grant universities to deliver practical information to the agricultural community. Contact your local Extension office for more information.

