U.S. Organic Farming in 2000-2001: Adoption of Certified Systems. By Catherine Greene and Amy Kremen, U.S. Department of Agriculture, Economic Research Service, Resource Economics Division, Agriculture Information Bulletin No. 780.

Abstract

U.S. farmland managed under organic farming systems expanded rapidly throughout the 1990s, and that pace has continued as farmers strive to meet consumer demand in both local and national markets. The U.S. Department of Agriculture (USDA) implemented national organic standards on organic production and processing in October 2002, following more than a decade of development, and the new uniform standards are expected to facilitate further growth in the organic farm sector. USDA's organic standards incorporate an ecological approach to farming—cultural, biological and mechanical practices that foster cycling of resources, ecological balance, and protection of biodiversity. An increasing number of U.S. farmers are adopting these systems in order to lower input costs, conserve nonrenewable resources, capture high-value markets, and boost farm income. This report updates USDA estimates of land farmed with organic practices during 1997 with estimates for 2000 and 2001, and provides new estimates on the number of certified organic operations in each State.

Keywords: organic farming systems, organic certification, certified organic acreage and livestock, price premiums, national organic rules, specialty agriculture, farmers' markets.

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U.S. farmland managed under organic farming systems expanded rapidly throughout the 1990s and has sustained that momentum, as farmers strive to meet consumer demand in both local and national markets. The U.S. Department of Agriculture (USDA) implemented national organic standards on organic production and processing in October 2002, following more than a decade of development. The new uniform standards are expected to facilitate further growth in the organic farm sector. USDA's organic standards incorporate an ecological approach to farming—cultural, biological, and mechanical practices that foster cycling of resources, ecological balance, and protection of biodiversity. An increasing number of U.S. farmers are adopting these systems in order to lower input costs, conserve nonrenewable resources, capture high-value markets, and boost farm income.

This study updates USDA estimates of land farmed with organic practices during 1997 with estimates for 2000 and 2001, and provides new estimates on the number of certified organic operations in each State. Procedures are similar to those used in earlier studies of certified acreage: data from State and private certifiers were collected and analyzed, uncertified production was excluded, and double-certified acreage was excluded whenever possible. Fifty-three organic certification organizations—14 State and 39 private—conducted third-party certification of organic production during 2000 and 2001.

U.S. farmers and ranchers have added another million acres of certified organic cropland and pasture since 1997, bringing the 48-State total to 2.34 million acres in 2001. Certified organic livestock grew even faster during this period. Most crop/livestock sectors and most States also showed strong growth between 2000 and 2001. Overall, certified organic cropland and pasture accounted for 0.3 percent of U.S. cropland and pasture in 2001, although the share is much higher in some crops, such as vegetables at over 2 percent.

California was the leading State in certified organic cropland in 2001, with nearly 150,000 acres, mostly used for fruit and vegetable production. North Dakota followed closely with nearly 145,000 acres, mostly for wheat, soybeans, and other field crops. Minnesota, Wisconsin, Iowa, and Montana were other top States.

Certified organic pasture and rangeland more than doubled between 1997 and 2001, and was up 28 percent from 2000 to 2001, mirroring the rapid expansion in organic livestock and poultry. Over 40 States had certified pasture and rangeland in 2001, most with under 20,000 acres, although several States had over 100,000 acres and Colorado had over half a million acres. The number of certified organic beef cows, milk cows, hogs, pigs, sheep, and lambs was up nearly four-fold since 1997, and up 27 percent from 2000 to 2001. Dairy has been one of the fastest growing segments of the organic foods industry during this period, and milk cows accounted for over half of certified livestock animals. Poultry animals raised under certified organic management—including layer hens, broilers, and turkeys—showed even higher rates of growth during this period.

California had more certified operations than any other State, with just over 1,000 operations in 2001, up 12 percent from the previous year. Washington, Wisconsin, Minnesota, Iowa, Pennsylvania, Ohio, New York, Vermont, and Maine rounded out the top 10. Many of these States are characterized by a high proportion of small farms that

grow fruits and vegetables for direct marketing to consumers. For example, the Northeastern States have relatively little cropland but a large concentration of market gardeners. Only 3 of the top 10 States in certified operations—California, Minnesota, and Iowa—are also among the top 10 for certified acreage.

Nine States, over half in the Southeast (Georgia, Louisiana, South Carolina, Tennessee and West Virginia), showed an overall decline in certified organic farmland from 1997 to 2001. The Southeast has had less certified organic farmland than other regions in general, and most of the certification in these States has been by small, local nonprofit certifiers. A number of these certifiers chose to drop their certification programs when national rules were implemented, to focus instead on community outreach for sustainable agriculture, and this transition has likely caused some dislocation among certified growers in the region. However, several certifiers—existing organizations that are expanding their range of service, and new certifiers that have recently emerged in that region—are filling in for services that were lost during the transition.

While government intervention in the United States has focused primarily on market facilitation, several States—Minnesota and Iowa in particular—have begun subsidizing conversion to organic farming systems as a way to capture the environmental benefits of these systems. Potential benefits from organic farming systems include improved soil tilth and productivity, lower energy use, and reduced use of pesticides. Most European countries have been providing direct financial support for conversion since the late 1980s, with conversion levels much higher than in the United States.

Obstacles to adoption include high managerial costs and risks of shifting to a new way of farming, limited awareness of organic farming systems, and a lack of marketing and technical infrastructure. State and private certifier fees for inspections, pesticide residue testing, and other services represent an added expense for organic producers. Since the late 1990s, at least nine USDA agencies have started or expanded programs and pilot projects to help organic producers with production and marketing problems and risks, and the 2002 Farm Act for the first time included several small initiatives to assist organic farmers. These initiatives include expanded producer coverage for certification cost-share assistance and new funding for organic farming and marketing systems research.

U.S. Organic Farming in 2000-2001

Adoption of Certified Systems

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Introduction

U.S. farmland managed under organic systems expanded rapidly throughout the 1990s and has sustained that momentum, as farmers strive to meet consumer demand in both local and national markets. The U.S. Department of Agriculture (USDA) implemented national organic standards on organic production and processing in October 2002, following more than a decade of development, and the new uniform standards are expected to facilitate further growth in the organic farm sector. As the organic farm sector expands, a small amount of university-based research and technical assistance, Federal cost-share funds, and other State and Federal support for organic farmers is also beginning to emerge.

USDA's organic standards incorporate an ecological approach to farming that affects the entire production and processing system, unlike many new farming technologies—such as improved crop varieties and innovative yield monitoring tools—that typically alter only a single input or aspect of production. Farmers who shift to organic farming systems from chemical-intensive systems must make changes across the spectrum of their production inputs and practices. An increasing number of farmers in the United States and around the world have begun to explore that challenge in recent years.

This study updates USDA estimates of land farmed with organic practices during 1997 with estimates for 2000 and 2001, and provides new estimates on the number of certified organic operations in each State. U.S. farmers and ranchers have added another million acres of certified organic cropland and pasture since 1997, bringing the 48-State total to 2.34 million acres in 2001. Certified organic livestock operations grew even faster during this period. Most crop/livestock sectors and most States also showed strong annual growth between 2000 and 2001. Overall, certified organic cropland and pasture accounted for 0.3 percent of U.S. cropland and pasture in 2001, although the share is much higher in some crops, such as vegetables at 2 percent.

The United States ranked fourth in land area managed under organic farming systems, behind Australia (with 19 million acres under organic management), Argentina (6.9 million acres), and Italy (2.6 million acres), in a recent worldwide survey (Yussefi and Willer, 2002). Argentina and Australia each had about 1.6 percent of their land area under organic management, much of that acreage in pasture. The U.S. was not among the top 10 as a percentage of total farmland, which included Switzerland (9 percent of total land area under organic management), Austria (8.64 percent), Italy (6.76 percent), Sweden (5.2 percent), the Czech Republic (3.86 percent), and the United Kingdom (3.3 percent). Worldwide conversion levels are currently the highest in European Union (EU) countries, which have been developing consumer education initiatives and providing direct financial support to producers for conversion since the late 1980s to capture the environmental benefits of these systems and support rural development. Many EU countries have set targets for organic farming adoption of 10-20 percent of agricultural land area by 2010 (Lampkin, 2002).

While government intervention in the United States has focused primarily on market facilitation, several States—Minnesota and Iowa in particular—have begun subsidizing conversion to organic farming systems as a way to capture the environmental benefits of these systems (Plank, 1999; DeWitt, 1999). Also, at least nine USDA agencies have started or expanded programs and pilot projects to help organic producers with production and marketing problems and risks (Dimitri and Greene, 2002), and the 2002 Farm Act for the first time included several initiatives to assist organic farmers.

Rising Consumer Demand for Organic Products

Consumer demand for organically produced goods has risen sharply for over a decade, providing market incentives for U.S. farmers across a broad range of products. The World Trade Organization/United Nations International Trade Centre (ITC) estimates that U.S. organic sales were $9-$9.5 billion in 2001 (International Trade Centre, 2002). ITC also estimates that the combined retail sales of organic food and beverages in major world markets—the United States, Japan, Denmark, France, Germany, the Netherlands, Sweden, Switzerland, and the United Kingdom—jumped from $11 billion in 1997 to approximately $21 billion in 2001 (International Trade Centre, 2002). Organic food sales account for 1-2 percent of total food sales in most of these countries, including the United States, and, according to the ITC, annual medium-term growth rates are forecast at 10-20 percent for most of these countries.

Fresh produce remains the top selling organic category, followed by nondairy beverages, breads and grains, packaged foods—frozen and dried prepared foods, baby food, soups, and desserts—and dairy products, according to industry statistics (Packaged Facts, 2000). Organic dairy grew most rapidly during the 1990s, followed closely by juice, soymilk, and other nondairy beverages. Organic meat sales accounted for 3 percent of total organic sales in 2000, and the jump in organically raised livestock between 1997 and 2001 confirms the rapid growth of this sector.

Markets for organic flowers, fibers, and other agricultural products have also been developing in recent years. Most organic herbs and flowers (excluding those used as an intermediate good) are sold locally and direct to the consumer, through Internet sales, subscription programs (CSAs), or farmers' markets (Dimitri and Greene, 2002). Markets have been developed for organic cotton and are emerging for rayon, linen, and other fibers. Organic cotton acreage fell during the mid-1990s but grew during the study period (1997-2001), as big companies developed fabric blends of organic cotton and other fibers and specialty retailers experimented with organic clothing lines.

Farmgate, wholesale, and retail price data, collected by private and nonprofit organizations, have indicated substantial organic premiums for fruits, vegetables, and milk over the last decade. USDA tracked wholesale organic price premiums for two vegetables between 1989 and 1992—based on prices reported by the nonprofit Community Alliance for Family Farmers—and found annual average prices that were generally double conventional prices, with wide variation on a weekly basis (Economic Research Service, 1989-92). Monthly farmgate price premiums for several major fruits and vegetables consistently exceeded 100 percent between 1992 and 1996, based on reports from the *Organic Food Business News* (OFBN) published by a private firm (Vandeman, 1998). Supermarket scanner data showed similar results for frozen vegetables during this period (Glaser et al., 1998), as well as a 60-percent premium for organic milk over conventional milk brands from 1997 to 1999 (Thompson and Glaser, 2000).

Organic grain and soybean crops also enjoyed substantial price premiums during the 1990s, exceeding 50 percent for corn, soybeans, wheat, and oats during 1993-99 (Dobbs, 1998 and 1999). Researchers have also calculated price premiums of about 34 percent at the retail level for clothing made from organically grown cotton, based on 1996 catalog data (Nimon and Beghin, 1999). Conventional and organic grain prices have both fallen since 1999, but organic prices still carry a substantial premium over conventional prices (Bertramsen and Dobbs, 2002).

Organic Farming Systems

In USDA's final national organic rule, organic production is defined as "a production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity."

Organic farming systems rely on ecologically based practices, such as biological pest management and composting; virtually exclude the use of synthetic chemicals, antibiotics, and hormones 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 as farm management tools. For example, crops are rotated, food and shelter are provided for the predators and parasites of crop pests, animal manure and crop residues are cycled, and planting/harvesting dates are carefully timed.

Organic livestock production systems attempt to accommodate an animal's natural nutritional and behavioral requirements, ensuring that dairy cows and other ruminants, for example, have access to pasture. The new USDA livestock standards incorporate requirements for living conditions, pasture and access to the outdoors, feed ration, and health care practices suitable to the needs of the particular species.

The national organic standards address the methods, practices, and substances used in producing and handling crops, livestock, and processed agricultural products. Although specific practices and materials used by organic operations may vary, the standards require every aspect of organic production and handling to comply with the provisions of the Organic Foods Production Act of 1990. Organically produced food cannot be produced using genetic engineering and other excluded methods, sewage sludge, or irradiation. These standards include a national list of approved synthetic substances (such as insecticidal soaps and horticultural oils) and prohibited nonsynthetic substances (including arsenic, strychnine, and tobacco dust) for use in organic production and handling.

A limited, but growing, number of studies in the United States have examined the yields, input costs, profitability, managerial requirements, and other economic characteristics of organic farming. A 1990 review of the U.S. literature concluded that the "variation within organic and conventional farming systems is likely as large as the differences between the two systems," and found mixed results in the comparisons for most characteristics (Knoblauch et al., 1990).

Several recent U.S. studies have indicated that organic price premiums are necessary to give organic farming systems comparable or higher whole-farm profits than conventional chemical-intensive systems, particularly for crops like processed tomatoes and cotton (Klonsky and Livingston, 1994; Batte et al., 1993; Assadian et al., 1999). A review of university-based comparative studies in the 1980s and early 1990s on Midwestern organic grain and soybean production found organic systems needed price premiums to be more profitable than conventional systems (Welsh, 1999). Several of these studies, however, found that organic grain and soybean production could be as profitable even without price premiums due to higher yields in drier areas or periods, lower input costs, or higher revenue from the mix of crops used in the system. Other recent studies have also found that organic systems may be more profitable than conventional systems, even without price premiums. For example, a study comparing organic and conventional apple production in California's Central Coast showed higher yields as well as higher returns under the organic systems (Swezey et al., 1994). Another study compared organic, conventional, and "integrated pest management" apple production in Washington State over a 6-year period, and found that the organic system was more profitable, had similar yields, better tasting fruit, and was more environmentally sustainable and energy efficient than the other systems (Reganold et al., 2001).

Net returns to both conventional and organic production systems vary with biophysical and economic factors such as soil type, climate, proximity to markets, and other factors that are farm specific, and help explain the wide variation in economic performance within each system. Factors not captured in standard profit calculations—such as convenience, longer-term planning horizons, and environmental ethics—can motivate rational adoption of a particular practice or farming system. Further research is needed to improve our understanding of the factors influencing net returns to organic farming systems.

USDA, universities, and other U.S. institutions are increasingly examining the long-term economics of organic farming systems through replicated field trial research and a multidisciplinary systems approach.

Several of these projects were started in the 1980s. Rodale Institute's Farming Systems Trial™, in Kutztown, Pennsylvania, was begun in 1981 and is one of the longest running experiments designed specifically to study organic cropping systems. This project focuses on corn and soybean production and studies the conversion from conventional to organic farming. Other projects begun in the 1980s include the Sustainable Agriculture Farming Systems Project (University of California, Davis, 1988) and the Elwell Agroecology Farm (in conjunction with the University of Minnesota's Lamberton Experiment Station, 1989).

Newer projects include the Farming Systems Project, at USDA's Beltsville (Maryland) Agricultural Research Center, which focuses on organic cropping typical in the mid-Atlantic region, and long-term projects at Iowa State University, North Carolina State University, Ohio State University, and others. West Virginia University (WVU) converted its entire 60-acre Horticulture Farm to organic production in the fall of 1999 and plans to certify the entire operation after 3 years of transition. The WVU Organic Research Farming Project is studying market garden/vegetable production systems, as well as field crop/livestock systems, in replicated plots, and is evaluating changes in various aspects of the fauna, flora, and soil as organic practices are followed. Most of these multidisciplinary, long-term research trials are less than a decade old, and promise to answer basic research questions about yields and profitability as well as to address farmer-defined management and production obstacles to adoption of organic production systems.

Obstacles to more widespread adoption of organic farming systems include the high managerial costs and risks of shifting to a new way of farming, limited awareness of organic farming systems, lack of marketing and technical infrastructure, and inability to capture marketing economies (Dobbs et al., 1999; Lohr and Salomonsson, 1998). Limited access to crop insurance and to other Federal programs may also discourage some farmers; the Risk Management Agency, Agricultural Research Service, Agricultural Marketing Service, Natural Resources Conservation Service, and other USDA agencies have begun pilot projects to address these obstacles.

Fees charged by State and private certifiers represent an additional, ongoing expense in certified organic farming systems, and may be a hurdle for some farmers, particularly smaller farmers. Starting in 2001, the Federal Government is beginning to subsidize the cost of organic certification. Certification agencies require documentation of a 3-year transition (conversion) period, during which land must be managed under approved practices, before certifying any crop or pasture acreage. Farmers cannot obtain the organic price premiums for certified organic commodities during this period, though in some cases higher prices can be obtained for "transitional" commodities.

Some cultural, biological, and mechanical practices in organic systems may be more management-intensive than use of chemical fertilizers and pesticides, but their environmental benefits to society may justify financial or other assistance to farmers who adopt these practices. Occupational pesticide exposure has been shown to cause acute and chronic health illness in humans, and to damage fish and wildlife, including species that are beneficial in agricultural ecosystems (U.S. EPA, 1987; Alavanja et al., 1996; Alavanja et al., 1993, Litovitz et al., 1990; Buchman and Nabhan, 1996). Reduced nutrient pollution, improved soil tilth and productivity, and lower energy use have been documented for organic farming systems (USDA, 1980; Smolik et al., 1993). Soils in organic farming systems (which use cover crops, crop rotation, fallowing, and animal/green manures) may also sequester as much carbon as soils under other carbon sequestration strategies, and could help reduce global warming (Lal et al., 1998; Drinkwater et al., 1998). Many of the multidisciplinary, long-term farming system trials are experimenting with ways to include or improve assessments of these factors in their design.

Third-Party Certification and National Standards

Private organizations, mostly nonprofits, began developing certification standards in the early 1970s as a way to support organic farming, as well as to strengthen legitimate product claims. States began developing certification programs for similar reasons in the late 1980s, run mostly through State agriculture departments. The number of organizations offering certification services to growers has grown steadily over the last decade. Fifty-three organizations (14 State and 39 private) provided certification services to organic farmers in 2000 and 2001. Several of these private organizations—Northeast Organic Farming Association of Vermont, Maine Organic Farmers and Gardeners Association, and California Certified Organic Farmers—have been providing services for over three decades.

State and private certification initiatives resulted in a fairly robust system of third-party certification, which has operated under a patchwork of variable standards. Many certifiers have followed the national organic standards outlined by Congress in the Organic Foods Production Act of 1990, even before the national standards became mandatory. All of the certifiers provided crop certification in 2001, and nearly half provided livestock certification as well (table 1). While crop and livestock standards used by State and private certifiers have overlapped in many aspects, the differences that remained in some areas were eliminated when USDA's Final Rule was fully implemented on October 21, 2002 (see box).

As of October 21, 2002, all organic certifiers are required to be accredited under USDA's national organic standards. While most of the organic programs that currently certify growers have sought accreditation by USDA under the new standards, at least seven of the private organizations that certified growers in 2000 and 2001 have suspended their certification programs. Few U.S. certifiers had previously sought accreditation by another entity, and some of the certifiers that quit preferred not to use additional staff resources to meet accreditation requirements. Others felt that conflict-of-interest requirements in the Federal rules, which place limits on when certifiers can give technical advice to growers, would make their educational outreach activities more difficult. Several of the organizations that discontinued certification services have retained their educational and outreach programs.

USDA's national standards do not restrict additional ecolabelling of organic products, and some organic certifiers are also developing standards on social aspects of agricultural production and food distribution—fair trade, local sourcing, and family farm characteristics, for example—that complement the organic standards and label. States and other community-based organizations are also investigating ways to facilitate production and marketing for locally grown organic food. For example, Sustain—a public interest group based in Chicago—has started a local organic initiative to begin building a regional organic food system in Illinois, Wisconsin, Michigan, and Indiana (Slama).

National Standards Regulate Organic Production and Marketing

Congress passed the Organic Foods Production Act of 1990 (OFPA) to establish national standards for organically produced commodities in order to facilitate domestic marketing of organically produced fresh and processed food, and assure consumers that such products meet consistent, uniform standards. USDA's National Organic Program (NOP), authorized under OFPA, implements this legislation.

The Final Rule implementing this legislation was published in December 2000 and went into effect on October 21, 2002, requiring that organic farmers and processors must be certified by a State or private agency accredited under national standards. These regulations require that all organic growers and processors, except those selling less than $5,000 a year in organic agricultural products, must be certified by a State or private agency accredited under the uniform standards developed by USDA. Retail food establishments that sell organically produced agricultural products but do not process them are exempt from certification.

The program establishes:

- National production and handling standards for organically produced products, including a national list of substances that can and cannot be used.
- A national-level accreditation program for State and private organizations, which must be accredited as certifying agents under the USDA national standards for organic certifiers.
- Requirements for labeling products as organic and containing organic ingredients.
- Rules for importation of organic agricultural products from foreign programs.
- Civil penalties for violations of these regulations.

For further information, visit USDA's Agricultural Marketing Service/National Organic Program (NOP) website at **www.ams.usda.gov/nop**.

Table 1—U.S. organic certification programs[1]

Certifier	Headquarters	Certification services	
		Crops	Animals
State			
Colorado Dept. of Agriculture	Lakewood, CO	yes	no
Idaho Dept. of Agriculture	Boise, ID	yes	yes
Iowa Dept. of Agriculture and Land Stewardship	Des Moines, IA	yes	yes
Kentucky Dept. of Agriculture	Frankfort, KY	yes	no
Louisiana Dept. of Agriculture and Forestry	Baton Rouge, LA	yes	no
Maryland Dept. of Agriculture	Annapolis, MD	yes	yes
Nevada Dept. of Agriculture	Reno, NV	yes	no
New Hampshire Dept. of Agriculture	Concord, NH	yes	yes
New Mexico Organic Commodity Commission	Albuquerque, NM	yes	yes
Oklahoma Dept. of Agriculture	Oklahoma City, OK	yes	no
Rhode Island Dept. of Environmental Management	Providence, RI	yes	no
Texas Dept. of Agriculture	Austin, TX	yes	no
Virginia Dept. of Agriculture & Consumer Services	Richmond, VA	yes	no
Washington State Department of Agriculture	Olympia, WA	yes	yes
Private			
Alaska Organic Association	Palmer, AK	yes	no
American Organic Growers and Consumers, Inc.	Brandon, FL	yes	yes
Arkansas Certified Organic, Inc.	Mt. View, AR	yes	yes
California Certified Organic Farmers	Santa Cruz, CA	yes	yes
California Organic Farmers Association	North Modoc, CA	yes	no
Certified Organic Farms of Indiana	Atlanta, IN	yes	yes
Carolina Farm Stewardship Assn.	Pittsboro, NC	yes	no
Demeter Assn.	Aurora, NY	yes	yes
International Certification Services (formerly Farm Verified Organic)	Medina, ND	yes	yes
Quality Certification Services (formerly Florida Certified Organic Growers and Consumers)	Gainesville, FL	yes	yes
Global Organic Alliance	Bellefontaine, OH	yes	yes
Hawaii Bio-Organic Growers Association	Honaunau, HI	yes	no
Hawaii Organic Farmers Association	Haiku, HI	yes	no
International Certified Organic	St. Joseph, MO	yes	no
Indiana Certified Organic	Clayton, IN	yes	no
Kauai Organic Growers Association	Koloa, HI	yes	no
Maine Organic Farmers & Gardeners Association	Unity, ME	yes	yes
Midwest Organic Farmers & Gardeners Association	Viroqua, WI	yes	yes
Mountain State Organic Growers & Buyers Assn.	Morgantown, WV	yes	yes
Northeast Organic Farmers Assn.-CT	Northford, CT	yes	yes
Northeast Organic Farmers Assn.-MA	West Hatfield, MA	yes	no
Northeast Organic Farmers Assn.-NJ	Pennington, NJ	yes	yes
Northeast Organic Farmers Assn.-NY	Binghamton, NY	yes	yes
Northeast Organic Farmers Assn.-VT	Richmond, VT	yes	yes
OCCP/Pro-Cert Canada Inc./Western Div.	Saskatoon, SK	yes	yes
OCCP/Pro-Cert Canada Inc./Eastern Div.	Lindsay, ON	yes	yes
Ohio Ecological Food & Farming Association	West Salem, OH	yes	yes
Oregon Tilth	Salem, OR	yes	yes
Organic Certifiers	Ventura, CA	yes	yes
Organic Crop Improvement Association	Lincoln, NE	yes	yes
Organic Forum International, Inc.	Paynesville, MN	yes	no
Organic Growers & Buyers Association	Brooklyn Park, MN	yes	yes
Organic Growers of Michigan	Grand Rapids, MI	yes	yes
Organic Verification Organization of North America	Hitterdale, MN	yes	no
Pennsylvania Certified Organic	Centre Hall, PA	yes	yes
Quality Assurance International	San Diego, CA	yes	yes
Nutriclean (formerly Scientific Certification Systems)	Oakland, CA	yes	no
Tennessee Land Stewardship Association	Knoxville, TN	yes	yes
Vermont Maple Sugarmaker's Association	Westford, VT	yes	no

[1] List includes only certifiers active in 2000 and/or 2001. Twelve other certifiers were contacted, but they were either not yet active, had become inactive, or did not certify producers. A current list of certifiers is maintained by USDA's National Organic Program (202-720-3252; www.ams.usda.gov/nop)

U.S. Adoption Patterns, 1997-2001

U.S. farmers and ranchers added another million acres of farmland managed under certified organic systems between 1997 and 2001, bringing the total to 2.3 million acres in 2001 (table 2). Farmers and ranchers certified 1.3 million acres of cropland and 1 million acres of pasture and rangeland in 2001. Every State but Mississippi and Delaware had some certified cropland, and nearly nine-tenths had certified pasture. Organic animal production systems were certified in 37 States, up from 23 States in 1997. Certified organic cropland more than doubled in 12 States between 1997 and 2001, and certified organic pasture more than doubled in nearly two dozen States.

Certified organic cropland was up 53 percent between 1997 and 2001, increasing from 850,173 acres to 1,304,766 acres, and was up 7 percent from 2000 to 2001 (table 2). California was the leading State in certified organic cropland acreage in 2001 with nearly 150,000 acres, mostly used for fruit and vegetable production (table 3). North Dakota followed closely with nearly 145,000 acres, mostly used for wheat, soybeans, and other field crops. The other top States in certified organic cropland—Minnesota, Wisconsin, Iowa, Montana, Colorado, Idaho, South Dakota, and Michigan—also dominate in field crops (fig. 1).

Certified organic pasture and rangeland increased 109 percent between 1997 and 2001, and increased 28 percent from 2000 to 2001, reflecting the rapid expansion in organic livestock and poultry (table 2). Three States each had over 100,000 acres of pasture and rangeland in 2001—Colorado (514,000 acres), Texas (221,000 acres), and Montana (137,000 acres). Forty other States also had certified pasture and rangeland in 2001, most with under 20,000 acres.

The number of certified organic beef cows, milk cows, hogs, pigs, sheep, and lambs was about 71,000 in 2001, up nearly three-fold since 1997, and up 27 percent from 2000 to 2001 (table 2). Dairy has been one of the fastest growing segments of the organic foods industry, and milk cows accounted for over half of these certified animals. Poultry animals raised under certified organic management showed even higher levels of growth during this period. Certified organic layer hens, broilers, and other poultry increased over five-fold between 1997 and 2001, and jumped 59 percent from 2000 to 2001 (table 2). USDA removed restrictions on organic labeling for broilers in 1999, and broilers showed the biggest jump during the study period, increasing from 38,000 birds in 1997 to almost 2 million birds in 2000 and over 3 million in 2001.

Table 2—U.S. certified organic farmland acreage, livestock numbers, and farm operations, 1992-2001

Item[1]	1992	1993	1994	1995	1996	1997	2000	2001	Change 1992-97	Change 1997-01	Change 2000-01
					Acres					*Percent*	
U.S. certified farmland:											
Total	935,450	955,650	991,453	917,894	--	1,346,558	2,029,073	2,343,924	44	74	16
Pasture/rangeland	532,050	490,850	434,703	279,394	--	496,385	810,167	1,039,505	-7	109	28
Cropland	403,400	464,800	556,750	638,500	--	850,173	1,218,905	1,304,766	111	53	7
					Number						
U.S. certified animals:											
Livestock											
Beef cows	6,796	9,222	3,300	--	--	4,429	13,829	15,197	-35	243	10
Milk cows	2,265	2,846	6,100	--	--	12,897	38,196	48,677	469	277	27
Hogs & pigs	1,365	1,499	2,100	--	--	482	1,724	3,135	-65	550	82
Sheep/lambs	1,221	1,186	1,600	--	--	705	2,279	4,207	-42	497	85
Total livestock	11,647	14,753	13,100	--	--	18,513	56,028	71,216	59	285	27
Poultry											
Layer hens	43,981	20,625	47,700	--	--	537,826	1,113,746	1,611,662	1,123	200	45
Broilers	17,382	26,331	110,500	--	--	38,285	1,924,807	3,286,456	120	8,484	71
Turkeys	--	--	--	--	--	750	9,138	98,653	--	13,054	980
Other/unclass.	--	--	--	--	--	226,105	111,359	17,244	--	-92	-85
Total poultry	61,363	46,956	158,200	--	--	802,966	3,159,050	5,014,015	1,209	524	59
Total certified operations[1]	3,587	3,536	4,060	4,856	--	5,021	6,592	6,949	40	38	5

[1] Number does not include subcontracted organic farm operations.
Numbers may not add due to rounding.
Source: Economic Research Service, USDA

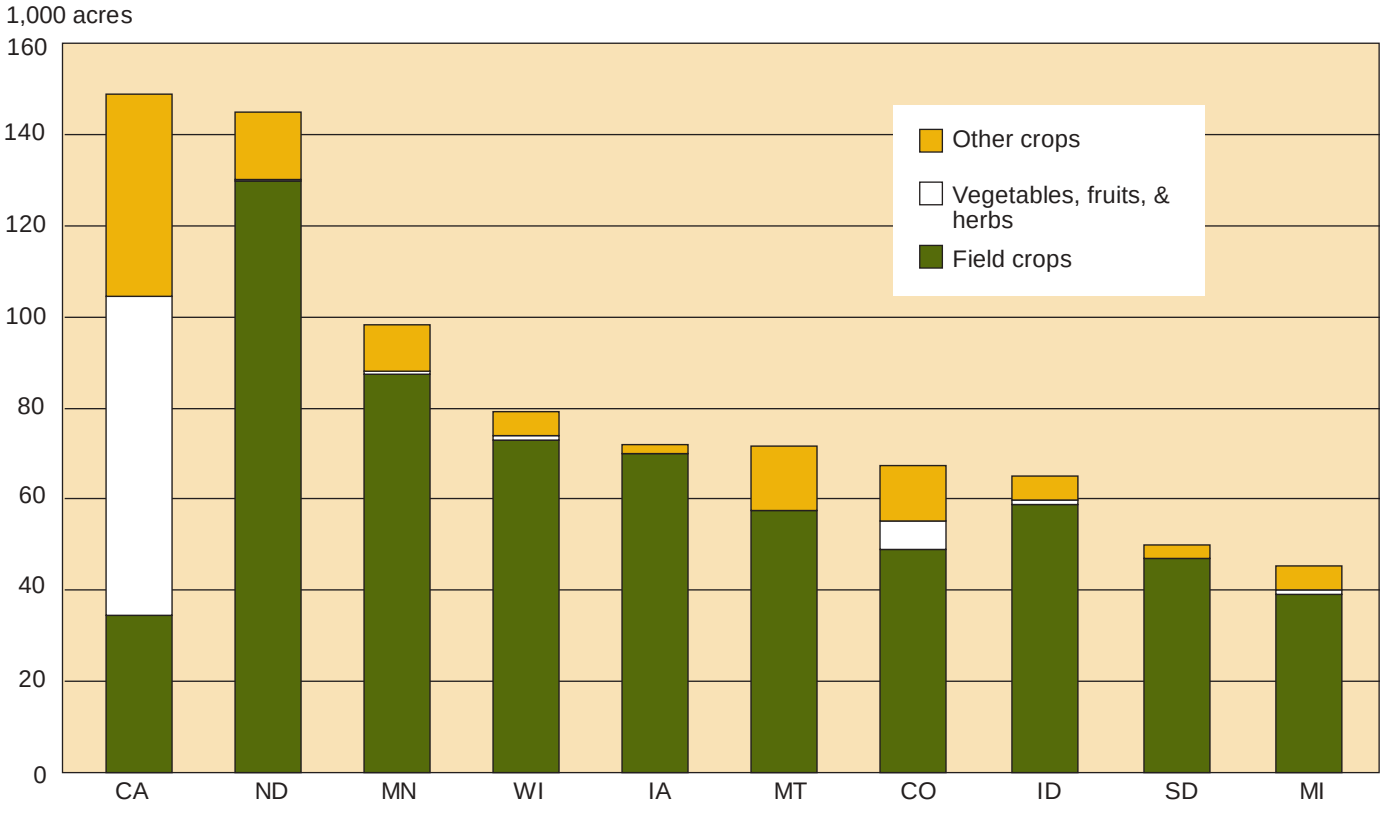
Nine States, over half in the Southeast (Georgia, Louisiana, South Carolina, Tennessee and West Virginia), showed an overall decline in certified organic farmland between 1997 and 2001 (table 3). The Southeast has had less certified organic farmland than other regions in general, and most of the certification in these States has been by small, local nonprofits. A number of these certifiers chose to drop their certification programs when national rules were implemented, to focus instead on community outreach for sustainable agriculture, and this transition has likely caused some disruption in certification services for some organic growers in the region. However, several certifiers—existing organizations that are expanding their range of service, and new certifiers that have recently emerged in that region—are filling in for services that were lost during the transition.

Organic farmland also fell in Florida and Idaho between 1997 and 2001 because wild crop operations that harvested saw palmetto berries and St. John's wort discontinued their organic certification. Idaho also experienced severe drought conditions between 1997 and 2001, which lowered planted acreage in both conventional and organic farm sectors. Acreage also fell substantially in Alaska because the large ranches that had experimented with organic livestock production in the State's western region during the late 1990s discontinued certification.

Overall, certified organic cropland and pasture accounted for 0.3 percent of U.S. cropland and pasture in 2001 (0.4 percent for cropland and 0.2 percent for pasture). Between 1 and 5 percent of top specialty crops—lettuce, carrots, apples, and grapes—were grown under certified organic farming systems, and tomatoes and citrus were nearly 1 percent (table 4, p. 15). Although only 0.12 and 0.24 percent of the top U.S. field crops—corn and soybeans—were grown under certified organic farming systems, organic management was used for at least 1 percent of rice, millet (4 percent), dry beans, and flax (3.5 percent).

Farm Size and Numbers. This study provides the first estimates of the number of certified organic operations by State. The number of U.S. certified growers, however, is an underestimate because some certified organic operations subcontract production with a number of growers. California had more certified operations than any other State, with slightly over 1,000 operations in 2001, up 12 percent from the previous year. Other top States for operations certified were Washington (548 operations), Wisconsin (469), Minnesota (421), Iowa (384), Pennsylvania (281), Ohio (265), New York (264), Vermont (251), and Maine (244). Only 4 of the top 10 States in certified operations—California, Minnesota, Iowa, and Wisconsin—are also among the top 10 for certified acreage (fig. 1).

Figure 1--Certified organic crop acreage, top 10 States, 2001



Source: Economic Research Service, USDA.

Table 3—Certified organic acreage by State, 1997, 2000, and 2001

State	Certifiers active by State			Total certified acreage		
	1997	2000	2001	1997	2000	2001
		Number			*Acres*	
U.S. total	40	53	53	1,346,558	2,029,073	2,343,924
Alabama	1	3	1	1	495	35
Alaska	1	1	1	174,190	168	168
Arizona	3	5	5	9,861	7,849	8,933
Arkansas	3	5	5	997	20,107	24,848
California	6	9	11	102,819	157,804	163,158
Colorado	3	6	7	258,873	602,463	581,614
Connecticut	2	3	3	1,066	1,190	1,430
Delaware	1	0	0	165	-	-
Florida*	4	5	6	32,745	5,136	12,059
Georgia	1	2	3	572	633	546
Hawaii	4	6	7	595	699	736
Idaho*	3	2	3	111,430	108,609	84,048
Illinois	2	8	8	10,699	19,467	21,324
Indiana	3	7	8	1,994	5,617	4,175
Iowa	4	9	8	35,769	68,939	80,354
Kansas	3	5	5	24,314	34,867	29,480
Kentucky	1	1	1	5,666	6,291	6,552
Louisiana	1	2	1	371	161	96
Maine	3	2	1	6,761	9,363	9,785
Maryland	2	3	3	1,645	3,009	3,590
Massachusetts	3	5	5	1,134	1,265	1,269
Michigan	2	8	9	16,762	31,348	46,485
Minnesota	5	8	8	63,685	81,953	103,297
Mississippi	0	0	0	-	-	-
Missouri	3	8	9	8,300	11,748	13,310
Montana	4	5	6	80,112	121,175	209,025
Nebraska	3	5	5	29,208	47,615	47,003
Nevada	1	3	3	255	3,032	1,954
New Hampshire	1	3	1	265	495	510
New Jersey	1	2	4	1,334	2,094	6,982
New Mexico	4	4	4	26,455	40,826	42,113
New York	4	7	9	27,718	46,089	45,086
North Carolina	4	2	2	980	1,474	1,377
North Dakota	2	4	5	90,790	153,737	159,300
Ohio	3	4	5	12,015	40,213	41,460
Oklahoma	3	4	2	3,992	3,206	3,922
Oregon*	1	3	7	16,984	26,958	27,501
Pennsylvania	5	9	8	6,511	18,873	20,984
Rhode Island	1	1	1	132	156	210
South Carolina	2	1	1	41	168	14
South Dakota	3	6	6	32,319	46,532	57,417
Tennessee	1	1	2	1,351	1,434	300
Texas	2	4	6	30,880	100,726	266,320
Utah	3	5	6	20,215	30,891	33,530
Vermont	2	2	2	21,146	29,170	30,659
Virginia	4	4	3	4,416	9,520	7,428
Washington	3	5	5	11,459	37,731	34,238
West Virginia	3	2	2	733	565	540
Wisconsin	3	7	9	47,622	80,285	91,619
Wyoming	1	3	3	75	6,927	17,138

*Three States reported significant wild-crafted acreage in 1997: Florida (25,000 acres), Idaho (52,388 acres), and Oregon (6,000 acres).
Source: Economic Research Service, USDA.

Many of the top States in operations certified are States with a high proportion of small farms that grow fruits and vegetables for direct marketing to consumers. California, Washington, and 8 upper Midwest and Northeastern States had 240 or more certified organic operations (fig. 2). California has the most certified organic cropland in the United States, and has the Nation's largest concentration of fruit and vegetable producers, both conventional and organic. Washington and the Northeastern States have a relatively small amount of cropland, but have a large concentration of market gardeners. Most of the organic acreage in the North-Central and upper Midwestern States is used for grain, bean, and oilseed production. Certified organic pasture and ranchland was concentrated in three States—Colorado, Texas, and Montana—although over 40 States had some certified organic pasture in 2001. Most Southeastern States had very little certified organic cropland, pasture, or operations.

California, the top State in certified organic acreage and operations, also hosts the majority of large organic fruit and vegetable operations. The average size of certified organic operations in California more than tripled between 1985 and 1991 (Greene, 1992). Still, most of the organic farms remain small. A recent University of California study indicates that the State's organic farms remained small (under 5 acres on average) throughout the late 1990s (Klonsky et al., 2002). The average size of certified organic farm operations is up in California and the U.S. as a whole, as existing organic farmers expand their operations and new large-scale operations become certified. Even so, small-scale farms remain the prevalent organic operation.

The United States had 6,949 certified organic operations in 2001, an addition of nearly 2,000 certified operations since 1997. The percentage increase in the number of certified operations (38 percent) between 1997 and 2001 was substantially less than the increase in farmland certified (74 percent) (table 2). Similarly, certified farmland rose 16 percent from 2000 to 2001, while certified operations were up only 5 percent. Estimates of the average size of certified organic farms, based on these data, would underestimate total farm size because many growers also have conventionally managed farmland. Nearly a quarter of the respondents to the most recent Organic Farming Research Foundation survey of certified organic growers indicated that they had mixed conventional and organic operations (Walz, 1999).

Certified Organic Farming: Methods and Data

USDA began analyzing data from State and private certification groups in the early 1990s to estimate certified organic farmland acreage and livestock numbers (Dunn 1995a, 1995b). More detailed estimates were gathered for 1997 and analyzed by commodity and by State (Greene, 2001). This report follows similar procedures, collecting and analyzing 2000 and 2001 data from State and private certifiers.

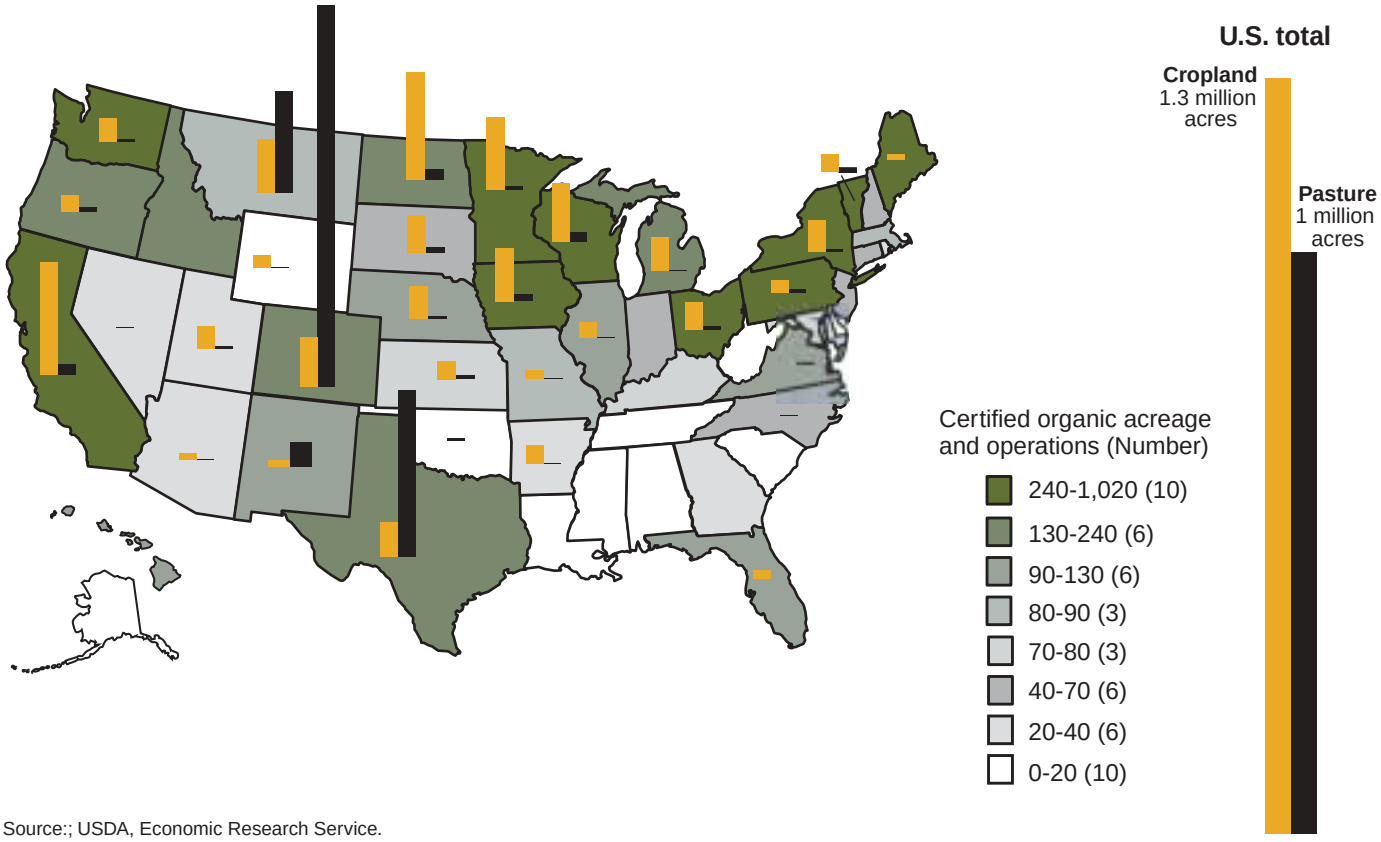
Noncertified organic production was excluded, even though it may be a large segment of U.S. organic production. California, for example, required farmers who market their crops as organic to register, but did not require certification prior to national rules taking effect. Certified organic farms represented only 41 percent of all registered organic farms in California in 1998, although they represented 88 percent of acreage and 91 percent of sales (Klonsky et al., 2002). USDA excluded noncertified production because of the difficulty in "determining whether or not uncertified producers are farming organically according to a defined set of production criteria" (Dunn, 1995a).

The acreage data collected from certifiers refer to planted acres rather than harvested acres. Certifiers were asked to report only one crop per acre in each year to be consistent with the Census of Agriculture, but this method undercounts actual crop acreage because many organic farmers grow several cash crops and/or cover crops each year on the same acreage.

Also, a small number of producers obtain certification from more than one certifying agency to meet the expectations in their local, national, and export markets. Double-certified acreage was not extensive in the data collected from certifiers, and was excluded whenever possible to avoid double-counting.

A list of 60 organic certification groups was compiled from various national organic industry directories, as well as by word of mouth (Appropriate Technology Transfer for Rural Areas; California Alliance with Family Farmers; Organic Farming Research Foundation; and Organic Trade Association, USDA National Organic Program). These certification groups were contacted to determine if they certified

Figure 2--U.S. certified organic acreage and operations, 2001



Source:; USDA, Economic Research Service.

farmers and were active in 2000 and 2001. Seven had become inactive or were not yet active in 2000 and/or 2001, some provided support services but not certification, others certified processors but not farmers, and a few could not be reached by phone or mail. Fifty-three of the 60 certification organizations were determined to be actively certifying farmers in 2000 and 2001 (table 1).

Membership directories, acreage reports, and other sources of certified acreage and livestock data were obtained from these 53 certifiers to estimate certified acreage in 2000 and 2001 by State and for major crops. The California Agricultural Statistics Service calculated the acreage and livestock numbers certified by one major certifier based on the office records of that organization. Data from all the certifiers were sorted into the major crop and livestock sectors defined by the Census of Agriculture, and acreage of the major commodities within each farm sector was also calculated.

The format of acreage and livestock data in certifier reports varied substantially. Most reports showed an acreage breakdown by crop and by State or by farm (some down to less than a tenth of an acre). Some showed acreage or numerical data for major categories of crop and livestock production but not for individual commodities.

Seventeen of the private certifiers provided certification services in more than one State in 2001. Several of these certifiers provided services in only a couple of adjacent States, but 3 of them provided services in 20 States or more.

Certified organic acreage and livestock estimates were calculated by State and by commodity in 2000 and 2001, with some exceptions. Some certifiers were able to give only estimates of acreage based on average operation size and type of operation. Second, data that could not be broken down by commodity are reported in aggregate. Acreage that could not be classified by crop category varied: 4 percent of grain acreage could not be classified by crop; 6 percent of bean acreage; 18 percent of oilseed acreage; 35 percent of hay acreage; 49 percent of vegetable acreage; 24 percent of fruit acreage; and 35 percent of acreage designated as “other crops” or “other land.”

Certified Organic Field Crops and Hay

U.S. farmers produced field crops and hay under certified organic systems on over 1.3 million planted acres in 2001. Certified organic grain crops were grown on over 450,000 acres (app. table 3). Organic hay and silage crops were certified on over 253,600 acres in 2001 (app. table 9). Certified organic soybeans, dry beans, peas, and lentils were grown on over 211,400 acres in 2001, a 112-percent increase over the previous 4 years (app. table 5). Oilseeds were produced on over 43,700 acres (app. table 7). For the top three certified organic field crops in 2001—wheat, soybeans, and corn—Montana led for wheat and Minnesota was the top producer for corn and soybeans.

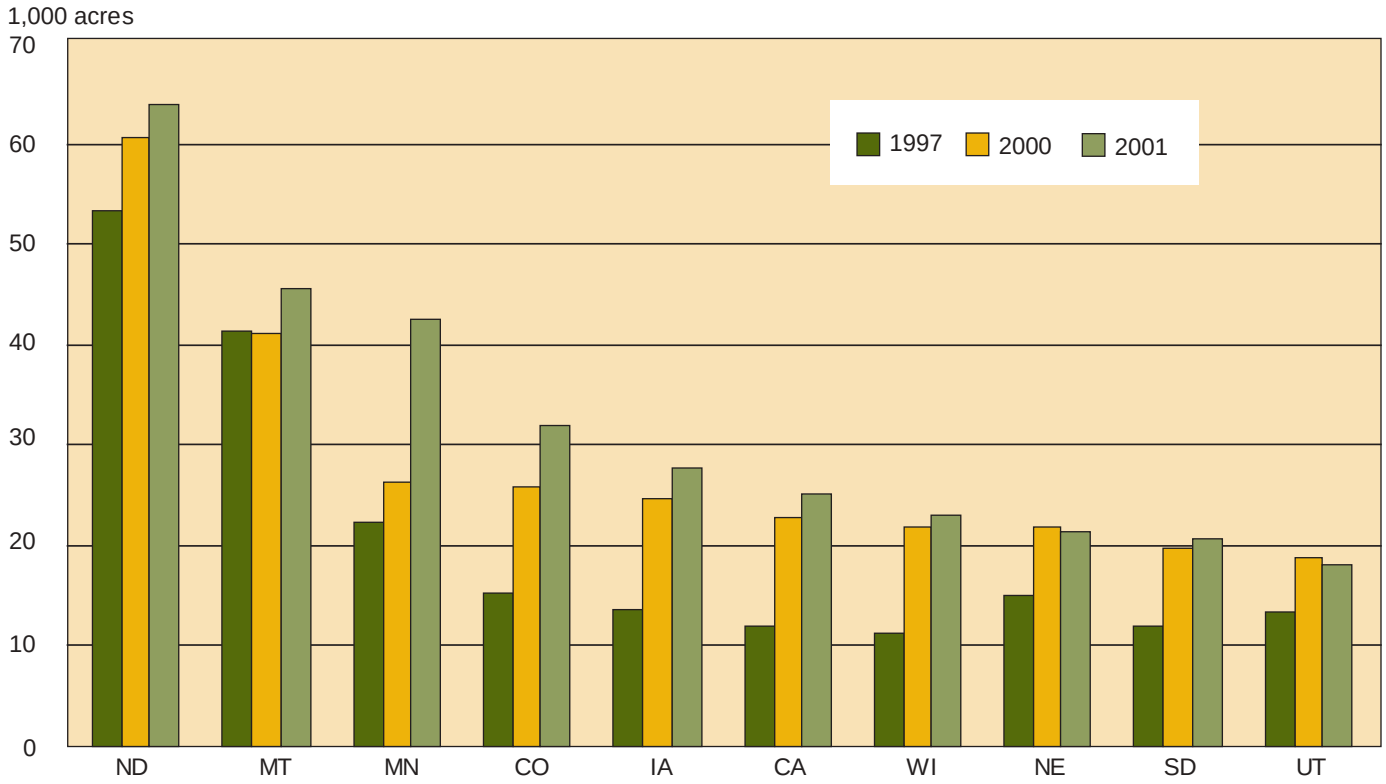
Organic farmers grow a diversity of field crops because of the importance of crop rotation in managing weed, pest, and disease cycles, as well as maintaining good soil tilth and fertility. Organic farmers frequently grow more than one crop on the same acreage during a single year—for example, a green manure or cover crop to build soil fertility and prevent soil erosion, along with a cash crop such as soybeans. Green manure and cover crop acreage is underestimated in this report because only one crop per acre is counted in each year.

Grain crops. A variety of certified organic grain crops—including wheat, corn, rice, oats, and barley—were grown in 42 States on 457,415 acres in 2001, up 10 percent from the previous year (app. tables 2-3). North Dakota led with nearly 64,000 acres in 2001 (fig. 3). Another 13 States—Arkansas, California, Colorado, Idaho, Iowa, Kansas, Minnesota, Montana, Nebraska, South Dakota, Texas, Utah, and Wisconsin—each had at least 15,000 certified organic acres of grain crops (app. table 3).

Wheat was produced under certified organic farming systems on over 194,600 acres in 2001, corn on over 93,500 acres, and oats and barley on over 30,000 acres each. Certified organic rice production expanded since 1997, with over 31,800 acres in production. Millet was grown on over 23,300 acres, and buckwheat on over 14,300 acres in 2001. Rye and spelt were grown on more than 7,000 acres each. States and private groups certified another 19,300 acres that could not be broken out into acreage for each specific crop.

Montana had the most certified organic wheat acreage, followed by North Dakota. Minnesota had the most corn and rye acreage. North Dakota had the most certified

Figure 3--Certified organic grain acreage, top 10 States



Source: Economic Research Service, USDA.

organic oats and buckwheat, and Michigan had the most acreage of spelt, a wheat substitute for those with wheat allergies. Colorado has the most millet acreage. Idaho was the leading organic barley producer and Arkansas had the most certified organic rice acreage, followed closely by California (app. table 3).

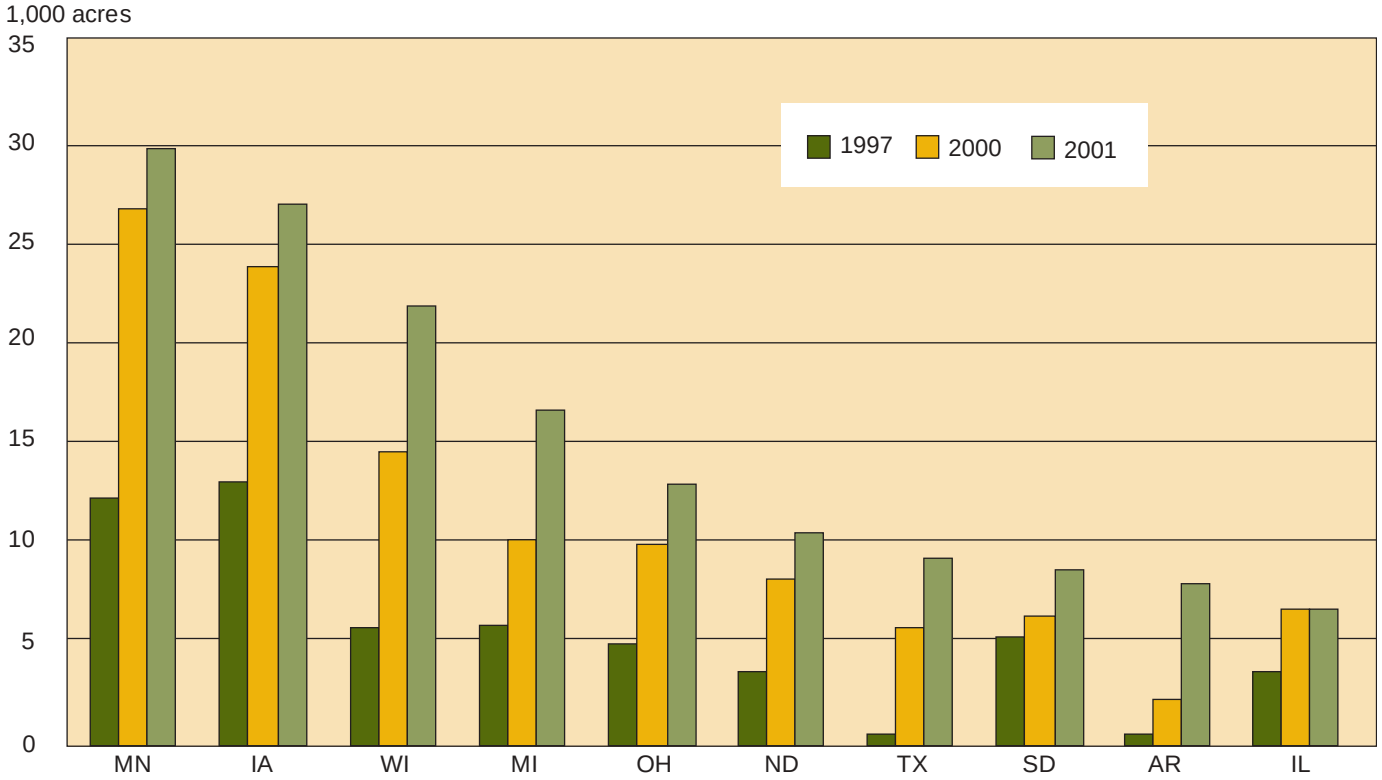
Certified organic corn acreage more than doubled from 1997 to 2001. Although U.S. farm-level organic corn prices have continued to fall every year since their high in 1996, producers received on average $3.01 per bushel in 2001, a premium of 59 percent over conventional corn prices of $1.89 per bushel (Bertramsen and Dobbs, 2002). The demand for organically grown corn used for feed grain strengthened as the organic livestock and poultry sector expanded between 1997 and 2001. Wheat acreage was up 55 percent from 1997 estimates, and during 2000 and 2001, average prices for organic spring wheat were almost double those of conventional spring wheat.

Organic millet and other specialty grains also showed substantial growth between 1997 and 2001, as demand for feed grain and food uses expanded. In the Dakotas, where much organic millet is grown, acreage devoted to millet increased as farmers seeded or reseeded fields in late spring because of poor weather conditions at the start of the 2000 and 2001 growing seasons. Millet is often used as feed for organic beef and other livestock production, and although organic dairy cows aren't currently being raised in North Dakota, organic dairies exist in nearby States. Organic millet is also used for cereal products, flour, millet hull fillings (for pillows), and feed for house pets and birds.

Certified organic grain acreage was well under 1 percent of the U.S. total for corn, wheat, barley, oats, and rye. However, 1 percent of the rice, 4 percent of the millet, and substantial proportions of buckwheat and spelt were grown under certified organic systems in 2001. Since 1997, a number of new independent companies and large corporate entities have begun operating certified organic mills that handle specialty flours.

Soybeans, dry beans, dry peas, and lentils. U.S. growers in 32 States produced over 174,400 acres of certified organic soybeans in 2001, up 28 percent from the previous year (app. tables 4-5). Certified organic soybean acreage is more than double 1997 acreage. Six States had at least 10,000 acres of this crop in 2001, and Minnesota led with nearly 30,000 acres (fig. 4). A much higher share of organic than conventionally grown soybeans are sold for food uses.

Figure 4--Certified organic soybean acreage, top 10 States



Source: Economic Research Service, USDA

Annual organic soybean prices have fallen from a high in 1998, but certified producers still received on average more than twice the conventional prices for their crop in both 2000 and 2001 (Bertramsen and Dobbs, 2002.) Although market outlets for the highest quality food-grade soybeans—typically the Vinton 81 and HP204 varieties—were still relatively easy to find in 2001, competition for the Japanese market and other fast-growing international export markets is likely to increase considerably over the coming decade. The use of conventional soybeans for soy-based food products in the United States could also affect market growth potential for organically grown soybeans. However, the domestic market for organically grown feed grain is expanding, and while it commands a lower price than food-grade organic soybeans, the soybean varieties used for this market are higher-yielding and may be easier to grow.

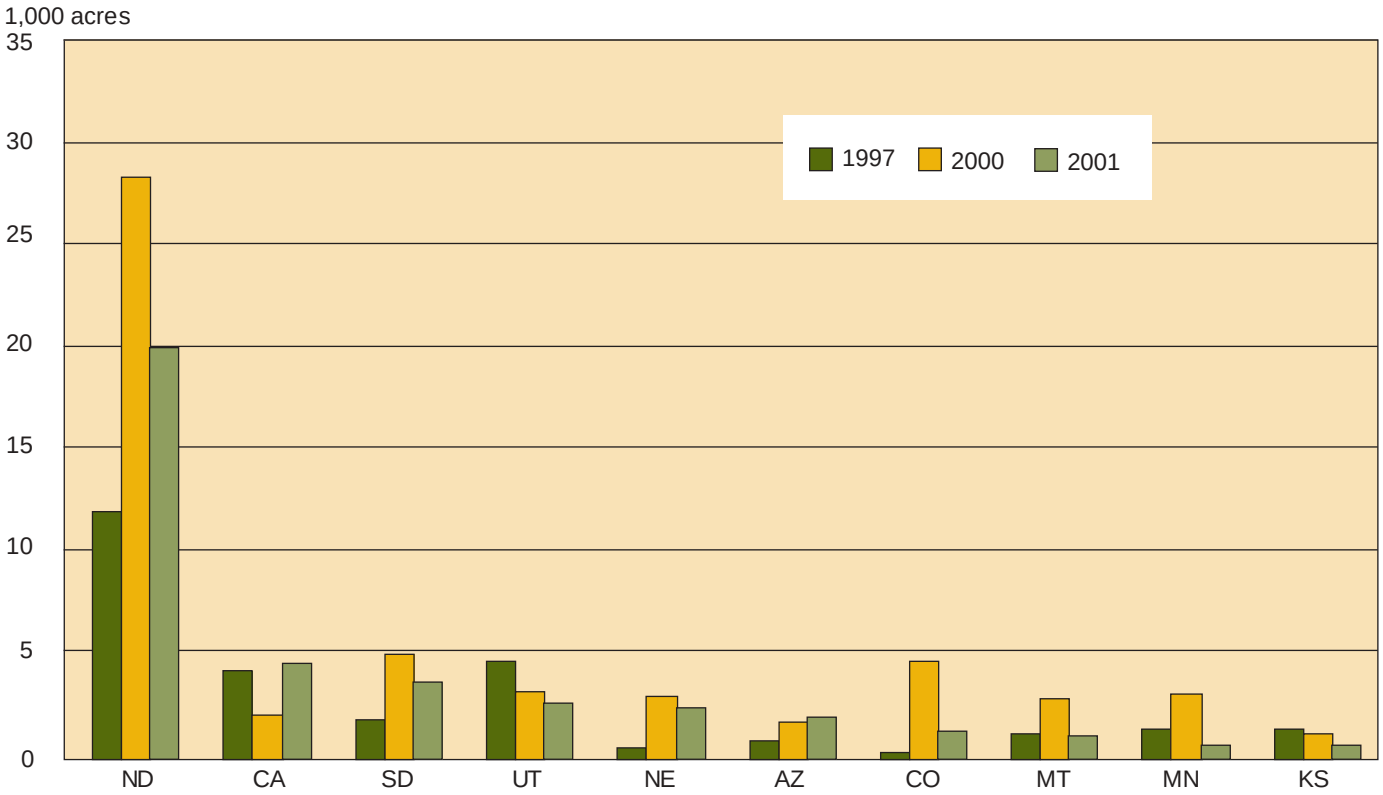
The number of States producing certified organic dry beans, lentils, and peas—and acreage for these crops—also expanded from 2000 to 2001 (app. tables 4-5). Dry beans were grown on over 15,000 acres in 2001, and Colorado had more than a third of those acres. Certified organic dry peas and lentils were grown on over 9,300 acres. North Dakota led with over 3,500 acres. Organic dry peas and lentils accounted for over 2 percent of the total dry pea and lentil acreage in the United States in 2001, while organic soybeans accounted for only about 0.24 percent of the total (table 4).

Certifiers reported nearly 12,500 acres of soybeans, dry peas, lentils, and other legumes that could not be broken out into acreage for each specific crop.

Oilseeds. Certified organic oilseeds—primarily flax and sunflowers—were grown in 21 States on almost 44,000 acres in 2001, down 20 percent from the previous year (app. tables 6-7). By 2001, certified organic flax acreage had surpassed sunflower acreage, and was grown on over 20,600 acres, up 157 percent from 1997 acreage. Certified organic sunflowers were grown on almost 15,300 acres in 2001, up 40 percent from 1997 acreage. North Dakota was by far the biggest producer of certified organic oilseeds, with over 16,400 acres of flax and almost 3,800 acres of sunflowers. South Dakota was the second largest grower of flax and sunflowers.

Approximately 7,700 acres of certified organic oilseeds were unclassified in 2001. California certification organizations reported 2,500 safflower acres in the other/unclassified oilseed category. Certified organic oilseed acreage dropped from 2000 to 2001 partially due

Figure 5--Certified organic flax, sunflowers, and other oilseeds, top 10 States



Source: Economic Research Service, USDA.

Table 4—Certified organic and total U.S. acreage, selected crops, 1995-2001

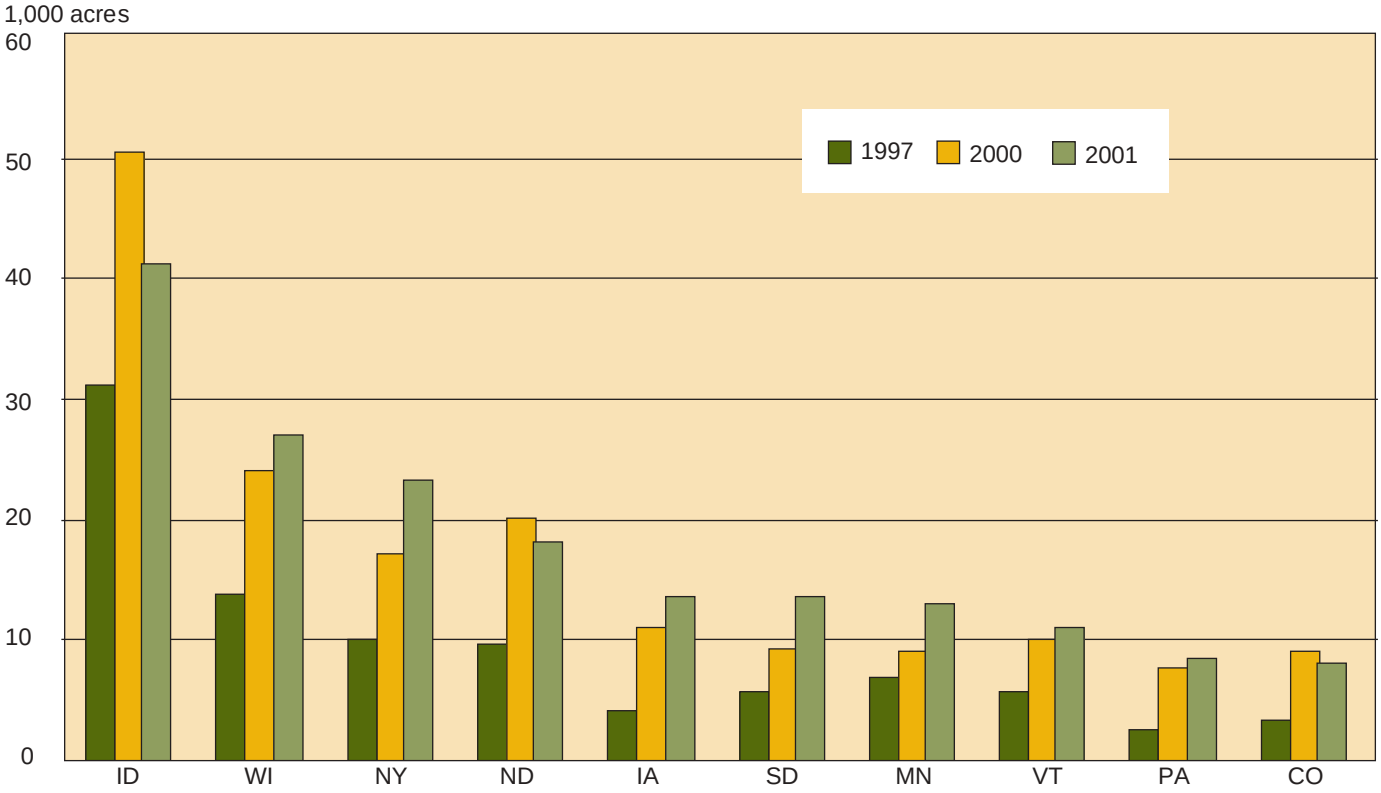
Item	Total certified organic				Change, 1997-2001	U.S. cropland 2001[1]	Certified organic/ total
	1995	1997	2000	2001			
	----------Acres----------				Percent	Acres	Percent
U.S. total	914,800	1,346,558	2,029,073	2,343,924	74	828,029,449	0.28
Total pasture and rangeland	276,300	496,385	810,167	1,039,090	109	461,351,095	0.23
Total cropland	638,500	850,173	1,218,905	1,302,392	53	366,678,354	0.36
Grains--							
Corn	32,650	42,703	77,912	93,551	119	75,752,000	0.12
Wheat	96,100	125,687	181,262	194,640	55	59,617,000	0.33
Oats	13,250	29,748	29,771	33,254	12	4,403,000	0.76
Barley	17,150	29,829	41,904	31,478	6	4,967,000	0.63
Sorghum	--	3,075	1,602	938	-69	--	--
Rice	8,400	11,043	26,870	31,839	188	3,132,000	1.02
Spelt	12,350	1,704	12,606	7,639	348	--	--
Millet	18,550	12,285	15,103	23,366	90	580,000	4.03
Buckwheat	13,250	7,616	10,599	14,311	88	--	--
Rye	2,900	4,365	7,488	7,056	62	1,328,000	0.53
Beans--							
Soybeans	47,200	82,143	136,071	174,467	112	73,000,000	0.24
Dry beans	--	4,641	14,010	15,080	225	1,429,900	1.05
Dry peas & lentils	5,900	5,187	10,144	9,362	80	443,537	2.11
Oilseeds--							
Flax	5,850	8,053	25,076	20,672	157	585,000	3.53
Sunflowers	14,200	10,894	19,342	15,295	40	2,653,000	0.58
Hay and silage--							
All types	84,100	126,797	231,207	253,641	100	63,511,000	0.40
Vegetables--							
Tomatoes	--	2,322	3,063	3,451	49	381,870	0.90
Lettuce	--	5,743	11,410	16,073	180	335,200	4.80
Carrots	--	3,323	5,665	4,757	43	119,640	3.98
Fruits--							
Tree nuts	--	4,908	4,468	5,883	20	814,000	0.72
Citrus	--	6,099	6,509	9,741	60	1,089,900	0.89
Apples	--	8,846	9,270	12,189	38	431,200	2.83
Grapes	--	19,299	12,575	14,532	-25	977,970	1.49
Herbs, nursery, and greenhouse--							
Herbs, culinary and medicinal	--	6,407	4,288	5,677	-11	17,041	33.32
Herbs, wildcrafted	--	83,888	36,545	8,498	-90	--	--
Other cropland--							
Cotton	32,850	9,974	15,027	11,456	15	15,787,800	0.07
Peanuts	--	2,969	2,085	4,653	57	1,543,000	0.30
Potatoes	--	4,335	5,433	7,533	74	1,267,100	0.59
Trees for maple syrup	10,200	13,858	11,965	12,030	-13	120,863	9.95
Fallow	--	31,798	57,688	72,595	128	--	--

-- = Not available.

[1] *Agricultural Statistics 2002* and ERS, *Vegetable and Melon Situation and Outlook Yeakbook, 2002.*

Sources: 1995, Agrisystems International; 1997, 2000, 2001, Economic Research Service, USDA.

Figure 6--Certified organic hay and silage, top 10 States



Source: Economic Research Service, USDA.

to weather-related problems in North Dakota, but perhaps also mirroring the volatility shown in the conventional market for oilseeds.

Certified organic flax represented about 3.5 percent of the total U.S. flax acreage in 2001. Flax is rich in Omega-3 fatty acids and fiber, and is used to make oil for food use and various prepared breads and cereals. Demand in the U.S. and European Union for flax increased over the study period and organic flax prices averaged about double those for conventional flax during 1997-2001.

As health benefits of flax have captured consumer attention, farmers and food processors are experimenting with additional innovative uses of flax. For example, some farmers are modifying livestock diets to produce beef and eggs with higher levels of Omega-3 fatty acids.

Hay and silage. Hay and silage crops were grown under certified organic farming systems in over 40 States on over 253,600 acres in 2001, up nearly 10 percent from the previous year (app. tables 8-9). Acreage for these crops in 2001 more than doubled from 1997 acreage, as the number of organic milk cows grew four-fold during this period. Despite this expansion, certified organic hay and silage crops in 2001 still represented just 0.4 percent of total U.S. acreage.

In 2001, certifiers reported more than 116,600 acres of organic alfalfa hay, 32,000 acres of haylage and silage, nearly 15,600 acres of hay and pasture, and 89,300 acres of unclassified hay and silage. Idaho was the top organic hay and silage producer, with over 39,600 acres of alfalfa hay (fig. 6). Seven other States—Iowa, Minnesota, New York, North Dakota, South Dakota, Vermont, and Wisconsin—had at least 10,000 acres each. All of these States had certified organic livestock production in 2001.

Certified organic hay and silage acreage was up almost 10 percent from 2000 to 2001, jumping 35 percent in New York, 43 percent in Minnesota, and 45 percent in South Dakota.

Certified Organic Specialty and Minor Crops

U.S. farmers produced certified organic specialty crops (vegetables, fruits, and herbs) and other crops (including cotton, potatoes, peanuts) on over 250,000 acres in 2001. Including fallow land and land with green manure, area in certified organic specialty and other crops was 340,000 acres.

Vegetables were produced organically on over 71,600 acres in the United States in 2001, fruits were produced on over 55,600 acres, and herb/nursery crops were produced on about 14,600 acres (app. tables 10-15). Cotton, peanuts, and other minor and unclassified crops were grown on 197,000 acres.

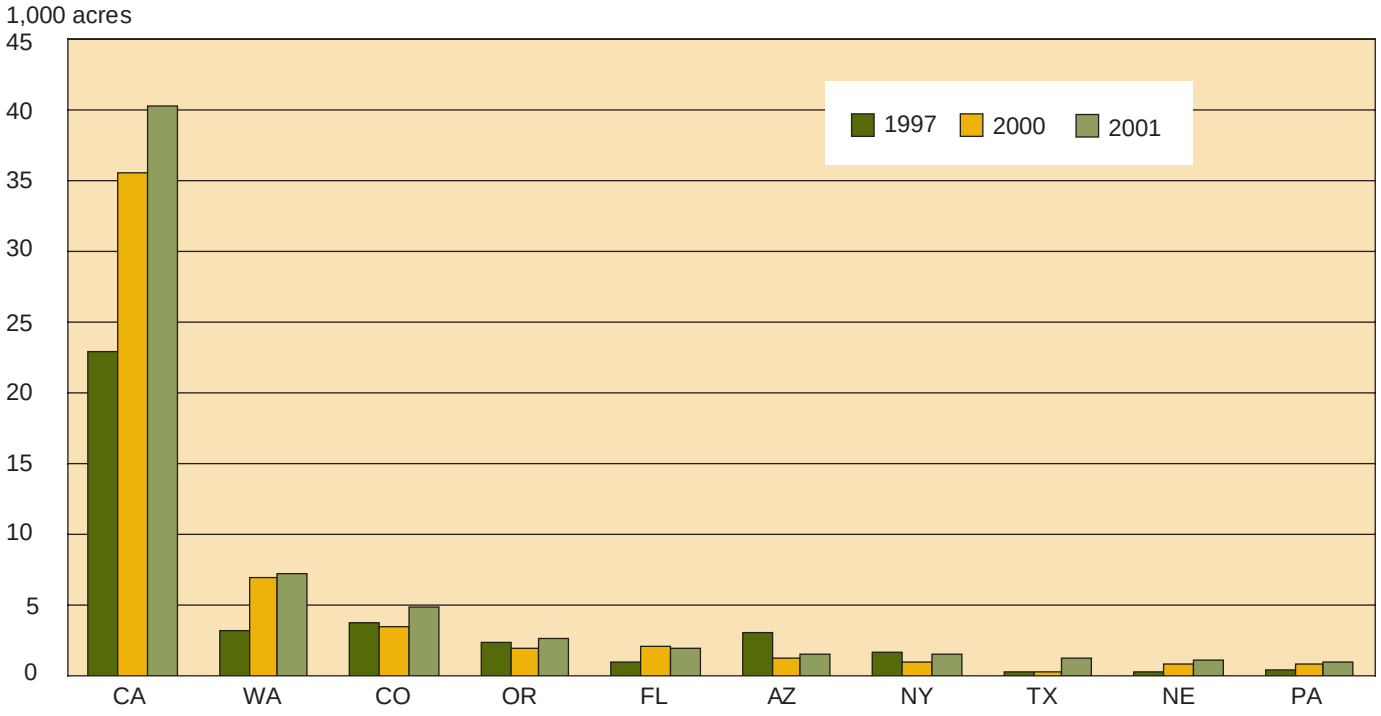
Vegetables. The market for organic vegetables has been developing for over three decades in the United States, and certified organic vegetables are grown in every State with certified acreage except Wyoming. State and private certifying groups certified organic vegetable crops in 47 States on 71,667 acres in 2001, up 15 percent from 2000 (app. tables 11-12). About one-third of the acreage was planted to lettuce, tomatoes, or carrots and the rest was for other mixed vegetable acreage, other vegetable crops, and vegetable acreage that could not be classified.

Nearly 5 percent of the total U.S. lettuce acreage was managed under certified organic farming systems in 2001, and nearly 4 percent of carrot acreage and 1 percent of tomato acreage was certified organic. Many farms with different sizes and characteristics—from 1-acre market gardens to operations with several thousand acres—grow lettuce, tomato, carrot, and other vegetable crops.

California is the biggest conventional vegetable producer in the United States, claiming 57 percent of total U.S. conventional vegetable acreage in 2001. California is also the biggest organic vegetable producer in the United States. Nine private certifying organizations certified 40,632 acres of organic vegetables in California in 2001, accounting for 41 percent of U.S. certified organic vegetable acreage (fig. 7). Washington and Colorado followed with 7,174 and 4,889 acres certified in 2001. Oregon had 2,585 acres of vegetables and Arizona, Florida, Nebraska, New York, and Texas each had over 1,000 acres of certified organic vegetables in 2001.

"Mixed vegetables" is a term used by the Census of Agriculture to classify small farms growing a variety of vegetables as the predominant commodity. The census allows farms up to 50 acres with five or more vegetable crops to be classified as mixed vegetable acreage, although in practice it rarely uses that category for farms over 5 acres. Mixed vegetable acreage was broken out in our previous report on 1997 certified acreage, but is

Figure 7--Certified organic vegetables, top 10 States



Source: Economic Research Service, USDA.

Local Markets Popular with Organic Farmers and Consumers

Organic producers capture a much higher share of the consumer food dollar when they market their produce directly to consumers, and the last decade has seen a renaissance in the use of farmers' markets and other direct markets—including some organic-only markets—across the country. According to USDA's Agricultural Marketing Service, the number of farmers' markets in the United States jumped from 1,755 markets in 1994 to 2,863 in 2000. And the number of farmers and consumers using these markets tripled during this period, to 66,700 farmers serving 2.7 million consumers in 2000. Results from several producer surveys indicate that organic farmers market directly much more frequently than do conventional farmers (Walz, 1999; Fernandez-Cornejo et al., 1998).

States and local municipalities have been fostering the development of farmers' markets as a way to revitalize neighborhoods, enhance local food access, and preserve regional farmland and open space. A number of nonprofits are also fostering direct connections between consumers and local farmers via interactive Internet directories of local farm products and services, including Local Harvest (www.localharvest.org) and the Robyn van En Center (www.csacenter.org) at the national level, and Farm to Table (www.FarmtoTable.org) and Community Harvest (www.communityharvestdc.net) at the State level.

Organic farmers are producing a large array of "value-added" products-foods processed on their farm or in farm-owned plants or farm-based cooperatives-in addition to fresh fruits and vegetables to sell directly to the consumer. According to the most recent OFRF organic producer survey, 31 percent of the survey respondents produced value-added products in 1997. These products included salsa, syrup, cider, pickles, preserves, dried and canned fruits and vegetables, butter, yogurt, cheese, milled flours, meat products, and wine.

included in the "unclassified/other vegetable" category here because many certifiers reported this category inconsistently between 1997 and 2001. Much of this mixed crop acreage, especially on smaller farms, is grown for farmers' markets, consumer subscription programs, restaurants, and other direct marketing outlets.

California was by far the top producer of certified organic tomatoes, lettuce, and carrots in 2001. Carrots and lettuce are grown primarily for the fresh market, and California had 13,517 acres of organic lettuce in 2001 and 4,031 acres of carrots. Arizona had 1,451 acres of lettuce in 2001, and Colorado had 727 acres. Washington had over 300 acres of carrots, while Texas and Colorado each had over 100 acres of carrots (app. table 11).

California is also the largest processed tomato producer in the world, accounting for about half the world's supply, and some of the large processing tomato growers in that State are now growing part of their crop in organic rotations (Klonsky et al., 1993-94a). Producers in California grew 3,326 acres of certified organic tomatoes in 2001, mostly for the processing market, up 12 percent from 2000 and up 72 percent from 1997. New organic food products continued to be introduced rapidly in 2001, some containing or based on tomatoes—Heinz, for example, has just launched its organic catsup product in the United States.

Certified organic vegetable acreage accounted for 1.6 percent of the U.S. vegetable acreage in 2001. Over 10 percent of the vegetable acreage in Vermont, New Hampshire, Maine, and Colorado—and over 2 percent of the vegetable acreage in Connecticut, Arkansas, Massachusetts, Utah, Washington, California, Oregon, and Pennsylvania—was certified organic in 2001.

In many States, particularly in the Northeast and Southeast, the majority of certified organic operations are small-scale farms that produce a vast array of vegetable crops, fruits, herbs, and flowers for marketing directly to consumers in the local area. Much of the vegetable acreage in some of those States is under organic management, especially in Vermont where organic farming has been expanding steadily for more than three decades. Like some other Northeastern States, Vermont tends to have smaller and more diversified farms that mostly operate on hilly terrain. A shorter growing season in northern latitudes and a growing number of marketing outlets—farmers' markets, upscale restaurants, and farmside stands that cater to summer tourists and local residents—create unique incentives to produce vegetable and other specialty crops.

Fruit and tree nuts. State and private groups certified organic fruit and nut crops in 46 States on over 55,600 acres in 2001, up 28 percent from the previous year (app.

tables 12-13). Organic grapes accounted for 26 percent of the acreage certified, followed by apples (22 percent), citrus (17 percent), and tree nuts (10.5 percent); 24 percent of the total was unclassified. The unclassified category included a substantial amount of berries and stone fruits.

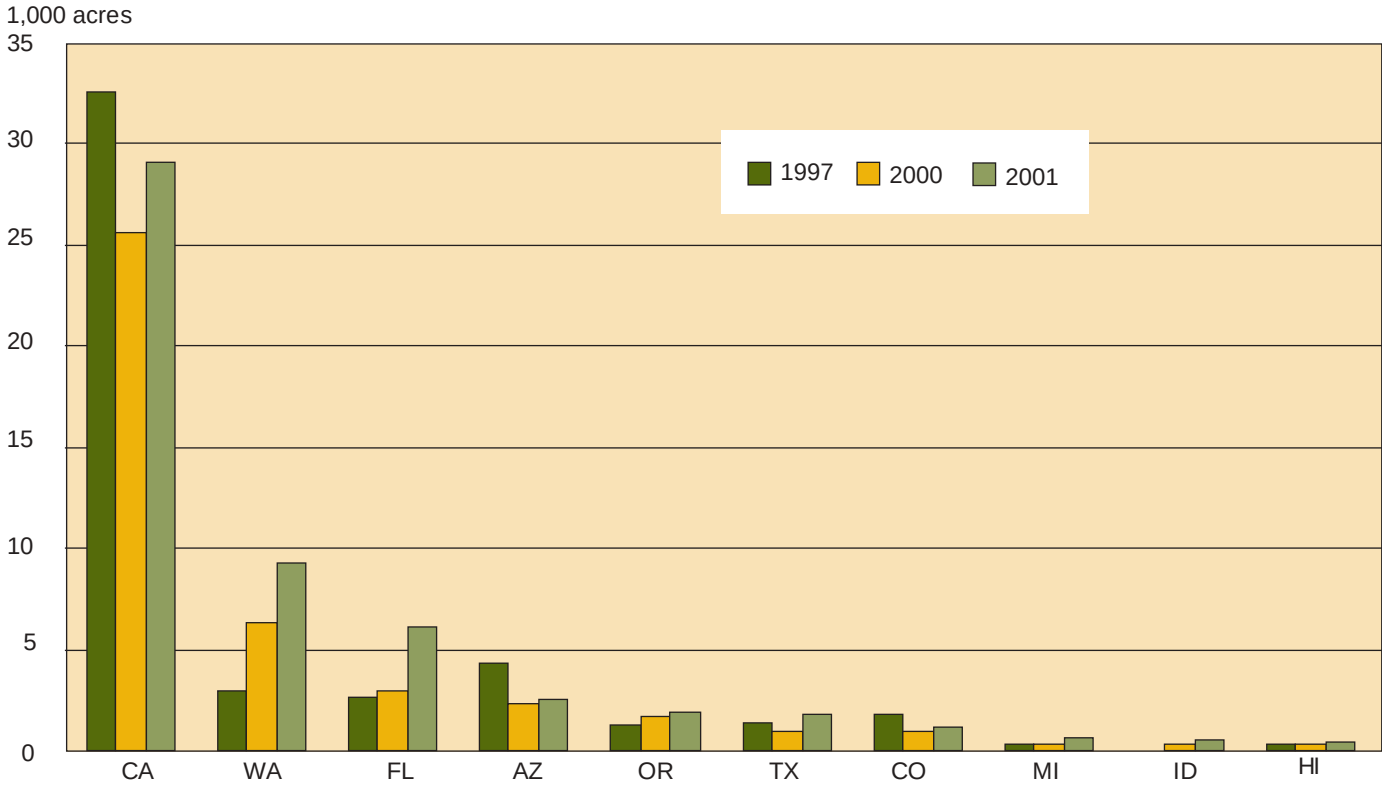
California is the leading State in many fruit and nut crops. Growers in California had over 29,000 acres of organic fruit and nut acreage, over half of the total (fig. 8). Washington was second (9,289 acres), Florida third (6,154 acres), and Arizona fourth (2,644 acres).

Organic markets for table grapes, raisins, juice, and other grape products have been developing for over a decade, and the acreage devoted to organic wine grape production has expanded gradually for more than a decade. According to the California registry, acreage devoted to juice grapes has declined steadily for several years. California growers produced over 13,100 acres of certified organic grapes in 2001, 90 percent of the U.S. total. Washington and Oregon had 962 acres and 317 acres of certified organic grapes, and eight other States had a few acres each. One and a half percent of total U.S. acreage for grape vineyards was managed under certified organic farming systems in 2001.

Certified organic apples were produced in 25 States in 2001. While many of these States had under 100 acres under organic apple production (and some less than 1 acre), several had over 1,000 acres. Washington was the top producer with 6,178 acres, followed by Arizona (2,190 acres) and California (1,699). Growers produced certified organic apples on almost 3 percent of total U.S. acreage for apple orchards in 2001. The top apple variety (organic) by acreage in 2001 in Washington was Red Delicious, although Granny Smith, Gala, and Fuji apple acreage doubled in 2000 (Granatstein and Kirby, 2002).

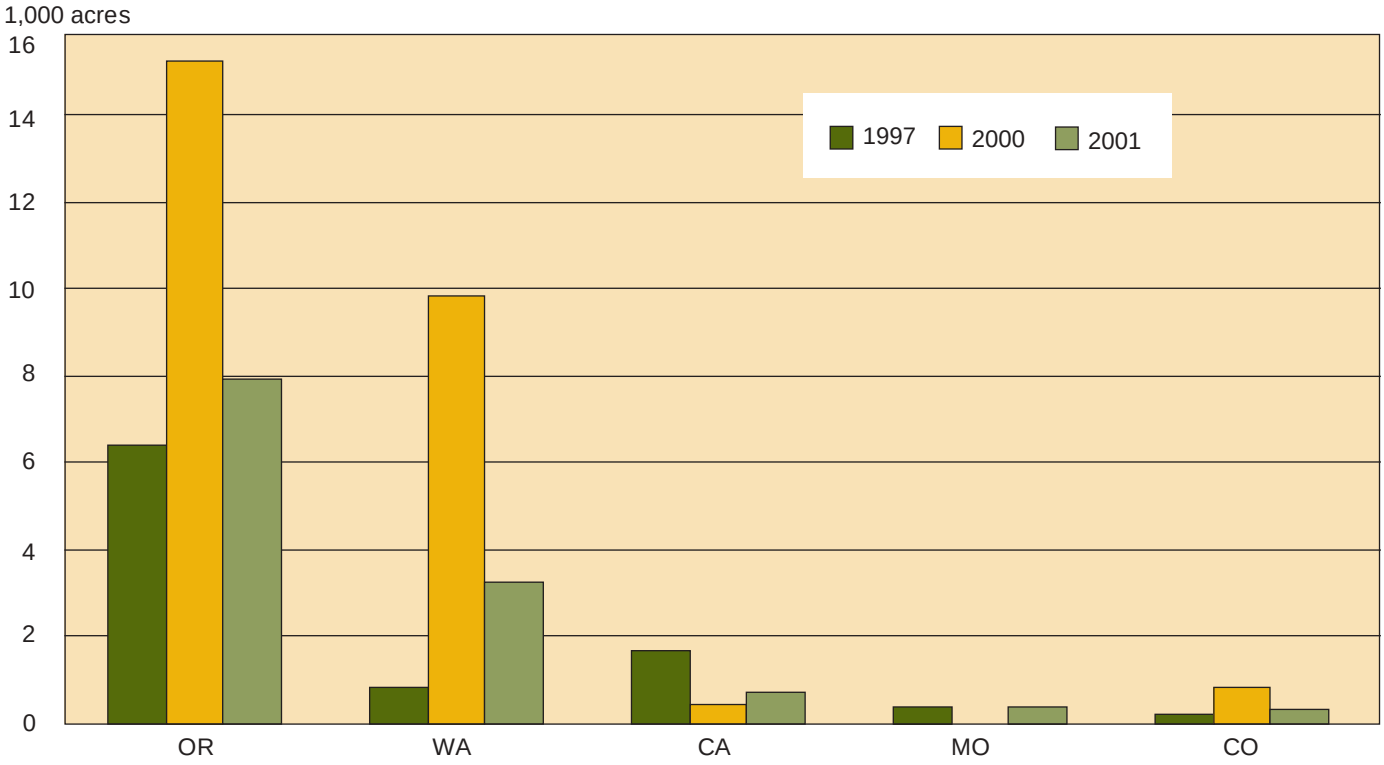
All of the States where citrus is grown produced organic citrus crops in 2001, and Florida was the top producer with 6,056 acres, which is less than 1 percent of Florida's total citrus crop. California was second with 3,063 acres. The Texas Agricultural Extension Service indicates that organic production potential is high in that State (Sauls et al., 1997), and citrus acreage in Texas doubled between 1997 and 2001 to 385 acres. Growers are using biological control for insect and mite pests, and are combating

Figure 8--Certified organic fruit, top 10 States



Source: Economic Research Service, USDA.

Figure 9--Certified organic herbs and nursery, top five States



Source: Economic Research Service, USDA.

disease with cultural techniques and plant material quarantines.

Nineteen States produced organic tree nuts in 2001, and California (4,140 acres) and Texas (953 acres) were the biggest producers. California grows mostly almonds, walnuts, and pistachios, while pecans are the top tree nut in Texas. Tree nut production doubled in Texas from 2000 to 2001, and was up 24 percent in California.

Other organic fruits grown in California in 2001 included more than 1,000 acres of figs, almost 630 acres of prunes, more than 600 acres of apricots, more than 260 acres of peaches, more than 195 acres of strawberries, and more than 140 acres of dates (CCOF, 2002).

Herbs, nursery, and greenhouse. Certified organic herbs (cultivated and wildcrafted), flowers, mushrooms, and other nursery and greenhouse crops (including vegetable plant starts and ornamentals) were grown organically on about 15,000 acres in 2001. Overall, these crops were down substantially from the previous year, mostly due to a sharp decline in wildcrafted acreage (app. tables 14-15). Certified organic nursery and greenhouse crops were also grown in 5,094,686 square feet of greenhouse space (115 acres) in 2001, up over 40 percent from the previous year.

Producers grew certified organic herbs for culinary and medicinal uses in 39 States on 12 percent less acreage than in 1997. Washington was the largest producer of cultivated organic herbs, with 2,664 acres, followed by California (624 acres), and Missouri (412 acres). Three other States—Oregon, Wisconsin, and Idaho—had over 200 acres of cultivated herbs. Ohio and New Mexico had over 100 acres in cultivated herbs in 2001. Hundreds of different herb varieties are being cultivated in these States.

State and private certifying agencies certified almost 8,500 acres of forests, scrub lands, and other natural areas in seven States for harvesting organic herbs and other wild crops, such as mushrooms, in 2001, down from 83,388 acres in 1997. In 1997, more than 52,000 acres of wildcrafted St. John's wort were reported in Idaho. This large harvest saturated the market, and in 2001 only 102 cultivated acres of St. John's wort were reported in Idaho. Approximately 7,000 acres of wildcrafted saw palmetto berries were certified in Washington in 2000, but not in 2001, perhaps because saw palmetto berries can command a high price even without an organic label. Some operations still certified acreage for wild crop harvests in 2001. In Oregon, three separate operations harvested lake algae (which has medicinal uses) from a 5,000-acre area on Klamath Lake.

Certified organic cut flowers were produced in 21 States on 281 acres in 2001. California and Colorado produced the most certified organic flowers, with 73 and 71 acres respectively. Certified organic mushrooms, cultivated and wild harvested, were produced on 142 acres in 15 States in 2001, a more than two-fold increase in production over 1997. Maryland was the top mushroom-producing State in 2001, with 50 acres.

Organic greenhouse crops in 2001 increased substantially from 1997 and 2000 estimates. The jump in 2001 is partly due to less under-reporting of this crop category by certifiers than in previous years. In 2001, many certification agencies still did not track greenhouse space, or only reported the number of greenhouses or hoop houses without reporting their square footage.

Other certified crops and land. Growers also produced organic cotton, peanuts, and potatoes in 2000 and 2001, and left some certified acreage fallow or grew soil-building cover crops (app. tables 16-17). Approximately 70,000 acres of organic land certified by State and private certifiers in 2001 could not be classified by crop or commodity group.

Certified organic cotton was produced in 5 States—Texas, New Mexico, Arizona, California, and Illinois— on 11,456 acres in 2001. Texas had over 80 percent of the acreage, much of it operated by members of an organic marketing cooperative that formed in the early 1990s. In 2000, eight States reported 15,027 acres of certified organic cotton acreage. The 33-percent decline in 2001 acreage was partly due to severe hailstorms along the New Mexico and Texas border, which disrupted production, and also because of year-to-year market instability that forced a few producers to stop growing organic cotton.

Certified organic cotton accounted for 0.07 percent of U.S. total cotton acreage in 2000. Several major clothing companies are blending organic with conventional cotton to stabilize the market and encourage production (Bunin, 2000). Also, several startup U.S. clothing companies have started to sell all-organic cotton clothing and textiles. However, U.S. producers are facing increasing competition for the organic cotton market from countries with lower labor, input, and technology costs (Bunin). In an effort to counter market instability, the Organic Fiber Council, Organic Trade Association (OTA), and other groups have united to create the Organic Exchange, an organization whose mission is to establish more efficient links between U.S. producers and large companies such as Nike and Patagonia.

Potatoes were grown under certified organic production systems on 7,533 acres in 22 States in 2001. California led with 3,734 acres, followed by Colorado (1,604 acres), Washington (599 acres), and Idaho (565 acres). Only about 0.6 percent of the U.S. potato crop in 2001 was managed under certified organic farming systems. Production costs for organic potato production on a large scale may still be higher, and yields lower, than for conventional production (Wyman and Diercks, 1998).

A small crop of certified organic peanuts—4,653 acres in New Mexico, Texas, and Alabama—was produced in 2001, more than double 2000 acreage. Over 12,000 acres of trees tapped for maple sugaring were certified in 2001, about the same as the previous year. Top States with trees for maple sugaring were Vermont and New York. Both conventional and organically produced maple syrup products command price premiums over syrups made from sugar.

Certified organic producers left 72,595 acres fallow in 2001. Over 18,500 acres of cover crops, or green manure crops, were certified in 2001, up threefold from 1997, and an increase of 31 percent from 2000 to 2001. Farmers sometimes grow cover crops during some of the 3-year transition stage required for organic certification, and some of the recent growth in cover crops may reflect increases in transitional acreage. Also, these estimates of cover crop acreage undercount actual crop acreage because multiple crops are not counted. However, many organic farmers grow cash crops and/or cover crops each year on the same acreage to prevent soil erosion and enhance soil fertility.

Over 70,000 certified organic crop acres, 3 percent of total certified organic acres, were reported in 2001 that could not be classified into the reporting categories or were crops that are not included in the other reporting categories. A number of other crops are included in the other/unclassified category in 2001, including over 2,300 acres of organic sugarcane certified in Florida.

Certified Organic Livestock and Pasture

The certified organic livestock and poultry sectors have expanded greatly since 1997, with the lifting of USDA organic meat labeling restrictions, and the number of organic certifiers offering services to this sector has expanded. Over half of the active certifying agencies—6 State agencies and 20 private organizations—provided certification services for livestock production in 2001, compared with only 16 certifiers in 1997. Organic meat and poultry markets lagged behind those for crops during most of the 1990s because of USDA restrictions on organic meat and poultry labeling. Meat and poultry could not be labeled as organic until February 1999, when a provisional label was approved by USDA, and permanent standards went into effect in October 2002.

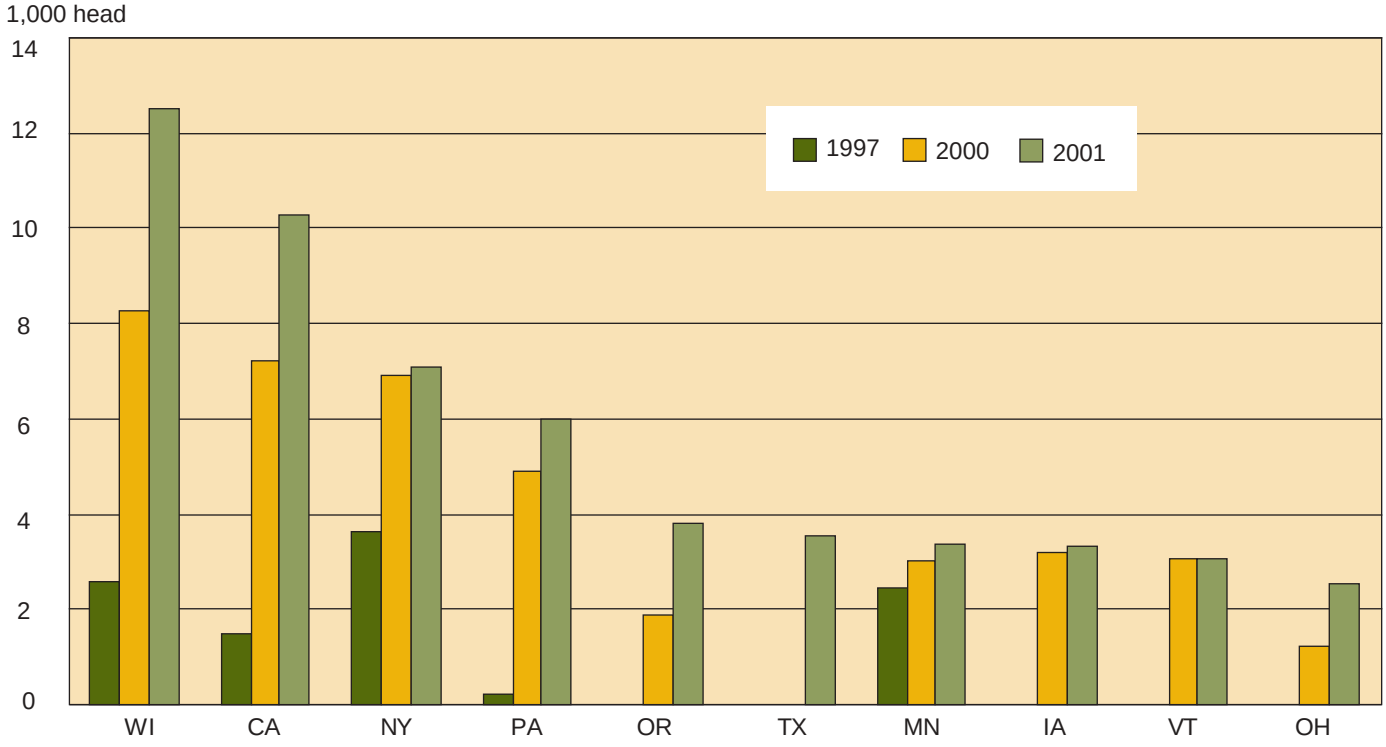
Organically raised beef cows, dairy cows, sheep, hogs and pigs, laying hens, and broilers all exhibited strong growth between 1997 and 2001. Markets for dairy products and eggs, which did not face the previous USDA labeling restriction, continued the strong expansion that began in the early 1990s.

Cows, pigs, and sheep. Farmers and ranchers raised over 72,200 certified organic cows, pigs, and sheep in 28 States in 2001, up 28 percent from the previous year (app. tables 18-19). Dairy cows led, with 48,677 animals certified organic in 2001. Wisconsin was the top producer (10,803 dairy cows), followed by California (9,251 dairy cows) and New York (6,704 dairy cows). Pennsylvania, Minnesota, Oregon, and Vermont had over 2,000 dairy cows each, and Maine, Iowa, Colorado, Washington, and Ohio had over 1,000 dairy cows each. Over 3,100 certified organic pigs were raised in 2001, up from 482 in 1997. Nearly 40 percent of these pigs were raised in Iowa, followed by Oregon (17 percent) and Montana (15 percent). Over 4,000 sheep and lambs were raised organically in 2001, up from 705 in 1997.

The number of certified organic milk cows jumped 27 percent from 2000 to 2001, and nearly quadrupled between 1997 to 2001. Organic dairy sales in mainstream supermarkets are increasing 36 percent annually, and dairy sales accounted for 11 percent of all organic retail sales in 2000. Organic dairy products have widely penetrated conventional supermarkets as well as natural foods stores.

Two national marketing companies—Horizon Organic Dairy, based in Colorado, and Organic Valley Family of Farms, a farmer-owned cooperative based in Wisconsin—process the majority of organic milk produced in the United States. A few independent creameries also process organic milk. To meet growing demand for

Figure 10--Certified organic livestock, top 10 States



Source: Economic Research Service, USDA.

Organic Dairies Established Across the U.S.

In 2001, about 0.8 percent of U.S. dairy cows and 1.2 percent of dairy farms in top organic dairy States were certified organic. Organic dairy sales accounted for approximately 1 percent of U.S. dairy sales in 2001. Maine had the highest conversion rate to organic dairies, with nearly 5 percent of dairy cows and 6.7 percent of dairy farms under organic management.

State	Certified organic dairy cows	Total dairy cows	Certified organic/ total (%)	Certified organic dairy farms	Total dairy farms	Certified organic/ total (%)
Wisconsin	10,803	1,344,000	0.8	223	19,100	1.2
California	9,251	1,523,000	0.6	9	2,500	0.4
New York	6,704	686,000	1.0	65	7,200	0.9
Pennsylvania	5,456	617,000	0.9	82	10,300	0.8
Vermont	3,025	159,000	1.9	55	1,600	3.4
Oregon	2,424	90,000	2.7	18	820	2.2
Minnesota	2,238	534,000	0.4	…	7,800	…
Maine	1,950	40,000	4.9	40	600	6.7
Total	41,851	4,993,000	0.8	492	42,120	1.2

Source: ERS-USDA and Agricultural Statistics, 2002, NASS-USDA.

organic dairy products, organic dairy companies have been recruiting additional farmers to join their grower groups, encouraging their experienced organic producers to mentor others. Organic dairy production costs—including feed, labor, herd replacement and transition, and operating costs—vary by farm and by region and may be higher or lower than in conventional systems (Butler, 2002; McCrory, 2001). However, organic milk prices fluctuate less and are consistently several dollars higher than conventional prices. Such premiums are often particularly attractive to dairy producers with smaller herds (Dobbs, 1998).

Twenty-seven States contained almost 15,200 certified organic beef cows in 2001, up 243 percent since 1997, and nearly a quarter were in Texas. Over 4,200 sheep and lambs were certified organic in 2001, a nearly 500-percent increase from 1997. Top States with sheep and lambs were Montana (643), Oregon (557), New Mexico (500), Idaho (442), and Maine (425).

Over 3,100 hogs and pigs were certified organic in 2001 versus USDA's 1997 estimate of 482 animals, with Iowa claiming nearly 40 percent of the total.

Technical information on organic livestock production is starting to become available from universities and other educational organizations. For example, the Leopold Center at Iowa State University has been sponsoring workshops on sustainable and organic pork production, and the Appropriate Technology Transfer for Rural Areas (ATTRA) Center has published production guidelines and other educational materials on this topic (see www.attra.org/attra-pub/altpork.html). Also, Iowa has had a certified organic pork slaughter and processing plant in the western part of the State for several years, which has facilitated organic marketing for these products.

Industry experts expect the number of beef cattle and other livestock to continue rising, and several additional certifying agencies began to certify livestock in 2002. One challenge is that a strong market niche for "natural meat" products has developed that competes strongly with organic meat products. Natural meat products are widely available in natural foods supermarkets at premium prices. Although many consumers may think of natural meat as similar to organic meat, products with this type of label do not need to meet USDA's rigorous requirements for organic production and processing. USDA's policy for labeling meat and poultry products states that the term "natural may be applied only to products that contain no artificial ingredients, coloring ingredients, or chemical preservatives; and the product and its ingredients are not more than minimally processed." Consumers may become more aware of organic meat products as "USDA Organic" labels begin appearing on certified products.

A number of producer cooperatives—including the Organic Valley Cooperative, which has 460 organic farms in 17 States—are encouraging farmers across the United States to increase organic production. Iowa State University and other universities and nonprofits, particularly ATTRA, are beginning to develop guidelines for organic livestock production that may also help encourage farmers to explore this market.

Poultry. Every category of certified organic poultry showed a surge in growth between 1997 and 2001. The United States had 1.6 million certified organic laying hens in 2001, up from 537,826 birds in 1997. Certified organic broilers totaled 3.29 million birds in 2001, up from 38,285 in 1997. The number of certified organic turkeys was 98,653 in 2001, up from 750 turkeys in 1997. Growth from 2000 to 2001 was substantial for all of these poultry categories (app. tables 18-19).

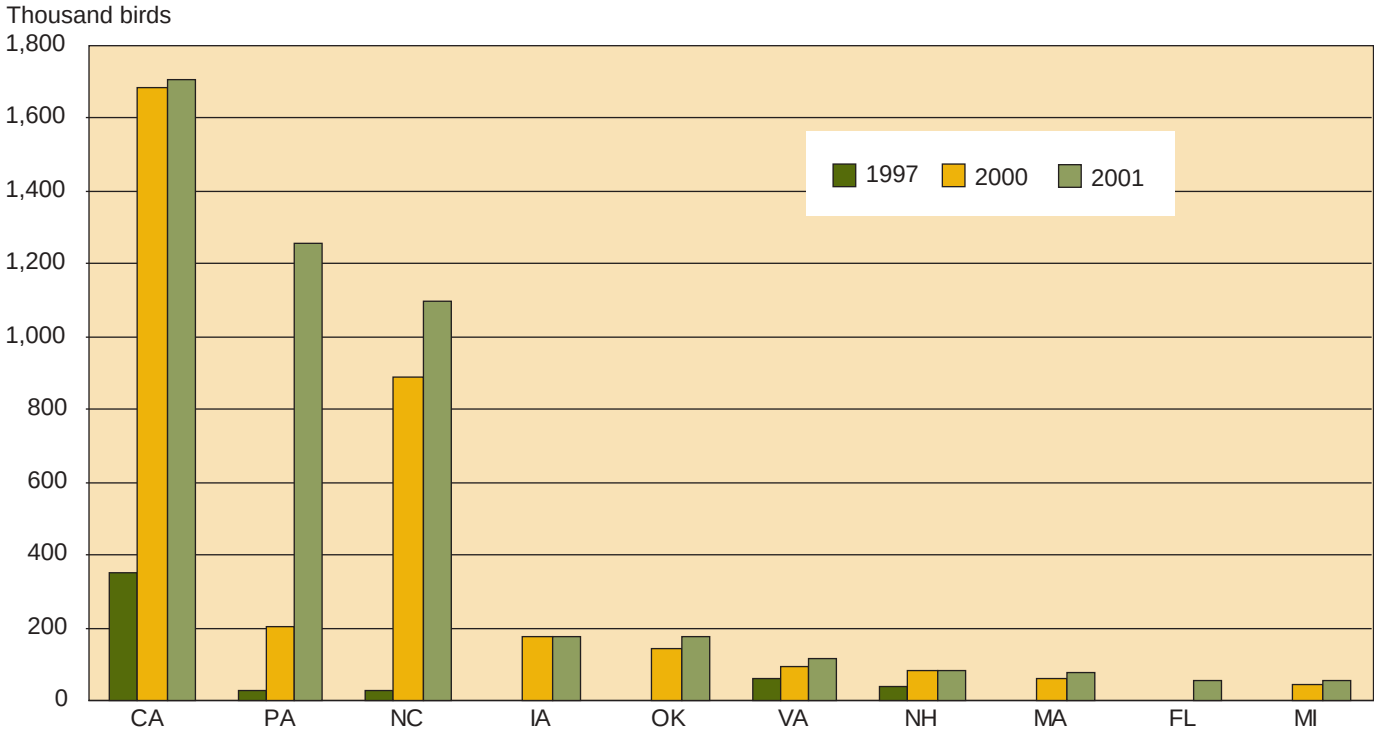
California was the leader in organic poultry production, with 1,706,233 certified organic birds, followed by Pennsylvania (1,255,166) and North Carolina (1,096,472) (fig. 11). Universities and other organizations are researching the efficacy of organic poultry production in various parts of the United States. For example, Iowa State University's Allee Demonstration Farm has been tracking the growth rate and feed efficiency of organic farm-raised broiler chicken systems since 2000 (Rossiter, 2001; Olsen and Rossiter, 2000).

Pasture. The amount of certified organic pasture (including ranchland) has grown along with the organic livestock industry. U.S. farmers and ranchers had over a million acres of certified organic pasture in 2001, up 28 percent from the previous year (app. tables 20-21). Most of the acreage for certified organic pasture was concentrated in three Western States—Texas, Colorado, and Montana—where a higher percentage of farmland is typically used for pasture, although 40 other States had some certified pasture.

The new USDA livestock standards include requirements for pasture and access to the outdoors suitable to the natural nutritional and behavioral needs of the particular species. Beef cows, dairy cows, and other ruminants, for example, are required to have access to pasture. Organic beef production has three phases: cow-calf (from birth to weaning), backgrounding (weaning to 900 pounds), and finishing (3 months prior to slaughter). Organic farmers must maintain organic pasture for the cattle to graze on throughout all three production phases. Some organic farmers maintain grass-fed-only operations. Organically raised dairy cows must also have access to pasture suitable to their stage of production, the climate, and the environment.

All 28 States that had certified organic beef cows, dairy cows, and other livestock production had some certified organic pasture, and a number of other States had certified pasture but no certified livestock or poultry in 2001. These farmers and ranchers have other organic operations, and may be considering the addition of certified organic livestock operations.

Figure 11--Certified organic poultry, top 10 States



Source: Economic Research Service, USDA.

Recent Federal Policy Initiatives

While the rate of organic farming system adoption has been rapid for nearly a decade in the United States, certified organic acreage accounted for only 0.3 percent of total farmland in 2001. And Federal funding for organic farming systems research and support activities has been limited (Dobbs and Pretty, 2001; Lipson, 1997). However, university-based technical assistance, Federal cost-share funds, and other State and Federal support for organic farmers and handlers is beginning to emerge. State and Federal research and policy initiatives often play a key role in the adoption of new farming technologies and systems in the United States.

The Farm Security and Rural Investment Act of 2002 contains several first-time research and technical assistance provisions to directly assist organic crop and livestock producers with production and marketing. Also, several other provisions in the 2002 Farm Act indirectly affect organic crop and livestock producers. Processes used to produce agricultural commodities, such as organic management, are now included in the definition of products that qualify for value-added market development grants. Several of the conservation assistance programs may interest organic farmers, and one—Agricultural Management Assistance—now specifically mentions organic farming among the practices that qualify for assistance to mitigate risk through market diversification and resource conservation practices. Also, nine USDA agencies have started or expanded programs on organic agriculture during the last several years. The following sections describe some of these new Federal programs, as well as some of the initiatives that were established in the 2002 Farm Act.

Certification Cost-Share Support. In 2001, USDA established a certification cost-share program to help farmers defray certification costs in 15 States—Connecticut, Delaware, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, and Wyoming. The 2002 Farm Act established the National Organic Certification Cost-Share Program, which provides funds that will complement this program, making organic growers and handlers in all States eligible for certification cost-share assistance. This program provides $5 million in fiscal year 2002, to remain available until expended. The maximum Federal cost-share is 75 percent annually, with payments up to $500 per producer or handler. This would cover much of the certification costs of organic farmers with small operations, who typically pay a smaller amount based on the sliding-scale fee structure observed by most certifiers.

Research and Technical Assistance. The 2002 Farm Act contains an Organic Agriculture Research and Extension Initiative that authorizes $3 million per year in new mandatory appropriations in fiscal years 2003-07. Funds will be used to administer competitive research grants, largely through USDA's Cooperative State Research, Education, and Extension Service. Research is to focus on determining desirable traits for organic commodities; identifying marketing and policy constraints on the expansion of organic agriculture; and conducting advanced research on organic farms, including production, marketing, and socioeconomic research.

Other research and extension provisions for organic agriculture that are authorized, but not mandated, include data development on organic agricultural production and marketing; and facilitated access to organic research conducted outside the United States for research and extension professionals, farmers, and others.

This new research and extension initiative builds on organic farming systems research and extension already underway in universities and in USDA. USDA's Agricultural Research Service (ARS) currently has more than 125 ARS scientists engaged in research that may be useful for organic and conventional systems, and is beginning to conduct research in certifiable organic systems, often with onfarm producer involvement. Also, USDA's Sustainable Agriculture Research and Education Program (SARE) currently uses about 19 percent of its funds for projects that focus on some aspect of organic production and marketing.

Conservation Initiatives. The organic farm sector differs substantially from the U.S. agricultural industry as a whole, with fruits, vegetables, and other high-value specialty crops making up a much larger proportion of this sector. The Conservation Security Program, which provides payments to producers for adopting or maintaining land management and conservation practices to address resource concerns, may interest organic farmers who commonly adopt these types of practices as part of their organic farming systems. Unlike most other Federal conservation programs, producers who grow specialty crops will be eligible to participate. The technical assistance features of the Conservation Security Program may be useful for organic farmers and those interested in changing to organic farming systems. Some research also sug-

gests that programs like the Conservation Security Program, which pay farmers for environmentally sound practices, could help U.S. organic farmers maintain competitiveness in global markets (Lohr, 2001). The 2002 Farm Act also increased funding for the Environmental Quality Incentives Program (EQIP), which has been established since 1996 and has been used by Minnesota and Iowa to help organic farmers fund conservation projects.

A recent initiative in USDA's Natural Resources Conservation Service (NRCS) may help streamline conservation assistance to organic farmers. The NRCS entered into a memorandum of understanding with the Organic Trade Association (OTA) in fall 2001 regarding program activities that involve the conservation of natural resources specifically related to organic farming. The NRCS and the OTA agree to cooperate in developing and implementing farm plans for organic crop production, to encourage the use of demonstrations and field days with organic operations to showcase conservation and organic production, and to share training opportunities, conferences, and newsletters.

Marketing Order Exemptions. Another provision in the 2002 Farm Act specifies that certified organic producers who produce and market only organic products and do not produce any conventional or nonorganic products will now be exempt from paying an assessment under any commodity promotion law. USDA is currently developing a proposed rule to implement this legislation. Organic growers had concerns about paying assessments that did little or nothing to promote organic products. An evaluation of the methods for improving the treatment of certified organic agricultural products under Federal marketing orders was also mandated as part of authorized research and extension provisions.

Export Promotion, Crop Insurance, and Other Initiatives. USDA's Risk Management Agency has provided insurance coverage for organic farming practices as good farming practices by written agreement since 2001, and is working to improve its organic crop insurance program. USDA's Foreign Agricultural Service (FAS) has been tracking market conditions in organic export markets for several years, and is now helping design protocols for working with foreign nations to keep organic trade moving as more countries develop organic standards. Also, the Alternative Farming Systems Information Center (AFSIC) at the National Agricultural Library (NAL), which serves as a clearinghouse for information on alternative cropping systems, has recently expanded its resources on organic production and marketing.

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Appendix table 1—Certified organic acreage, selected crops, by State, 2001

State	Field crops and hay	Fruits, vegetables, and herbs	Other crops, unclassified land	Pasture	Total
	Percent of total				*Acres*
U.S. average	41	6	8	44	2,343,924
Alabama	0	3	97	0	35
Alaska	0	23	77	0	168
Arizona	43	48	8	1	8,933
Arkansas	96	3	1	0	24,848
California	20	43	27	9	163,158
Colorado	7	1	2	88	581,614
Connecticut	42	25	10	23	1,430
Florida	13	67	19	0	12,059
Georgia	39	42	8	10	546
Hawaii	1	87	4	7	736
Idaho	70	1	6	23	84,048
Illinois	92	2	3	4	21,324
Indiana	82	3	10	4	4,175
Iowa	87	0	2	11	80,354
Kansas	69	0	13	18	29,480
Kentucky	16	2	62	20	6,552
Louisiana	3	73	13	10	96
Maine	74	3	1	21	9,785
Maryland	67	12	6	14	3,590
Massachusetts	27	4	60	8	1,269
Michigan	84	2	12	2	46,485
Minnesota	85	0	10	5	103,297
Missouri	78	4	7	10	13,310
Montana	28	0	7	66	209,025
Nebraska	83	2	9	6	47,003
Nevada	90	6	0	5	1,954
New Hampshire	9	69	18	5	510
New Jersey	90	6	2	3	6,982
New Mexico	10	1	9	79	42,113
New York	71	4	18	7	45,086
North Carolina	19	45	36	0	1,377
North Dakota	81	0	9	9	159,300
Ohio	73	1	5	11	41,460
Oklahoma	58	1	31	10	3,922
Oregon	20	45	15	20	27,501
Pennsylvania	69	4	3	22	20,984
Rhode Island	13	44	20	22	210
South Carolina	0	100	0	0	14
South Dakota	82	0	5	13	57,417
Tennessee	0	2	98	0	300
Texas	10	1	0	83	266,320
Utah	68	0	22	10	33,530
Vermont	42	4	34	21	30,659
Virginia	28	7	24	41	7,428
Washington	24	58	9	9	34,238
West Virginia	36	17	14	34	540
Wisconsin	80	1	6	14	91,619
Wyoming	69	0	26	5	17,138

*Numbers may not add due to rounding. Source: Economic Research Service, USDA

Appendix table 2—Certified organic grain crop acreage, by State, 2000

State	Corn	Wheat	Oats	Barley	Sorghum	Rice[1]	Spelt	Millet	Buckwheat	Rye	Other*	Total
						Acres						
U.S. total	77,912	181,262	29,771	41,904	1,602	26,870	12,606	15,103	10,599	7,488	10,860	415,977
Arizona	-	250	-	254	-	-	-	-	-	-	50	554
Arkansas	34	-	-	-	-	11,509	-	-	-	-	11	11,554
California	865	7,536	821	1,235	-	12,031					239	22,727
Colorado	2,649	15,059	125	1,226	81			5,301	160	326	813	25,740
Connecticut	170	-	-	-	-	-	-	-	-	-	-	170
Florida	11	73	-	-	-	-	-	-	-	-	-	84
Georgia	44	13	-	-	-	-	-	-	-	30	-	87
Idaho	75	7,646	196	21,296					4	38	160	29,415
Illinois	4,094	1,300	1,878	22	-	-	636	1	85	346	180	8,542
Indiana	553	513	-	50	-	-	167	-	50	42	19	1,394
Iowa	12,845	4,149	6,145	656	28	-	-	13	38	619	120	24,612
Kansas	3,106	6,779	260	102	17	-	44	1,214	22	32	593	12,169
Kentucky	1	-	3	-	4	-	21	-	-	-	-	29
Maine	397	90	4	18	-	-	-	-	-	-	-	510
Maryland	299	-	-	-	-	-	-	-	-	-	445	744
Massachusetts	56	-	-	-	-	-	-	-	-	-	-	
Michigan	2,497	1,585	374	158	-	-	5,032	14	42	1,347	56	11,104
Minnesota	10,221	7,216	2,406	2,358	45	-	45	113	3,188	596	105	26,292
Missouri	1,301	811	110	180	4	-	510	-	25	24	340	3,304
Montana	-	33,837	150	4,729	-	-	68	210	599	-	1,405	40,998
Nebraska	4,832	8,894	929	253	-	-	45	3,936	1,702	66	1,187	21,843
Nevada	-	53	120	-	-	-	-	-	-	-	-	173
New Hampshire	5	-	10	-	-	-	-	-	10	-	-	25
New Jersey	96	18	-	-	-	-	-	-	-	1	195	310
New Mexico	527	806	-	-	-	-	-	-	-	-	135	1,468
New York	1,759	662	281	281	27	-	1,541	-	28	240	326	5,144
North Carolina	30	70	-	-	-		-	-	-	30	-	130
North Dakota	3,317	33,194	10,089	5,302	75	-	315	2,215	3,636	1,231	1,275	60,649
Ohio	6,145	3,435	796	279	-	-	3,918	-	239	421	52	15,286
Oklahoma	288	475	137	-	-	-	-	-	-	-	-	900
Oregon	168	156	23	23	-	-	-	-	-	113	120	603
Pennsylvania	2,673	613	285	199	5	-	246	-	119	219	235	4,593
South Dakota	1,817	12,360	1,375	612	70	-	-	2,086	499	855	170	19,844
Tennessee	102	-	-	-	-	-	-	-	-	-	-	102
Texas	3,157	8,281	59	1	1,240	3,330	-	-	1	86	-	16,154
Utah	-	18,270	94	208	-	-	-	-	-	-	188	18,759
Vermont	-	-	-	-	-	-	-	-	-	-	1,638	1,638
Virginia	662	12	-	-	-	-	-	-	-	-	-	674
Washington	351	2,480	70	161	-	-	-	-	14	101	50	3,226
West Virginia	-	1	-	-	-	-	-	-	-	-	22	23
Wisconsin	12,766	2,146	3,025	2,303	7	-	17	-	139	725	733	21,861
Wyoming	-	2,482	6	-	-	-	-	-	-	-	-	2,488

*In addition to unclassified grains, "other" acreage contains milo, triticale, kamut, amaranth, and quinoa.
[1] Includes wild rice.
Source: Economic Research Service, USDA.

Appendix table 3—Certified organic grain crop acreage, by State, 2001

State	Corn	Wheat	Oats	Barley	Sorghum	Rice 1/	Spelt	Millet	Buckwheat	Rye	Other*	Total
						Acres						
U.S. total	93,551	194,640	33,254	31,478	938	31,839	7,639	23,366	14,311	7,056	19,343	457,415
Arizona	-	312	-	317	-	-	-	-	-	-	-	629
Arkansas	34	-	-	-	-	15,510	-	-	-	-	11	15,555
California	374	10,891	1,023	971	-	11,494	20	-	-	12	254	25,039
Colorado	2,170	18,772	297	1,419	53	-	-	7,707	802	10	628	31,859
Connecticut	174	-	-	-	-	-	-	-	-	-	-	174
Florida	11	73	-	-	-	1,491	-	-	-	-	-	1,575
Georgia	44	13	-	-	-	-	-	-	-	30	-	87
Idaho	36	2,598	977	12,030	-	-	-	-	4	-	1,388	17,032
Illinois	4,333	2,210	2,154	185	-	-	287	-	-	22	541	9,732
Indiana	940	822	55	-	-	-	32	-	49	29	-	1,926
Iowa	15,232	3,568	6,435	1,987	38	-	-	25	79	262	33	27,658
Kansas	2,964	7,216	274	63	15	-	-	1,580	-	63	1,246	13,420
Kentucky	17	10	8	-	-	-	21	-	-	-	3	59
Maine	408	94	-	19	-	-	-	-	-	-	-	520
Maryland	336	6	-	189	-	-	-	-	-	-	1,168	1,699
Massachusetts	41	-	-	-	-	-	-	-	-	-	-	41
Michigan	4,388	3,776	567	777	-	-	3,816	70	101	704	630	14,828
Minnesota	19,461	9,850	3,146	1,612	-	-	-	513	5,237	2,350	270	42,439
Missouri	1,489	790	208	83	130	-	-	-	53	67	545	3,366
Montana	-	39,508	940	2,111	24	-	41	-	224	-	2,748	45,595
Nebraska	5,059	7,488	1,521	480	-	-	45	5,048	273	76	1,405	21,395
Nevada	-	53	120	-	-	-	-	-	-	-	-	173
New Hampshire	5	-	5	-	-	-	-	-	5	-	-	15
New Jersey	98	48	60	-	-	-	-	-	-	10	306	522
New Mexico	527	1,421	-	-	-	-	-	-	-	-	135	2,083
New York	2,293	335	244	660	-	-	1,155	-	81	107	441	5,314
North Carolina	94	35	-	-	-	-	-	-	-	-	-	129
North Dakota	4,648	31,172	8,051	4,855	181	-	-	3,631	6,165	906	4,272	63,880
Ohio	5,623	3,933	1,087	316	-	-	1,919	-	319	137	17	13,350
Oklahoma	143	1,637	91	-	-	-	-	-	-	-	74	1,945
Oregon	163	483	20	61	-	-	-	-	-	249	64	1,040
Pennsylvania	2,327	497	625	362	20	10	190	-	104	112	205	4,451
South Dakota	3,158	9,632	1,921	404	70	-	50	3,994	725	772	44	20,769
Texas	3,032	9,798	57	-	311	3,334	-	-	-	-	335	16,867
Utah	-	17,897	8	-	-	-	6	-	-	-	188	18,098
Vermont	-	-	-	-	-	-	-	-	-	-	1,725	1,725
Virginia	16	3	-	-	-	-	-	-	-	-	-	19
Washington	555	2,115	51	46	-	-	-	-	1	44	65	2,876
West Virginia	-	1	8	-	-	-	-	-	-	-	22	30
Wisconsin	13,360	1,849	3,304	2,533	97	-	58	-	89	1,095	581	22,966
Wyoming	-	5,737	-	-	-	-	-	798	-	-	-	6,535

*In addition to unclassified grains, "other" acreage contains milo, triticale, kamut, amaranth, and quinoa.

1 Includes wild rice.

Source: Economic Research Service, USDA.

Appendix table 4—U.S. certified organic beans, by State, 2000

State	Soybeans	Dry beans	Dry peas/ lentils	Unclassified/ Other	Total beans
			Acres		
U.S. total	136,071	14,010	10,144	6,095	166,320
Alabama	123	-	-	-	123
Arkansas	2,378	-	-	-	2,378
California	135	921	-	219	1,275
Colorado	83	3,766	4,766	-	8,615
Connecticut	14	-	-	-	14
Florida	28	-	-	-	28
Georgia	116	-	-	-	116
Idaho	-	575	-	-	575
Illinois	6,808	193	-	-	7,001
Indiana	1,058	-	-	43	1,101
Iowa	24,059	469	38	-	24,566
Kansas	2,634	207	-	400	3,241
Kentucky	18	-	-	-	18
Maine	90	-	-	-	90
Maryland	160	-	-	-	160
Massachusetts	248	13	-	-	261
Michigan	10,354	1,798	-	-	12,152
Minnesota	26,919	1,068	321	768	29,076
Missouri	5,015	632	-	43	5,690
Montana	-	-	1,571	447	2,018
Nebraska	5,212	858	417	15	6,502
New Jersey	58	-	-	472	530
New York	2,391	454	-	-	2,845
North Carolina	23	-	-	-	23
North Dakota	8,425	1,238	1,483	3,321	14,468
Ohio	10,168	62	-	-	10,230
Oklahoma	150	460	-	303	913
Oregon	-	17	-	-	17
Pennsylvania	1,044	-	-	31	1,075
South Dakota	6,483	-	167	19	6,669
Tennessee	467	22	-	-	489
Texas	5,966	104	389	15	6,474
Utah	-	630	-	-	630
Virginia	671	-	-	-	671
Washington	41	145	300	-	486
Wisconsin	14,732	379	620	-	15,732
Wyoming	-	-	70	-	70

Source: Economic Research Service, USDA.

Appendix table 5—U.S. certified organic beans, by State, 2001

State	Soybeans	Dry beans	Dry peas/ lentils	Unclassified/ Other	Total beans
			Acres		
U.S. total	174,467	15,080	9,362	12,496	211,405
Alabama	-	-	-	-	-
Arkansas	8,138	-	-	-	8,138
California	149	640	30	127	946
Colorado	410	5,465	1,059	-	6,934
Connecticut	19	1	-	-	20
Florida	28	-	-	-	28
Georgia	116	-	-	-	116
Hawaii	5	-	-	-	5
Idaho	-	454	6	80	539
Illinois	6,879	582	-	-	7,461
Indiana	1,166	-	-	-	1,166
Iowa	27,226	600	59	-	27,885
Kansas	2,222	80	-	500	2,802
Kentucky	28	-	-	-	28
Maine	94	-	-	-	94
Maryland	145	25	0	-	170
Massachusetts	305	-	-	-	305
Michigan	16,894	964	-	368	18,225
Minnesota	29,958	449	106	51	30,564
Missouri	5,010	993	-	2	6,005
Montana	98	-	3,345	367	3,809
Nebraska	6,378	228	216	-	6,821
New Hampshire	0	0	-	0	1
New Jersey	88	-	-	-	88
New Mexico	-	30	-	-	30
New York	3,229	268	-	134	3,631
North Carolina	133	-	-	-	133
North Dakota	10,667	2,782	3,571	10,685	27,705
Ohio	13,196	56	-	-	13,253
Oklahoma	- 40	- -			40
Oregon	33	10	-	-	43
Pennsylvania	1,505	16	-	31	1,552
South Dakota	8,789	-	23	-	8,812
Texas	9,445	291	240	99	10,075
Utah	-	559	-	-	559
Virginia	34	-	-	-	34
Washington	30	157	61	-	247
Wisconsin	22,050	390	346	55	22,840
Wyoming	-	-	302	-	302

Source: Economic Research Service, USDA.

Appendix table 6—U.S. certified organic oilseeds acreage, by State, 2000

State	Flax	Sunflowers	Unclassified/ Other*	Total oilseeds
			Acres	
U.S. total	25,076	19,342	10,104	54,521
Arizona	-	-	1,792	1,792
California	-	-	2,126	2,126
Colorado	-	3,018	-	3,018
Idaho	-	10	-	10
Iowa	-	1,024	28	1,052
Kansas	-	1,282	-	1,282
Kentucky	-	1	-	1
Michigan	-	43	-	43
Minnesota	1,421	1,794	25	3,239
Missouri	27	62	-	89
Montana	2,713	89	160	2,962
Nebraska	394	2,742	7	3,142
New York	-	7	76	83
North Dakota	18,436	6,217	1,927	26,580
Ohio	-	61	-	61
Oklahoma	-	-	91	91
Pennsylvania	-	8	-	8
South Dakota	2,078	2,985	90	5,153
Texas	-	0	496	496
Utah	-	-	3,286	3,286
Wisconsin	7	-	-	7

*In addition to unclassified oilseed acreage, "other" oilseeds includes canola and safflower acreage.
Source: Economic Research Service, USDA.

Appendix table 7—U.S. certified organic oilseeds acreage, by State, 2001

State	Flax	Sunflowers	Unclassified/ Other*	Total oilseeds
			Acres	
U.S. total	20,672	15,295	7,755	43,722
Arizona*	-	-	2,240	2,240
California	-	1	4,708	4,709
Colorado	-	2,094	-	2,094
Idaho	-	3	5	8
Illinois	32	-	-	32
Iowa	-	678	28	706
Kansas	-	736	-	736
Michigan	284	113	-	397
Minnesota	650	520	-	1,170
Missouri	38	108	-	146
Montana	994	-	400	1,394
Nebraska	1,120	1,335	91	2,546
New Mexico	-	180	-	180
New York	-	5	-	5
North Dakota	16,456	3,788	-	20,243
Ohio	-	217	-	217
South Dakota	1,015	2,742	-	3,756
Texas*	1	1	284	285
Utah	-	2,702	-	2,702
Wisconsin	7	73	-	80
Wyoming	75	-	-	75

*In addition to unclassified oilseed acreage, "other" oilseeds includes canola and safflower acreage.
Source: Economic Research Service, USDA.

Appendix table 8—U.S. certified organic hay and silage acreage, by State, 2000

State	Alfalfa hay	Haylage/silage	Pasture and hay	Unclassified/ Other	Total
			Acres		
U.S. total	113,157	15,486	14,630	88,207	231,481
Arizona	802	-	-	-	802
Arkansas	-	-	-	100	100
California	2,309	683	-	240	3,232
Colorado	5,360	3	-	3,709	9,072
Connecticut	-	456	-	-	456
Georgia	-	-	-	13	13
Idaho	45,798	1,737	976	1,921	50,432
Illinois	550	-	75	1,791	2,417
Indiana	56	-	-	287	343
Iowa	2,375	28	686	8,015	11,103
Kansas	1,432	-	-	544	1,976
Kentucky	-	-	-	760	760
Louisiana	-	-	-	3	3
Maine	-	-	-	6,449	6,449
Maryland	142	-	534	32	708
Massachusetts	-	-	-	25	25
Michigan	484	-	109	1,164	1,757
Minnesota	3,427	-	299	5,425	9,151
Missouri	212	-	297	446	955
Montana	2,302	-	3,380	896	6,577
Nebraska	3,000	-	-	4,567	7,567
Nevada	2,397	240	-	-	2,637
New Hampshire	10	-	-	15	25
New Jersey	-	-	-	525	525
New Mexico	211	-	-	1,629	1,840
New York	480	-	136	16,474	17,089
North Carolina	-	-	-	167	167
North Dakota	13,464	-	2,735	3,987	20,186
Ohio	4,129	-	-	2,608	6,737
Oklahoma	9	-	-	73	82
Oregon	1,204	-	1,910	270	3,384
Pennsylvania	2,210	1,566	459	3,389	7,623
Rhode Island	-	-	-	27	27
South Dakota	4,850	100	-	4,378	9,328
Tennessee	-	-	64	-	64
Texas	74	-	-	511	585
Utah	265	-	-	541	806
Vermont	-	9,331	-	661	9,992
Virginia	87	-	1,416	1,378	2,880
Washington	1,980	1,256	312	1,561	5,109
West Virginia	-	-	-	177	177
Wisconsin	13,475	86	1,245	9,185	23,991
Wyoming	63	-	-	4,267	4,330

Source: Economic Research Service, USDA.

Appendix table 9—U.S. certified organic hay and silage acreage, by State, 2001

State	Alfalfa hay	Haylage/silage	Pasture and hay	Unclassified/ Other	Total
			Acres		
U.S. total	116,608	32,074	15,593	89,366	253,641
Arizona	1,002	-	-	-	1,002
Arkansas	-	-	-	100	100
California	2,760	804	50	94	3,708
Colorado	4,912	2,256	-	863	8,031
Connecticut	-	410	-	-	410
Florida	-	-	-	55	55
Georgia	-	-	-	13	13
Idaho	39,659	-	397	1,194	41,249
Illinois	520	-	521	1,112	2,153
Indiana	100	-	-	224	324
Iowa	2,379	35	572	10,660	13,646
Kansas	33	-	21	3,335	3,388
Kentucky	-	-	-	995	995
Louisiana	-	-	-	3	3
Maine	-	-	-	6,690	6,690
Maryland	46	-	460	40	546
Michigan	1,337	190	838	3,196	5,561
Minnesota	6,277	10	1,175	5,655	13,117
Missouri	200	4	20	724	948
Montana	2,755	-	129	3,662	6,545
Nebraska	2,669	-	-	5,116	7,784
Nevada	1,335	240	-	-	1,575
New Hampshire	10	5	-	15	30
New Jersey	50	-	-	5,648	5,698
New Mexico	470	-	-	1,680	2,150
New York	1,015	11,830	6,224	4,125	23,195
North Carolina	-	-	-	-	-
North Dakota	11,469	-	619	5,998	18,086
Ohio	5,082	-	-	2,325	7,407
Oklahoma	-	-	-	279	279
Oregon	1,472	90	2,326	572	4,461
Pennsylvania	2,028	2,444	299	3,715	8,485
Rhode Island	-	-	-	27	27
South Dakota	9,755	-	-	3,789	13,544
Texas	153	-	-	751	904
Utah	540	-	-	701	1,241
Vermont	-	10,346	-	621	10,967
Virginia	-	-	702	1,378	2,080
Washington	2,252	1,223	562	1,104	5,140
West Virginia	-	-	-	162	162
Wisconsin	16,267	2,188	680	7,924	27,059
Wyoming	63	-	-	4,823	4,886

Source: Economic Research Service, USDA.

Appendix table 10—Certified organic vegetable acreage, by State, 2000

State	Tomatoes	Lettuce	Carrots	Mixed and other vegetables*	Total vegetables
			Acres		
U.S. total	3,063	11,410	5,665	42,204	62,342
Alabama	-	-	-	1	1
Alaska	-	0.3	18	20	38
Arizona	-	1,161	-	25	1,186
Arkansas	-	-	-	513	513
California	2,957	9,260	4,997	18,349	35,563
Colorado	18	589	384	2,458	3,449
Connecticut	-	-	-	198	198
Florida	-	-	-	2,060	2,060
Georgia	-	-	-	130	130
Hawaii	-	9	-	66	75
Idaho	1	3	2	158	163
Illinois	5	0	-	145	150
Indiana	1	0	-	141	142
Iowa	1	-	-	280	281
Kansas	-	1	-	153	154
Kentucky	-	-	-	71	71
Louisana	-	-	-	97	97
Maine	-	-	2	330	332
Maryland	6	51	-	367	424
Michigan	-	-	-	288	288
Minnesota	-	-	-	186	186
Missouri	0	20	-	53	73
Montana	-	0	-	633	633
Nebraska	0	206	-	597	803
Nevada	-	-	-	27	27
New Hampshire	15	20	2	266	303
New Jersey	-	-	-	292	292
New Mexico	-	2	-	279	281
New York	-	-	-	967	967
North Carolina	-	-	-	576	576
North Dakota	-	-	12	97	109
Ohio	-	-	-	601	601
Oklahoma	-	-	-	21	21
Oregon	-	2	1	1,938	1,941
Pennsylvania	12	18	-	812	842
Rhode Island	-	-	-	52	52
South Carolina	-	-	-	35	35
South Dakota	-	-	-	12	12
Tennessee	-	-	-	31	31
Texas	26	13	17	262	317
Utah	-	-	-	86	86
Vermont	-	-	-	765	765
Virginia	-	-	-	382	382
Washington	17	55	230	6,655	6,957
West Virginia	5	-	-	25	30
Wisconsin	-	-	-	704	704

*In addition to unclassified vegetable acreage, "other" vegetable acreage includes ginger, blue corn, popcorn, shallots, sweet potatoes, yams and many other specialty crops.

** Massachusetts reported number of operations with vegetables rather than vegetable acreage.

Source: Economic Research Service, USDA.

Appendix table 11—Certified organic vegetable acreage, by State, 2001

	Tomatoes	Lettuce	Carrots	Mixed and other vegetables*	Total vegetables
			Acres		
U.S. total	3,451	16,073	4,757	47,386	71,667
Alabama	-	-	-	1	1
Alaska	-	0	18	20	38
Arizona	-	1,451	-	128	1,579
Arkansas	-	-	-	513	513
California	3,326	13,517	4,031	19,758	40,632
Colorado	21	727	247	3,894	4,889
Connecticut	-	-	-	311	311
Florida	-	-	-	1,928	1,928
Georgia	2	-	-	95	97
Hawaii	-	9	-	112	121
Idaho	-	2	2	157	161
Illinois	-	-	-	374	374
Indiana	-	-	-	108	108
Iowa	0	-	-	204	204
Kansas	-	-	-	40	40
Kentucky	-	-	-	131	131
Louisana	-	-	-	32	32
Maine	-	-	-	342	342
Maryland	-	16	0.01	325	341
Massachusetts**	-	-	-	-	-
Michigan	-	-	-	407	407
Minnesota	-	-	-	515	515
Missouri	4	4	0.3	109	117
Montana	-	-	-	50	50
Nebraska	-	248	-	888	1,136
Nevada	-	-	-	16	16
New Hampshire	15	20	2	275	312
New Jersey	-	-	-	256	256
New Mexico	-	2	-	400	402
New York	-	-	-	1,465	1,465
North Carolina	5	-	-	595	600
North Dakota	-	-	12	130	142
Ohio	-	-	-	408	408
Oklahoma	-	-	-	40	40
Oregon	-	4	-	2,581	2,585
Pennsylvania	32	28	-	865	925
Rhode Island	-	-	-	78	78
South Carolina	-	-	-	9	9
South Dakota	-	-	-	41	41
Tennessee	-	-	-	5	5
Texas	23	7	103	1,121	1,254
Utah	-	-	-	85	85
Vermont	-	-	-	785	785
Virginia	-	-	-	382	382
Washington	17	38	316	6,803	7,174
West Virginia	5	-	-	48	53
Wisconsin	1	-	26	553	579

*In addition to unclassified vegetable acreage, "other" vegetable acreage includes ginger, blue corn, popcorn, shallots, sweet potatoes, yams and many other specialty crops.

**Massachusetts reported number of operations with vegetables rather than vegetable acreage.

Source: Economic Research Service, USDA

Appendix table 12—Certified organic fruit acreage, by State, 2000

State	Tree nuts	Citrus	Apples	Grapes	Unclassified/ Other*	Total fruits
			Acres			
U.S. total	4,468	6,509	9,270	12,575	10,660	43,481
Alaska	-	-	0.1	-	-	0.1
Arizona	56	110	2,031	38	109	2,344
Arkansas	200	-	-	-	-	200
California	3,334	3,121	1,486	11,592	6,105	25,637
Colorado	1	-	501	8	447	957
Florida	-	2,927	-	-	5	2,933
Georgia	100	-	-	-	-	100
Hawaii	-	1	-	-	319	320
Idaho	-	-	112	4	16	131
Illinois	-	-	0	0	2	3
Indiana	-	-	8	-	17	25
Iowa	-	-	2	-	11	13
Kansas	-	-	-	-	2	2
Kentucky	-	-	18	2	11	30
Louisana	12	14	-	-	11	37
Maine	-	-	1	-	-	1
Maryland	4	-	-	-	37	41
Massachusetts	-	-	-	-	18	18
Michigan	-	-	214	-	80	295
Minnesota	-	-	-	-	5	5
Missouri	-	-	1	1	0	1.7
Nebraska	24	-	-	-	83	107
Nevada	37	-	60	-	-	97
New Hampshire	5	-	1	-	23	29
New Jersey	-	-	-	-	124	124
New Mexico	108	-	31	-	26	165
New York	-	-	23	32	210	265
North Carolina	-	-	5	-	21	26
North Dakota	-	-	-	-	3	3
Ohio	-	-	62	4	17	83
Oregon	129	-	119	152	1,278	1,678
Pennsylvania	-	-	59	-	22	80
Rhode Island	-	-	-	-	8	8
South Carolina	-	-	-	-	3	3
South Dakota	-	-	2	-	-	2
Tennessee	-	-	-	-	5	5
Texas	403	337	5	2	190	936
Utah	-	-	76	-	18	93
Vermont	-	-	-	-	92	92
Virginia	-	-	-	-	42	42
Washington	55	-	4,321	741	1,255	6,372
West Virginia	-	-	-	-	26	26
Wisconsin	0.3	-	133	-	21	154

*In addition to unclassified acreage, "other" fruit acreage includes cranberries and other berries, as well as several kinds of tropical and stone fruits.

Source: Economic Research Service, USDA.

Appendix table 13—Certified organic fruit acreage, by State, 2001

State	Tree nuts	Citrus	Apples	Grapes	Unclassified/ Other*	Total fruits
			Acres			
U.S. total	5,883	9,741	12,189	14,532	13,330	55,675
Alaska	-	-	0.1	-	-	0.1
Arizona	62	223	2,190	46	123	2,644
Arkansas	200	-	-	-	-	200
California	4,140	3,063	1,699	13,110	7,073	29,084
Colorado	1	-	705	10	454	1,170
Connecticut	-	-	-	-	10	10
Florida	-	6,056	-	-	98	6,154
Georgia	110	-	-	-	10	120
Hawaii	-	1	-	-	371	372
Idaho	1	-	504	-	16	520
Illinois	-	-	0.3	-	1	2
Indiana	6	-	8	-	27	41
Iowa	3	-	2	-	2	7
Kansas	16	-	-	-	-	16
Kentucky	-	-	8	-	7	16
Louisana	12	14	-	-	11	37
Maryland	-	-	-	-	50	50
Massachusetts	-	-	-	0.1	24	24
Michigan	-	-	373	-	251	624
Minnesota	-	-	10	-	59	69
Missouri	-	-	5	-	-	5
Montana	-	-	-	4	-	4
Nebraska	24	-	-	-	94	118
Nevada	37	-	55	-	-	92
New Hampshire	5	-	1	-	23	29
New Jersey	-	-	-	-	112	112
New Mexico	120	-	40	-	26	186
New York	-	-	29	57	163	248
North Carolina	-	-	6	-	2	8
North Dakota	-	-	-	-	3	3
Ohio	-	-	29	4	15	48
Oregon	137	-	108	317	1,268	1,829
Pennsylvania	2	-	22	-	64	88
Rhode Island	-	-	-	-	11	11
South Dakota	7	-	2	-	-	9
Tennessee	-	-	-	-	-	-
Texas	953	385	1	3	466	1,808
Utah	-	-	75	-	17	92
Vermont	-	-	-	-	237	237
Virginia	-	-	-	-	42	42
Washington	47	-	6,178	962	2,101	9,289
West Virginia	-	-	-	21	1	21
Wisconsin	-	-	140	-	99	239

*In addition to unclassified acreage, "other" fruit acreage includes cranberries and other berries, as well as several kinds of tropical and stone fruits.

Source: Economic Research Service, USDA.

Appendix table 14—Herbs, nursery, and greenhouse, by State, 2000

State	Cultivated herbs	Wildcrafted herbs*	Cut flowers	Cultivated and wild mushrooms	Total herbs & nursery	Total greenhouse**
			Acres			Square feet
U.S. total	4,288	36,545	274	93	41,200	3,576,352
Alaska	-	-	-	-	-	10,890
Arizona	15	-	-	-	15	-
Arkansas	50	-	50	10	110	749
California	349	-	71	5	425	1,655,280
Colorado	806	-	41	1	848	-
Connecticut	2	5	-	18	25	-
Florida	7	-	-	-	7	-
Georgia	14	-	-	-	14	43,560
Hawaii	3	89	-	-	92	-
Idaho	110	-	4	-	115	-
Illinois	34	-	2	0.2	36	87,120
Indiana	5	-	1	-	6	12
Iowa	11	-	-	0.04	11	1,750
Kansas	42	-	-	-	42	-
Kentucky	14	-	3	-	17	-
Louisiana	1	-	1	-	2	43,560
Maine	15	-	15	-	30	-
Maryland	87	-	28	-	115	32,708
Michigan	-	-	-	-	-	-
Minnesota	19	-	-	-	19	34,870
Missouri	4	-	3	-	6	21,780
Montana	-	13,045	0	-	13,045	-
Nebraska	3	-	-	-	3	-
New Hampshire	5	-	3	0.2	8	43,560
New Jersey	49	-	3	0.2	53	-
New Mexico	260	5	3	-	268	217,800
New York	27	-	-	26	53	-
North Carolina	102	-	2	-	103	43,560
North Dakota	6	-	-	-	6	7,000
Ohio	95	-	10	8	113	-
Oklahoma	4	-	1	1	6	5,445
Oregon*	272	15,031	-	2	15,305	-
Pennsylvania	37	-	7	14	58	316,035
Rhode Island	2	-	1	0.3	4	4,356
South Carolina	10	-	-	-		-
South Dakota	100	-	-	-	100	-
Tennessee	1	-	2	-	3	87,120
Texas	0.3	-	-	0.1	0.5	33,565
Vermont	-	-	-	-	-	346,884
Virginia	24	-	15	-	39	16,028
Washington**	1,487	8,368	7	2	9,864	522,720
West Virginia	9	1	1	1	12	-
Wisconsin	178	-	1	4	183	-
Wyoming	29	-	-	-	29	-

*Includes three blue-green algae operations on Klamath Lake.

**Greenhouse/nursery acreage includes 10 acres nursery crops, as well as nursery trees and plant starts.

Source: Economic Research Service, USDA.

Appendix table 15—Herbs, nursery, and greenhouse, by State, 2001

State	Cultivated herbs	Wildcrafted herbs*	Cut flowers	Cultivated and wild mushrooms	Total herbs & nursery	Total greenhouse
			Acres			*Square feet*
U.S. total	5,677	8,498	281	142	14,599	5,094,686
Alaska	-	-	-	-	-	10,890
Arizona	20	-	-	-	20	-
Arkansas	50	-	50	10	110	749
California	624	-	73	20	717	2,352,240
Colorado	269	-	71	-	340	27,878
Connecticut	5.3	-	10	17	32.3	43,560
Florida	18	-	-	-	18	-
Georgia	13	-	1	-	14	43,560
Hawaii	88	66	2	-	156	-
Idaho	256	-	-	-	256	-
Illinois	12	-	0.25	0.23	11.48	-
Indiana	6	-	1	-	7	653,700
Iowa	23	-	-	0	23	1,750
Kansas	1	-	-	-	1	-
Kentucky	-	-	1	11	11	-
Louisiana	1	-	1	-	2	43,560
Maine	16	-	16	-	31	n/a*
Maryland	7	-	8	50	65	144,619
Massachusetts	28	-	-	-	28	n/a*
Michigan	2	-	2	-	4	-
Minnesota	14	-	0.3	-	14	47,260
Missouri	412	1	-	2	415	87,120
Montana	5	197	-	-	202	-
Nebraska	0	-	-	-	0.3	-
Nevada	-	-	-	-	-	2,300
New Hampshire	5	-	3	0.2	8	43,560
New Jersey	13	-	-	-	13	-
New Mexico	130	5	-	-	135	217,800
New York	24	-	-	-	24	-
North Dakota	6	-	-	-	6	-
Ohio	102	-	7	2	111	-
Oklahoma	1	-	0.1	-	1	5,445
Oregon	367	7,610	-	2	7,979	n/a*
Pennsylvania	23	-	6	17	46	392,040
Rhode Island	2	-	2	0.3	5	43,560
South Carolina	5	-	-	-	5	-
South Dakota	9	-	-	-	9	-
Texas	141	-	-	0.04	141	47,462
Vermont	-	-	-	-	-	346,884
Virginia	24	-	15	-	39	16,028
Washington**	2,664	618	8	7	3,297	392,040
West Virginia	11	1	-	3	15	-
Wisconsin	282	-	4	-	285	43,560

*Massachusetts, Maine, and Oregon reported several greenhouses, not square footage.

**Washington greenhouse/nursery acreage includes plant starts and nursery trees.

Source: Economic Research Service, USDA.

Appendix table 16—Certified organic acreage of other crops, by State, 2000

State	Cotton	Peanuts	Potatoes	Green manure cover crops[1]	Trees for maple syrup	Fallow	Unclassified/ Other land*	Total
				Acres				
U.S. total	15,027	2,085	5,433	14,114	11,965	57,688	97,333	203,645
Alabama	-	-	-	370	-	-	-	370
Alaska	-	-	85	15	-	15	15	130
Arizona	1,043	-	-	-	-	-	-	1,043
Arkansas	-	-	100	-	-	-	63	163
California	352	-	1,621	326	-	21,481	26,772	50,552
Colorado	515	-	1,527	229	-	8,933	1,701	12,905
Florida	-	-	-	-	-	-	24	24
Georgia	-	-	-	140	-	-	-	140
Hawaii	-	-	-	-	-	-	168	168
Idaho	-	-	353.03	1,963	-	271	1,321	3,907
Illinois	-	-	0	199	-	15	516	731
Indiana	-	-	0	35	-	80	2,222	2,337
Iowa	-	-	2	115	-	537	1,173	1,828
Kansas	50	-	-	636	-	1,012	3,078	4,776
Kentucky	-	-	-	-	-	4,031	27	4,058
Louisana	-	-	-	-	-	13	-	13
Maine	-	-	84	-	-	-	-	84
Maryland	-	-	1	4	-	2	356	362
Massachusetts	-	-	-	-	-	-	805	805
Michigan	-	-	40	367	-	1,248	3,255	4,910
Minnesota	-	-	477	789	-	1,635	1,927	4,828
Missouri	6	-	6	637	-	53	902	1,604
Montana	-	-	16	1,239	-	1,923	25,304	28,482
Nebraska	-	-	-	1,050	-	596	2,620	4,266
New Hampshire	-	-	5	25	50	-	20	100
New Jersey	-	-	-	-	-	91	75	165
New Mexico	770	992	-	-	-	1,540	47	3,349
New York	-	-	-	166	988	1,456	4,590	7,199
North Carolina	-	-	-	3	-	-	347	350
North Dakota	-	-	138	4,550	-	7,925	3,273	15,887
Ohio	-	-	4	274	459	581	1,039	2,357
Oklahoma	-	-	-	8	-	5	362	375
Oregon	-	-	180	240	-	-	1,226	1,645
Pennsylvania	-	0	36	44	75	219	275	649
Rhode Island	-	0	-	-	-	22	-	22
South Carolina	-	-	-	50	-	-	10	60
South Dakota	-	-	1	440.6	-	1,418	1,242	3,102
Tennessee	527	-	-	-	-	86	28	640
Texas	11,765	1,091	52	-	-	-	1,495	14,403
Utah	-	-	-	-	-	1,117	6,044	7,161
Vermont	-	-	-	-	9,856	-	835	10,691
Virginia	-	-	-	-	-	-	1,756	1,756
Washington	-	2	463	51	-	1,111	196	1,822
West Virginia	-	-	-	-	-	4	68	72
Wisconsin	-	-	241	140	537	269	2,158	3,345
Wyoming	-	-	-	9	-	-	-	9

*In addition to unclassified acreage, "other crops and land" acreage includes Christmas trees, tobacco, coffee, ginger, wheat grass, sprouts, vetch, clover, alfalfa and rye seed, shade and ornamental trees, Indian corn, sugar cane, CRP land, and wildlife habitat.

[1] Does not include green manure and cover crops that are intercropped and double-cropped.

Source: Economic Research Service, USDA.

Appendix table 17—Certified organic acreage of other crops, by State, 2001

State	Cotton	Peanuts	Potatoes	Green manure cover crops[1]	Trees for maple syrup	Fallow	Unclassified/ other land*	Total
				Acres				
U.S. total	11,456	4,653	7,533	18,522	12,030	72,595	70,296	197,085
Alabama	-	34	-	-	-	-	-	34
Alaska	-	-	85	15	-	15	15	130
Arizona	500	-	-	-	-	-	186	686
Arkansas	-	-	100	-	-	-	64	164
California	130	-	3,734	2807.5	-	13,673	23,938	44,283
Colorado	-	-	1,604	1,265	-	8,829	333	12,031
Connecticut	-	-	-	-	-	-	150	150
Florida	-	-	-	-	-	-	2,301	2,301
Georgia	-	-	-	43	-	-	-	43
Hawaii	-	-	-	-	-	-	31	31
Idaho	-	-	565	277	-	3,107	1,269	5,217
Illinois	5	-	-	37	-	26	625	693
Indiana	-	-	0.1	83	-	84	258	425
Iowa	-	-	4	66	-	676	925	1,670
Kansas	-	-	0.3	868	-	1,011	2,017	3,896
Kentucky	-	-	-	-	-	3,993	40	4,032
Louisana	-	-	-	-	-	13	-	13
Maine	-	-	78	-	-	-	-	78
Massachusetts	-	-	-	-	-	-	765	765
Maryland	-	-	-	51	-	2	173	225
Michigan	-	-	39	1,249	-	2,725	1,406	5,419
Minnesota	-	-	45	989	-	6,557	2,778	10,368
Missouri	-	-	6	147	-	119	697	969
Montana	-	-	-	4,153	-	4,579	5,377	14,108
Nebraska	-	-	-	949	-	2,302	909	4,160
New Hampshire	-	-	5	25	50	15	-	95
New Jersey	-	-	-	-	-	45	61	106
New Mexico	1,075	2,188	-	-	-	373	47	3,683
New York	-	-	-	883	1,323	1,442	4,561	8,209
North Carolina	-	-	2	-	-	-	500	502
North Dakota	-	-	167	1,212	-	5,989	7,457	14,825
Ohio	-	-	14	292	442	510	816	2,074
Oklahoma	-	-	-	735	-	-	490	1,225
Oregon	-	-	222	230	-	1,826	1,861	4,138
Pennsylvania	-	-	29	69	280	88	260	725
Rhode Island	-	-	-	-	-	23	20	43
South Carolina	-	-	-	-	-	-	-	-
South Dakota	-	-	0.3	433	-	1,589	1,022	3,044
Tennessee	-	-	-	-	-	-	295	295
Texas	9,746	2,431	64	-	-	-	1,644	13,885
Utah	-	-	-	-	-	4,901	2,407	7,308
Vermont	-	-	-	-	9,856	-	665	10,521
Virginia	-	-	-	-	-	-	1,756	1,756
Washington	-	-	599	205	-	2,214	190	3,207
West Virginia	-	-	-	-	-	4	72	76
Wisconsin	-	-	172	1,441	79	1,470	1,919	5,080
Wyoming	-	-	-	-	-	4,398	-	4,398

*In addition to unclassified acreage, "other crops and land" acreage includes christmas trees, tobacco, coffee, ginger, wheat grass, sprouts, vetch, clover, alfalfa and rye seed, shade and ornamental trees, indian corn, sugar cane, CRP land, and wildlife habitat.

[1] Doesn't include green manure and cover crops that are intercropped and double-cropped.

Source: Economic Research Service, USDA

Appendix table 18—U.S. certified organic livestock, by State, 2000

State	Cows, pigs, and sheep					Chickens and other poultry					
	Beef cows	Milk cows	Hogs & pigs	Sheep/ lambs	Total	Layer hens	Broilers	Turkeys	Other/ Unclassified	Total	Other animals[1]
					Number						
U.S. total	13,829	38,196	1,724	2,279	56,028	1,113,746	1,924,807	9,138	111,359	3,159,050	3,008
California	831	6,387	-	-	7,218	116,608	1,200,000	7,664	-	1,324,272	-
Colorado	2,388	1,500	-	-	3,888	-	-	-	-	-	-
Connecticut	10	250	10	40	310	200	100	20	-	320	8
Hawaii	-	-	-	-	-	-	-	-	-	n/a*	-
Illinois	245	-	465	5	715	1,221	-	115	90	1,426	-
Indiana	21	-	-	-	21	42,497	1,098	200	-	43,795	-
Iowa	1,232	1,249	720	-	3,201	39,030	69,170	-	68,600	176,800	-
Kansas	624	34	9	-	667	-	-	4	3,181	3,185	26
Maine	59	2,250	17	325	2,651	3,000	1,520	-	-	4,520	-
Maryland	-	560	-	-	560	-	-	-	-	-	-
Massachusetts	30	60	90	30	210	52,266	-	-	10,500	62,766	-
Michigan	74	46	-	-	120	41,600	500	-	-	42,100	-
Minnesota	345	1,843	121	700	3,009	11,084	3,369	-	4,450	18,903	-
Missouri	198	747	-	-	945	25	-	-	-	25	-
Montana	1,431	-	216	51	1,698	36	-	-	-	36	-
Nebraska	281	54	-	-	335	20	440	-	18	478	971
New Hampshire	-	-	-	-	-	80,000	-	-	-	80,000	1,942
New Jersey	-	-	-	-	-	-	-	-	-	-	-
New Mexico	200	-	-	400	600	300	10,000	500	-	10,800	-
New York	704	6,215	-	-	6,919	-	-	50	1,000	1,050	-
North Carolina	10	-	-	-	10	462,576	410,242	-	14,560	887,378	-
North Dakota	1,423	-	-	54	1,477	-	-	-	-	-	-
Ohio	544	561	54	85	1,244	7,397	6,275	210	30	13,912	-
Oklahoma	-	-	-	-	-	-	140,000	-	-	140,000	
Oregon	96	1,756	9	-	1,861	41	-	-	-	41	-
Pennsylvania	454	4,398	12	53	4,917	148,079	56,100	200	1,000	205,379	-
South Dakota	602	-	-	115	717	80	108	100	-	288	-
Utah	36	-	-	-	36	-	-	-	-	-	-
Vermont	16	3,025	1	4	3,046	11	5	-	-	16	-
Virginia	205	-	-	-	205	93,680	-	-	-	93,680	-
Washington	-	635	-	-	635	-	-	-	-	-	-
West Virginia	-	-	-	-	-	36	-	-	-	36	61
Wisconsin	1,596	6,626	-	28	8,250	13,959	25,880	75	7,930	47,844	-
Wyoming	174	-	-	389	563	-	-	-	-	-	-

[1] Includes goats, buffalo, bison, rabbits, and other specialties.

*Includes egg laying operation, number of animals not reported.

Source: Economic Research Service, USDA.

Appendix table 19—U.S. certified organic livestock, by State, 2001

State[1]	Cows, pigs, and sheep						Chickens and other poultry					
	Beef cows	Milk cows	Hogs & pigs	Sheep/ lambs	Other	Total	Layer hens	Broilers	Turkeys	Other/ Unclassified	Total	Other animals[2]
						Number						
U.S. total	15,197	48,677	3,135	4,207	993	72,209	1,611,662	3,286,456	98,653	17,244	5,014,015	1,471
California	1,038	9,251	-	-		10,289	146,233	1,560,000	-	-	1,706,233	-
Colorado	-	1,500	-	-	-	1,500						
Connecticut	10	250	10	40		310	200	100	20	-	320	8
Florida	-	-	-	-		-	54,000	-	-	-	54,000	-
Idaho	389	40	-	442		871	110	-	-	-	110	6
Illinois	429	260	426	3	2	1,120	325	1,800	100	150	2,375	-
Indiana	-	-	-	-	-	-	52,600	-	-	30	52,630	-
Iowa	791	1,338	1,198	-		3,327	138,894	36,000	1,000	-	175,894	-
Kansas	499	-	9	-	166	674	250	1,000	200	-	1,450	-
Maine	118	1,950	17	425	8	2,518	3,000	1,520	-	-	4,520	-
Maryland	31	750	-	-		781	-	-	-	-	-	-
Massachusetts	30	60	90	30	-	210	65,332	-	-	10,500	75,832	
Michigan	247	91	9	50	240	637	52,335	1,132	9	470	53,946	10
Minnesota	711	2,238	83	240	102	3,374	18,678	1,800	-	1,225	21,703	-
Missouri	279	120	-	-	18	417	24	20	50	-	94	-
Montana	731	130	484	643	136	2,124	36	150	-	-	186	67
Nebraska	474	-	-	12	19	505	19	2,607	10	9	2,645	853
New Hampshire	-	-	-	-		-	80,000	-	-	-	80,000	-
New Jersey	56	4	20	18			517	77	-	-	594	-
New Mexico	230	-	-	500		730	200	12,000	750	-	12,950	95
New York	374	6,704	2	-	18	7,098	-	-	800	1,460	2,260	30
North Carolina	-	-	-	-		-	577,970	500,302	18,200	-	1,096,472	-
North Dakota	924	-	-	-	20	944	5,500	-	-	-	5,500	-
Ohio	1,114	1,008	67	274	71	2,534	41,355	4,350	325	-	46,030	-
Oklahoma	-	-	-	-	-	-	-	175,000	-	-	175,000	
Oregon	290	2,424	532	557		3,803	-	-	-	-	-	-
Pennsylvania	300	5,456	12	216		5,984	243,786	938,860	69,120	3,400	1,255,166	55
South Dakota	1,142	-	-	174	27	1,343	-	-	-	-	-	-
Texas	3,542	-	-	-		3,542	-	24,000	-	-	24,000	-
Utah	64	-	-	-		64	-	-	-	-	-	-
Vermont	16	3,025	1	4		3,046	11	5	-	-	16	2
Virginia	-	-	-	-		-	114,600	-	-	-	114,600	-
Washington	-	1,275	-	-		1,275	-	-	-	-	-	-
West Virginia	-	-	-	-	-	-	-	-	-	-	-	61
Wisconsin	1,174	10,803	175	190	166	12,508	15,687	25,733	8,069	-	49,489	284
Wyoming	194	-	-	389		583	-	-	-	-	-	-

[1] States new to certifying animals since 1997 are CO, FL, ID, IA, MA, NE, ND, OR, TX, UT, VT, WV, and WY.

[2] Includes goats, buffalo, bison, rabbits, and other specialties.

Source: Economic Research Service, USDA.

Appendix table 20—Certified organic pasture and cropland, by State, 2000

State	Number of certified operations*	Crops	Pasture & rangeland	Total
	Number	*Acres*		
U.S. total	6592	1,218,905	810,167	2,029,073
Alabama	3	495	-	495
Alaska	6	168	-	168
Arizona	16	7,736	113	7,849
Arkansas	26	20,096	11	20,107
California	900	141,083	16,721	157,804
Colorado	233	64,602	537,861	602,463
Connecticut	54	863	327	1,190
Florida	68	5,136	-	5,136
Georgia	31	600	33	633
Hawaii	90	655	44	699
Idaho	188	84,748	23,862	108,609
Illinois	95	18,603	865	19,467
Indiana	73	5,347	270	5,617
Iowa	332	63,465	5,474	68,939
Kansas	67	23,642	11,225	34,867
Kentucky	88	5,011	1,280	6,291
Louisana	23	151	10	161
Maine	237	7,412	1,951	9,363
Maryland	74	2,704	305	3,009
Massachusetts	87	1,165	100	1,265
Michigan	143	30,502	846	31,348
Minnesota	382	78,203	3,751	81,953
Missouri	62	11,581	167	11,748
Montana	80	94,701	26,473	121,175
Nebraska	104	37,465	10,150	47,615
Nevada	25	2,934	98	3,032
New Hampshire	55	485	10	495
New Jersey	59	1,968	126	2,094
New Mexico	123	7,291	33,535	40,826
New York	226	34,955	11,134	46,089
North Carolina	87	1,377	97	1,474
North Dakota	170	137,886	15,850	153,737
Ohio	262	35,469	4,744	40,213
Oklahoma	19	2,136	1,070	3,206
Oregon	190	24,575	2,383	26,958
Pennsylvania	262	15,372	3,500	18,873
Rhode Island	33	112	44	156
South Carolina	6	118	50	168
South Dakota	91	39,881	6,651	46,532
Tennessee	10	1,334	101	1,434
Texas	161	39,563	61,162	100,726
Utah	25	30,582	309	30,891
Vermont	235	23,178	5,992	29,170
Virginia	126	6,444	3,076	9,520
Washington	512	33,837	3,894	37,731
West Virginia	16	370	195	565
Wisconsin	432	65,976	14,309	80,285
Wyoming	5	6,927	-	6,927

*Number does not include subcontracted organic growers.

Source: Economic Research Service, USDA.

Appendix table 21—Certified organic pasture and cropland, by State, 2001

State	Number of certified operations*	Crops	Pasture & rangeland	Total
	Number--	*----------Acres----------*		
U.S. total	6949	1,304,766	1,039,505	2,343,924
Alabama	2	35	-	35
Alaska	5	168	-	168
Arizona	20	8,820	113	8,933
Arkansas	25	24,769	426	24,848
California	1011	148,664	14,495	163,158
Colorado	228	67,347	514,267	581,614
Connecticut	56	1,107	323	1,430
Florida	90	12,059	-	12,059
Georgia	22	489	57	546
Hawaii	108	684	52	736
Idaho	134	64,982	19,066	84,048
Illinois	118	20,459	865	21,324
Indiana	49	3,996	179	4,175
Iowa	384	71,796	8,558	80,354
Kansas	74	24,299	5,182	29,480
Kentucky	72	5,272	1,280	6,552
Louisana	18	86	10	96
Maine	244	7,756	2,029	9,785
Maryland	77	3,095	495	3,590
Massachusetts	84	1,169	100	1,269
Michigan	150	45,466	1,019	46,485
Minnesota	421	98,256	5,041	103,297
Missouri	83	11,973	1,337	13,310
Montana	83	71,707	137,318	209,025
Nebraska	108	43,960	3,044	47,003
Nevada	20	1,856	98	1,954
New Hampshire	55	485	25	510
New Jersey	60	6,795	188	6,982
New Mexico	120	8,848	33,265	42,113
New York	264	42,099	2,988	45,086
North Carolina	63	1,372	5	1,377
North Dakota	176	144,890	14,410	159,300
Ohio	265	36,868	4,592	41,460
Oklahoma	17	3,530	392	3,922
Oregon	231	22,075	5,426	27,501
Pennsylvania	281	16,272	4,712	20,984
Rhode Island	35	163	47	210
South Carolina	4	14	-	14
South Dakota	69	49,984	7,432	57,417
Tennessee	9	300	-	300
Texas	170	45,219	221,102	266,320
Utah	27	30,086	3,445	33,530
Vermont	251	24,235	6,424	30,659
Virginia	124	4,352	3,076	7,428
Washington	548	31,229	3,008	34,238
West Virginia	19	358	183	540
Wisconsin	469	79,128	12,491	91,619
Wyoming	6	16,196	942	17,138

*Number does not include subcontracted organic growers.

Source: Economic Research Service, USDA.