Commodity Spotlight

California Certified Organic Farmers

U.S. Organic Agriculture Gaining Ground

Organic farming became one of the fastest growing segments of U.S. agriculture during the 1990's, and producers, exporters, and retailers are still struggling to meet consumer demand for a wide range of organic products. Certified organic cropland more than doubled in the U.S. during the 1990's, and two organic livestock sectors—eggs and dairy—grew even faster, according to a forthcoming study from USDA's Economic Research Service (ERS). The study updates USDA estimates of land farmed with organic practices during 1992-94 with 1997 estimates, and provides state- and crop-level detail unavailable in the past.

Organic produce, milk, eggs, pasta, frozen dinners, and pharmaceuticals are among the many items that consumers count on finding in natural foods supermarkets and are beginning to expect in mainstream supermarkets as well. The International Trade Centre UNCTAD/WTO (ITC) estimates that combined retail sales of organic food and beverages in major world markets for these goods—primarily the U.S., Japan, Denmark, France, Germany, Italy, the Netherlands, Switzerland, and the U.K.—amounted to $11 billion in 1997 and $13-$13.5 billion in 1998. Organic food sales in 1997 accounted for 1 to 2 percent of total food sales in most of these countries, including the U.S., and medium-term growth rate forecasts range from 5-10 percent annually for Germany to 20-30 percent for the U.S. and 30-40 percent for Denmark, according to the ITC.

U.S. producers are turning to organic farming systems as a potential way to lower input costs, decrease reliance on nonrenewable resources, capture high-value markets and premium prices, and boost farm income. Farmers in 49 states dedicated 1,346,558 acres of farmland to organic production systems and used third-party organic certification services in 1997. Two-thirds of the farmland was used for growing crops, with Idaho, California, North Dakota, Montana, Minnesota, Wisconsin, Iowa, and Florida as the top producers. Nearly half the states were raising certified organic livestock. Colorado and Alaska had the largest amount of organic pasture and rangeland.

In the fruit, vegetable, and specialty grain sectors, organic farming has made deeper inroads than in other farm sectors. While only one-tenth of a percent of U.S. corn and soybean crop acreage was grown under certified organic farming systems in 1997, over 1 percent of oats, dry peas, and tomatoes was grown organically and about 2 percent of apple, grape, lettuce, and carrot acreage was organic. Nearly one-third of the U.S. buckwheat, herb, and mixed vegetable crops was grown under organic farming systems in 1997.

More recent reports from some U.S. certifiers indicate that the momentum seen in organic certification during the ERS study period has continued. California Certified Organic Farmers, one of the top certifiers in that state, estimates 1999 acreage at 96,878, up 38 percent from 1997. Idaho estimates its 1999 certified organic cropland (excluding wild-harvested herbs) at 85,061 acres, up 55 percent from 1997. Farm Verified Organic, a private certifier headquartered in North Dakota and operating in multiple states, estimates it certified 99,987 acres in 1999, also up 55 percent from 1997. Preliminary estimates from the Washington Department of Agriculture show 1999 certified acreage at 30,000, up 150 percent from 1997.

Organic farming systems rely on ecologically based practices such as cultural and biological pest management, and virtually exclude the use of synthetic chemicals in crop production and prohibit the use of antibiotics and hormones in livestock production. Under organic farming systems, the fundamental components and natural processes of ecosystems, such as soil organism activities, nutrient cycling, and species distribution and competition, are used to work directly and indirectly as farm management tools. For example, habitat needs for food and shelter are provided for predators and parasites of crop pests, planting and harvesting dates are carefully planned and crops are rotated, and animal and green manures are cycled in organic crop production systems.

Organic livestock production systems attempt to accommodate an animal's natural nutritional and behavioral requirements. Livestock standards address the origin of each animal and incorporate requirements for living conditions, access to the outdoors, feed ration, and health care practices suitable to the needs of particular species. For example, dairy cows must be organically managed for a

One acre equals 0.4047 hectares.

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U.S. Organic Agriculture Has Expanded

U.S. certified organic	1992	1993	1994	1995	1996	1997	Change 1992-97	Change 1995-97
	1,000 acres						*Percent*	
Farmland								
Total	935	956	992	918	--	1,347	44	47
Pasture & rangeland	532	491	435	279	--	496	-7	78
Cropland	403	465	557	639	--	850	111	33
	Number							
Animals								
Beef cows	6,796	9,222	3,300	--	--	4,429	-35	--
Milk cows	2,265	2,846	6,100	--	--	12,897	469	--
Hogs and pigs	1,365	1,499	2,100	--	--	482	-65	--
Sheep and lambs	1,221	1,186	1,600	--	--	705	-42	--
Layer hens	43,981	20,625	47,700	--	--	537,826	1,123	--
Broilers	17,382	26,331	110,500	--	--	38,285	120	--
Unclassified/other	--	--	--	--	--	226,105	--	--
	Number							
Growers (plants & animals)	3,587	3,536	4,060	4,856	--	5,021	40	3

Numbers may not add due to rounding.
Sources: 1992-94, Agricultural Marketing Service, USDA; 1995 (including revisions of 1992-94 farmland), Agrisystems International; 1997, Economic Research Service, USDA.

Economic Research Service, USDA

year prior to producing organic milk, must receive only 100-percent organic feed and allowed supplements, must have access to pasture, and cannot be treated with antibiotics.

U.S. governmental efforts to facilitate organic production have focused primarily on developing national certification standards to assure consumers that these commodities meet a consistent standard and to streamline interstate commerce in organically grown agricultural products. It was private organizations, mostly nonprofits, that began developing certification standards in the early 1970's as a way to support organic farming and thwart consumer fraud. Some states began offering organic certification services in the late 1980's for similar reasons. On the Federal level, Congress passed the Organic Foods Production Act of 1990 to establish national standards for organically produced commodities. This legislation requires that all except the smallest organic growers must be certified by a state or private agency accredited under national standards currently being developed by USDA.

Forty organic certification organizations, including a dozen state programs, conducted third-party certification of organic production in 1997, many following the standards outlined in the Organic Foods Production Act of 1990. All of the state and private groups certified organic production of crops, and 16 of these groups certified production of livestock as well. State and private groups that currently certify growers are expected to seek accreditation by USDA when the national organic standards are implemented.

Specialty Crops Show Big Gains

Markets for organic vegetables, fruits, and herbs have been developing for decades in the U.S., and these crops are grown organically in more states than any other type of commodity. State and private groups certified over 180,000 acres of these crops in 44 states in 1997, more than double the amount certified in 1994, with the biggest gains in cultivated and wild-harvested herbs.

About 2 percent of top fruit and vegetable crop acreage—apples, carrots, lettuce, and grapes—was managed organically. Large farms with hundreds or thousands of acres produced organic processed tomatoes, wine grapes, and other high-value crops on a commercial scale, while numerous farms with small acreages still specialized in mixed-vegetable production for direct marketing to consumers and restaurants.

Organic vegetable crops were produced on 48,227 acres in the U.S. in 1997. Tomatoes, lettuce, and carrots were grown on about a quarter of total organic vegetable acreage, mixed vegetables were grown on a third, and the remainder was "other" or "unclassified." Mixed vegetable production is characterized by small acreages and parcels with a large number of horticultural crops. In 1997, U.S. farmers and market gardeners gained certification for nearly 3,000 acres of organic mixed vegetables on farms or parcels that were 5 acres or less, and for over 14,000 acres on farms and parcels over 5 acres. New York organic producers had over 1,400 acres in the 5-acres-or-less category.

According to USDA producer surveys, certified organic vegetable growers have smaller acreages than conventional growers, and a much higher percentage use direct marketing. Over three-quarters of certified organic vegetable producers surveyed by USDA in 1994 had less than 10 acres of vegetables, compared with only 35 percent of the conventional vegetable producers. Nearly half of the surveyed organic producers, and the majority of those with under 10 acres, reported marketing their vegetables directly to consumers through farmers' markets, consumer subscriptions, restaurants, and other direct marketing outlets.

California producers grew nearly half of the organic vegetables certified in 1997, using six private groups for certification. California growers produced over 4,400 acres of lettuce, about 2,600 acres of carrots, and nearly 2,000 acres of tomatoes in 1997. Colorado, Washington, Arizona, Oregon, Minnesota, New York, Illinois, and Florida had at least 1,000 acres of organic vegetables each in 1997, certified by a mix of state and private groups. Washington growers had over 1,400 acres of organic tomatoes, and Arizona had over 1,200 acres of certified organic lettuce.

Demand for carrots was strong during the ERS study period (1992-97), and monthly organic prices in the Boston wholesale market, for example, averaged 110 percent higher than for conventionally grown carrots. Prices for organic processing tomatoes were consistently over 100 percent higher than for conventional processing tomatoes at the farm gate level during

USDA Proposed Rules for Organic Farmers & Handlers

Purchasers of organic foods would be able to rely on uniform and consistent national standards for defining the term "organic," under USDA's new proposal for regulating organic production and handling in the U.S. The proposal, announced March 7, 2000, addresses the methods, practices, and substances used in producing and handling organic crops, livestock, and processed foods. It includes requirements for labeling, certification, and the accreditation of certifiers.

The new proposal reflects recommendations made in over 275,000 responses to USDA's initial proposal in December 1997. Currently, organic food is certified by various state and private organizations that apply their own standards in defining the term "organic." The proposed regulations are similar to most of the standards organic producers and handlers currently use, and are intended to be flexible enough to accommodate the wide range of operations and products grown in the U.S. The new rules require operations that grow or process organic foods to be certified by USDA-accredited certifying agents. USDA-certified operations may label their products as organic.

Farms and handling operations that sell less than $5,000 per year of organic agricultural products are exempt from certification. These producers and handlers must still abide by national standards for organic products and must comply with labeling requirements. Retail food establishments that sell organically produced agricultural products but do not process them are also exempt from certification.

The proposed regulations would prohibit use of genetic engineering (genetic modification), irradiation, and sewer sludge in the production of organic foods. The production requirements apply to the way the product is created, not to measurable properties of the product itself. Although specific practices and materials used by individual organic operations may vary, the proposed standards require every aspect of organic production and handling to comply with provisions of the Organic Foods Production Act of 1990, which the new rules would implement. The standards would include a National List of approved synthetic, and prohibited nonsynthetic, substances for use in organic production and handling. Producers must operate under an organic system plan approved by an accredited certifying agent.

Crop Standards

For all crop products intended for sale as organic, the proposed organic crop production standards detail the following:

- land would have no prohibited substances applied to it for at least 3 years before the harvest of an organic crop;
- crop rotation would be implemented;
- use of genetic engineering (included in excluded methods), irradiation, and sewage sludge is prohibited;
- soil fertility and crop nutrients would be managed through tillage and cultivation practices, supplemented with animal and crop waste materials and allowed synthetic materials;
- preference would be given to use of organic seeds and other planting stock, but a farmer could use nonorganic seeds and planting stock under certain specified conditions;
- crop pests, weeds, and diseases would be controlled primarily through management practices including physical, mechanical, and biological controls; when these practices are not sufficient, a biological, botanical, or allowed synthetic substance may be used.

Livestock Standards

The proposed livestock standards apply to animals used for meat, milk, eggs, and other animal products represented as organically produced, and provide details of the following:

- animals for slaughter must be raised on an organic operation from birth, or no later than the second day of life for poultry;
- producers would be required to feed 100 percent organically produced feeds to livestock but could also provide allowed vitamin and mineral supplements;
- organically raised animals could not be given hormones or antibiotics;
- preventive management practices, including the use of vaccines, would be used to keep animals healthy;
- producers would be prohibited from withholding treatment from a sick or injured animal; however, animals treated with a prohibited medication would be removed from the organic operation;
- all organically raised animals would have to have access to the outdoors, including access to pasture for ruminants, and animals could be temporarily confined only for reasons of health, safety, or to protect soil or water quality.

The public will be able to submit comments on this revised proposed rule in both written and electronic form for 90 days after publication in the *Federal Register* March 13, 2000. USDA will review and categorize comments, make any necessary revisions to the proposed rule, and submit a final rule for publication in the *Federal Register*. Discussion of public comments will be included in the final rule.

Implementation of the regulations, starting with the first round of certifier accreditation, can begin when the final rule is published. During the first 18 months of implementation, all clients of certifiers are considered USDA-certified immediately upon USDA accreditation of their certifier. Certified operations must comply with the national standards and will be assessed by their certifier on the anniversary date of their original certification.

For further information, visit USDA's Agricultural Marketing Service/National Organic Program (NOP) website at www.ams.usda.gov/nop/, or contact NOP staff at (202) 720-3252 or NOP.Webmaster@usda.gov. Official public comment period on the revised proposed rule is March 13 through June 12, 2000.

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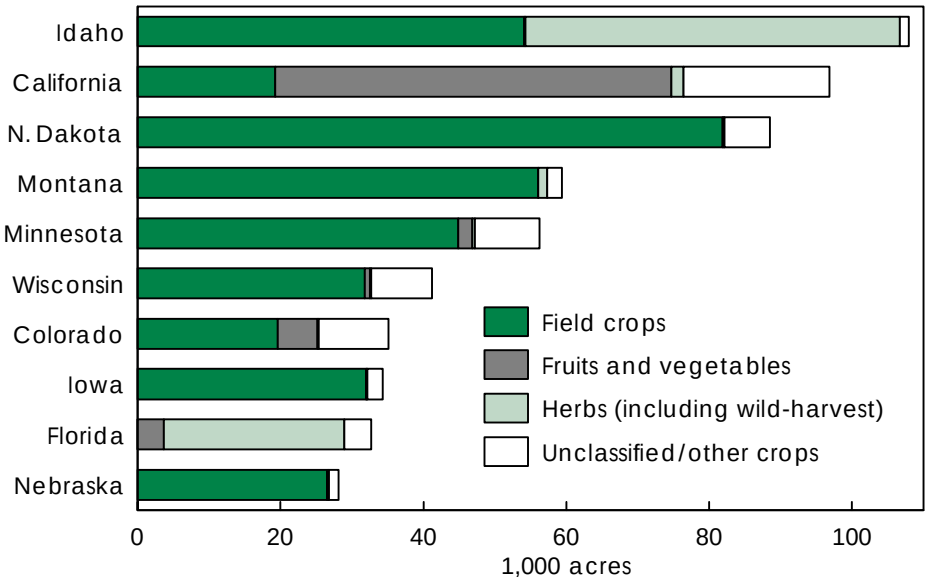
Idaho Leads in Organic Crop Acreage



Certified organic cropland, top 10 states; U.S. total equals 850,177 acres. 1997 data.
Economic Research Service, USDA

1990-96, according to private-sector price reports.

Organic vegetable production for national distribution and export was concentrated in only a few states in 1997—California, for example, had six times more certified organic vegetable acreage than any other state—but growers in at least 43 states had some acreage devoted to organic vegetables. Over 2 percent of vegetable acreage in top vegetable producing states, such as California and Arizona, as well as minor producing states, such as Massachusetts, Maine, and Vermont, was managed under organic farming systems in 1997. Vermont has an organic farming association that has been promoting local organic agriculture for almost three decades, and that state had the highest percentage (24 percent) of its vegetable acreage under organic management.

Organic apples, citrus, grapes, and other fruits and nuts were grown on over 49,000 acres in the U.S. in 1997. Grapes accounted for 39 percent of total acreage certified that year, followed by apples (18 percent), citrus (12 percent), and tree nuts (10 percent). California growers produced almost all of the organic grapes. Organic apples were produced in 16 states, and Arizona, California, Washington, and Colorado had between 1,000 and 3,000 acres each.

California, Florida, Arizona, and Texas were the top citrus producers (organic and nonorganic). The Texas Agricultural Extension Service indicates that organic citrus production potential is high in that state because most of the sucking insect and mite pests are under partial biological control, and cultural techniques and plant material quarantines effectively address many major citrus diseases. Nine states produced organic tree nuts in 1997 on 4,908 acres, with California growers producing 3,542 acres of the nuts (almonds, walnuts, and pistachios) and Texas producing 913 acres (mostly pecans).

Certified organic herbs were produced for culinary and medicinal uses in 32 states on over 6,400 acres in 1997, led by California and Washington. State and private agencies also certified over 80,000 acres of forests, scrublands, and other natural areas in three states for wild-harvesting organic herbs and other crops in 1997. The Idaho Department of Agriculture's Organic Certification Program, for example, certified 52,000 acres of certified organic wild-harvested St. John's wort, a popular medicinal herb, in 1997. Certified organic cut flowers were produced in a dozen states on 288 acres in 1997, and mushrooms, flowers, and other crops were also organically grown in 377,296 square feet of greenhouses in 10 states in 1997.

Adoption Varies For Grains & Livestock

Organic farmers grow a diversity of field crops because of the key role crop rotation plays in controlling weeds and maintaining fertility in organic farming systems. Data from organic certification agencies indicate that organic farmers are growing major grains and oilseeds on a small scale, along with a host of other field crops. Only one-tenth of a percent of the U.S. corn and soybean crops was managed organically in 1997, and over 1 percent of the oats and dry pea crops was certified organic. Over 3 percent of the U.S. millet crop, 6 percent of the flax crop, and nearly one-third of the U.S. buckwheat crop was certified organic.

Certified organic grains were grown in 35 states in the U.S. in 1997. North Dakota was the top producer with over 50,000 acres. Wheat was produced under certified organic farming systems on over 125,000 acres in 1997, corn was grown on over 42,000 acres, and oats and barley were each grown on almost 30,000 acres. Other certified organic grain crops—sorghum, rice (including wild rice), spelt, millet, buckwheat, and rye—were grown on less than 15,000 acres each. Montana had the most acreage of certified organic wheat, Minnesota led in corn and buckwheat acreage, and North Dakota had the most acreage of oats, millet, and rye in 1997. Idaho had the most certified organic barley acreage, and California had the most certified organic rice.

ERS estimates of 1997 certified organic wheat and corn acreage are 31 percent greater than estimates by the private sector for 1995. U.S. farm-level organic corn prices averaged 35 percent higher than U.S. cash prices for conventional corn in 1995, and the premium gap widened in 1996 and 1997, according to an analysis of private-sector data by a South Dakota State University economist. Hard red spring wheat organic prices were 50 percent or more higher than U.S. cash and

futures prices for conventionally grown spring wheat. ERS estimates of 29,748 acres of certified organic oats in 1997 is more than double the private sector estimates for 1995, as organic oat prices averaged 35 percent higher than U.S. cash prices for conventional oats in 1995 and the price spread widened in 1996 and 1997.

The ERS estimate of certified organic soybean acreage in the U.S. in 1997, about 82,000 acres, is 74 percent greater than the private-sector estimate of 47,200 acres for 1995. Expansion of organic soybean acreage was due in part to annual organic soybean prices, which averaged nearly double or more the U.S. cash and nearby futures prices of conventional soybeans between 1995 and 1997. Greater use of specialty markets by organic grain producers might partly explain these price differentials.

Certified organic dry peas and lentils were grown on 5,187 acres in the U.S. in 1997, and Montana and North Dakota were the leading producers. Certified organic dry beans were grown on 4,641 acres in the U.S. in 1997, and California was the biggest producer. Certified organic oilseeds—including flax and sunflowers—were grown on 31,433 acres in 18 states in 1997, with North Dakota, California, and Utah the leading states.

Producers grew 62,460 acres of certified organic alfalfa hay, 11,579 acres of grass silage and haylage, and 42,758 acres of unclassified hay and silage in 1997. Thirty-nine states had certified organic hay and silage production, ranging from under 100 acres each in Arkansas, New Hampshire, Nevada, Delaware, Rhode Island, and West Virginia to over 5,000 acres each in Idaho, Wisconsin, New York, North Dakota, Minnesota, Montana, Vermont, and South Dakota. Acreage of these crops expanded 51 percent between 1995 and 1997, as the number of certified organic milk cows more than doubled during that period.

Organic meat and poultry markets have lagged those for crops, partly because meat and poultry could not be labeled as organic until February 1999, when a provisional label was approved by USDA. Food crops and nonmeat animal foods (eggs and dairy products) are regulated by the Food and Drug Administration, and have been allowed to carry an organic label throughout the 1990's. While the number of certified organic beef cows, hogs and pigs, and sheep and lambs declined sharply during the study period, 1992-97, the number of dairy cows and layer hens increased sharply. The market for organic meat products is beginning to grow now that organic labeling is permitted, and is starting to push up use of certified organic pasture and rangeland and demand for certified organic feed grains.

Farmers and ranchers raised certified organic cows, pigs, and sheep in 23 states in 1997. Dairy cows were managed organically in 13 states in 1997, and New York was the leading state with 3,386 animals, followed by Wisconsin (2,509 dairy cows) and Minnesota (2,425 dairy cows). Pennsylvania, California, and Maine also had over 1,000 organic dairy cows each. The number of certified organic milk cows in the U.S. nearly tripled between 1992 and 1994, and more than doubled between 1994 and 1997. Organic dairy sales in mainstream supermarkets were up 200 percent or more—albeit from a small base—in Baltimore, Phoenix, Detroit, Boston, and other major markets between December 1997 and December 1998, according to industry sources.

The U.S. had 537,826 certified organic layer hens in 1997, up sharply from 47,700 in 1994. California was the leader in organic poultry production, with 350,000 organic birds, followed by New York (161,304 birds) and Virginia (62,400 birds). Other organic animal specialties, including goats, fish, and bee colonies, were certified in several states.

Organic Production Expanding

While adoption of organic farming systems showed strong gains between 1992 and 1997 and the adoption rate continues high, the overall adoption level is still small—only two-tenths of 1 percent of all U.S. cropland was certified organic in 1997. Obstacles to adoption include large managerial costs and risks of shifting to a new way of farming, limited awareness of organic farming systems, lack of marketing and technical infrastructure, inability to capture marketing economies, insufficient numbers of processors and distribu-

Measuring Adoption of Organic Farming Systems in the U.S.

The ERS study of expansion of organic farming analyzed 1997 data from 40 state and private certifiers. Uncertified production was excluded, even though it may represent a large segment of organic production, because of difficulty in determining production criteria used by uncertified growers. A similar approach was used in USDA's 1992-94 analysis of U.S. organic production.

Membership directories, acreage reports, and other sources of certified acreage and livestock data were obtained from U.S. certifiers and used to calculate 1997 estimates of certified acreage in the U.S. Eleven of the private certifiers provided certification services in more than one state in 1997. Several of these certifiers provided services in only a few adjacent states, but three of them provided services in 20 states or more. Acreage reports and other data sources for most of these national certifiers, particularly the larger ones, showed crop acreage and livestock numbers by state. The California Agricultural Statistics Service obtained data from one of the certifiers for this study.

Certified organic acreage and livestock estimates were calculated by state and by commodity, with several exceptions. First, several certifiers had already updated 1997 data records with data for 1998, and their 1998 data were used in this report. Second, data that could not be broken down by commodity are reported at an aggregate level. The amount of acreage that could not be classified by commodity varied by farm enterprise (9 percent of grain acreage, 4 percent of legume acreage, 40 percent of oilseed and hay acreage, 38 percent of vegetable acreage, and 21 percent of fruit acreage). Finally, some data could not be classified by state (well under 1 percent of the total) and are included in a regional category.

Selected USDA Programs & Projects to Facilitate Organic Production

Market facilitation

Agricultural Marketing Service, USDA—National Organic Program, www.ams.usda.gov/nop/

Foreign Agricultural Service, USDA—Organic export promotion, *Organic Perspectives* newsletter, www.fas.usda.gov/htp/

Research and education

Cooperative State Research, Education, and Extension Service, USDA—Sustainable Agriculture Research and Education Program, www.sare.org/san/

Cooperative State Research, Education, and Extension Service, USDA—National Research Initiative Competitive Grants, includes Biologically Based Pest Management Program, www.reeusda.gov/crgam/nri/programs/progdesc/biobased.htm, and others

Cooperative State Research, Education, and Extension Service, USDA—Small Farm Program, www.reeusda.gov/agsys/smallfarm/

National Agricultural Library, USDA—Alternative Farming Systems Information Center, www.nal.usda.gov/afsic

Agricultural Research Service, USDA-Beltsville Agricultural Research Center—the Sustainable Agriculture Demonstration Site, teasdalej@ars.usda.gov, and the Farming Systems Project (includes organic trials), cavigelm@bs.ars.usda.gov

Agricultural Research Service, USDA—New organic farming systems research, with farmer participation, in several locations including Salinas, CA, www.pwa.ars.usda.gov/salinas

Economic Research Service, USDA—Organic production and marketing research, www.ers.usda.gov; cgreene@ers.usda.gov and lkglaser@ers.usda.gov

Risk reduction

Risk Management Agency, USDA—Organic insurance pilot program under development, Sharon Hestvik (202) 720-6685, Sharon_hestvik@wdc.fsa.usda.gov

Resource conservation

Natural Resources Conservation Service, USDA—Conservation practice standards, www.ftw.nrcs.usda.gov/tech_ref.html

tors, and limited access to capital. State and private certifier fees for inspections, pesticide residue testing, and other services represent an added production expense for organic producers. And farmers can't command certified organic price premiums during the 3-year required conversion period before crops and livestock can be certified as organic.

Europe has converted a much higher level of farmland to organic management—about 1.5 percent of total agricultural land was organic in 1997—and adoption levels ranged from 10 percent in Austria and 7 percent in Switzerland to 2 percent in Germany and 0.4 percent in the U.K. Most countries in Europe have offered direct financial support for conversion to organic farming since the late 1980's.

Several states in the U.S. have begun providing financial support for conversion to organic farming systems as a way to capture environmental benefits of these systems. In Iowa, organic crop production has been an approved state conservation practice since 1997, and is eligible for cost-share support from USDA's Environmental Quality Incentive Program. In Minnesota, the Department of Agriculture implemented an Organic Cost Share Program in 1999, which is designed explicitly to reimburse Minnesota producers for up to two-thirds of the cost for organic inspection and certification. Also, several of the state-run certification programs in the U.S. charge nominal or very low fees to encourage organic production. A recent policy analysis from the University of Georgia suggests that these state incentive payments will be helpful for growers who are already interested in organic production, but cautions that more obstacles need addressing to attract most large producers.

In addition to government efforts in developing national certification standards, and in expediting interstate commerce in organic products, USDA has been facilitating and promoting organic exports for several years. A pilot program to offer organic crop insurance is also under development. Several other USDA research programs have focused on organic and sustainable farming systems since the 1990's, and more such programs are beginning to take shape. **AO**

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