
Farmers, Ranchers, and Agricultural Managers

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Significant Points

- Modern farming requires knowledge of new developments in agriculture, as well as work experience often gained through growing up on a farm or through post-secondary education.
- Overall employment is projected to decline because of increasing productivity and consolidation of farms.
- Horticulture and organic farming will provide better employment opportunities.
- Small-scale farming is a major growth area and offers the best opportunity for entering the occupation.

Nature of the Work

American farmers, ranchers, and agricultural managers direct the activities of one of the world's largest and most productive agricultural sectors. They produce enough food and fiber to meet the needs of the United States and for export. *Farmers and ranchers* own and operate mainly family-owned farms. They also may lease land from a landowner and operate it as a working farm. *Agricultural managers* manage the day-to-day activities of one or more farms, ranches, nurseries, timber tracts, greenhouses, or other agricultural establishments for farmers, absentee landowners, or corporations. Their duties and responsibilities vary widely but focus on the business aspects of running a farm. On small farms, they may oversee the entire operation; on larger farms, they may oversee a single activity, such as marketing.

Farmers, ranchers, and agricultural managers make many managerial decisions. Farm output and income are strongly influenced by the weather, disease, fluctuations in prices of domestic and foreign farm products, and Federal farm programs. In crop-production operations, farmers and managers usually determine the best time to plant seed, apply fertilizer and chemicals, and harvest and market the crops. Many carefully plan the combination of crops they grow, so that if the price of one crop drops, they will have sufficient income from another crop to make up the loss. Farmers, ranchers, and managers monitor the constantly changing prices for their products. They use different strategies to protect themselves from unpredictable changes in the markets for agricultural products. If they plan ahead, they may be able to store their crops or keep their livestock to take advantage of higher prices later in the year. Those who participate in the risky futures market buy contracts on future production of agricultural goods. These contracts can minimize the risk of sudden price changes by guaranteeing a certain price for farmers' and ranchers' agricultural goods when they are ready to sell.

While most farm output is sold directly to food-processing companies, some farmers—particularly operators of smaller farms—may choose to sell their goods directly to consumers through farmers' markets. Some use cooperatives to reduce

their financial risk and to gain a larger share of the prices consumers pay. For example, in community-supported agriculture, cooperatives sell shares of a harvest to consumers prior to the planting season, thus freeing the farmer from having to bear all the financial risks and ensuring the farmer a market for the produce of the coming season. Farmers, ranchers, and agricultural managers also negotiate with banks and other credit lenders to get the best financing deals for their equipment, livestock, and seed.

Like other businesses, farming operations have become more complex in recent years, so many farmers use computers to keep financial and inventory records. They also use computer databases and spreadsheets to manage breeding, dairy, and other farm operations.

The type of farm farmers, ranchers, and agricultural managers operate determines their specific tasks. On crop farms—farms growing grain, cotton, other fibers, fruit, and vegetables—farmers are responsible for preparing, tilling, planting, fertilizing, cultivating, spraying, and harvesting. After the harvest, they make sure that the crops are properly packaged, stored, and marketed. Livestock, dairy, and poultry farmers and ranchers feed and care for animals and keep barns, pens, coops, and other farm buildings clean and in good condition. They also plan and oversee breeding and marketing activities. Both farmers and ranchers operate machinery and maintain equipment and facilities, and both track technological improvements in animal breeding and seeds, and choose new or existing products.

The size of the farm or ranch often determines which of these tasks farmers and ranchers handle themselves. Operators of small farms usually perform all tasks, physical and administrative. They keep records for management and tax purposes, service machinery, maintain buildings, and grow vegetables and raise animals. Operators of large farms, by contrast, have employees who help with the physical work that small-farm operators do themselves. Although employment on most farms is limited to the farmer and 1 or 2 family workers or hired employees, some large farms have 100 or more full-time and seasonal workers. Some of these employees are in nonfarm occupations, working as truck drivers, sales representatives, bookkeepers, and computer specialists.

Agricultural managers usually do not plant, harvest, or perform other production activities; instead, they hire and supervise farm and livestock workers, who perform most daily production tasks. Managers may establish output goals; determine financial constraints; monitor production and marketing; hire, assign, and supervise workers; determine crop transportation and storage requirements; and oversee maintenance of the property and equipment.

Two types of farmers that are growing in importance are horticultural specialty farmers and aquaculture farmers. *Horticultural specialty farmers* oversee the production of fruits, vegetables, flowers, and ornamental plants used in landscaping, including turf. They also grow nuts, berries, and grapes for wine. *Aquaculture farmers* raise fish and shellfish in marine, brackish, or fresh water, usually in ponds, floating net pens, raceways, or recirculating systems. They stock, feed, protect, and otherwise manage aquatic life sold for consumption or used for recreational fishing.

Work environment. The work of full-time farmers, ranchers, and agricultural managers is often strenuous; work hours

are frequently long; and these workers rarely have days off during the planting, growing, and harvesting seasons. Nevertheless, for those who enter farming or ranching, the hard work is counterbalanced by their enjoyment of living in a rural area, working outdoors, being self-employed, and making a living off the land.

Farmers and farm managers on crop farms usually work from sunrise to sunset during the planting and harvesting seasons. The rest of the year, they plan next season's crops, market their output, and repair machinery.

On livestock-producing farms and ranches, work goes on throughout the year. Animals, unless they are grazing, must be fed and watered every day, and dairy cows must be milked two or three times a day. Many livestock and dairy farmers monitor and attend to the health of their herds, which may include assisting in the birthing of animals. Such farmers and farm managers rarely get the chance to get away, unless they hire an assistant or arrange for a temporary substitute.

Farmers and farm managers who grow produce and perishables have different demands on their time depending on the crop grown and the season. They may work very long hours during planting and harvesting season, but shorter hours at other times. Some farmers maintain cover crops during the cold months, which keep them busy beyond the typical growing season.

On very large farms, farmers and farm managers spend substantial time meeting farm supervisors in charge of vari-



Farmers need in-depth knowledge of many kinds of crops.

ous activities. Professional farm managers overseeing several farms may divide their time between traveling to meet farmers or landowners and planning the farm operations in their offices. As farming practices and agricultural technology become more sophisticated, farmers and farm managers are spending more time in offices and at computers, where they electronically manage many aspects of their businesses. Some farmers also attend conferences exchanging information, particularly during the winter months.

Farm work can be hazardous. Tractors and other farm machinery can cause serious injury, and workers must be constantly alert on the job. The proper operation of equipment and handling of chemicals are necessary to avoid accidents, safeguard health, and protect the environment.

Training, Other Qualifications, and Advancement

Experience gained from growing up on or working on a family farm is the most common way farmers learn their trade. However, modern farming requires increasingly complex scientific, business, and financial decisions, so postsecondary education in agriculture is important even for people who were raised on farms.

Education and training. Most farmers receive their training on the job, often by being raised on a farm. However, the completion of a 2-year associate degree or a 4-year bachelor's degree at a college of agriculture is becoming increasingly important for farm managers and for farmers and ranchers who expect to make a living at farming. A degree in farm management or in business with a concentration in agriculture is important.

Students should select the college most appropriate to their interests and location. All State university systems have at least one land-grant college or university with a school of agriculture. Common programs of study include agronomy, dairy science, agricultural economics and business, horticulture, crop and fruit science, and animal science. For students interested in aquaculture, formal programs are available and include coursework in fisheries biology, fish culture, hatchery management and maintenance, and hydrology.

Agricultural colleges teach technical knowledge of crops, growing conditions, and plant diseases. They also teach prospective ranchers and dairy farmers the basics of veterinary science and animal husbandry. Students also study how the environment is affected by farm operations, for example, how the various pesticides affect local animals.

New farmers, ranchers, and agricultural managers often spend time working under an experienced farmer to learn how to apply the skills learned through academic training. Those without academic training often take many years to learn how weather, fertilizers, seed, feeding or breeding affect the growth of crops or the raising of animals in addition to other aspects of farming. A small number of farms offer formal apprenticeships to help young people learn the practical skills of farming and ranching.

Other qualifications. Farmers, ranchers, and agricultural managers need managerial skills to organize and operate a business. A basic knowledge of accounting and bookkeeping is essential in keeping financial records, and knowledge

of credit sources is vital for buying seed, fertilizer, and other needed inputs. Workers must also be familiar with complex safety regulations and requirements of governmental agricultural support programs. Computer skills are becoming increasingly important, especially on large farms, where computers are widely used for recordkeeping and business analysis. In addition, skills in personnel management, communication, and conflict resolution are important in the operation of a farm or ranch business.

Mechanical aptitude and the ability to work with tools of all kinds also are valuable skills for a small-farm operator, who often maintains and repairs machinery or farm structures.

Certification and advancement. Because of rapid changes in the industry, farmers, ranchers, and agricultural managers need to stay informed about continuing advances in agricultural methods, both in the United States and abroad. They need to monitor changes in governmental regulations that may affect production methods or markets for particular crops. Besides print journals that inform the agricultural community, farmers and managers use the Internet for quick access to the latest developments in areas such as agricultural marketing, legal arrangements, and growing crops, vegetables, and livestock.

Agricultural managers can enhance their professional status through voluntary certification as an Accredited Farm Manager (AFM) by the American Society of Farm Managers and Rural Appraisers. Accreditation requires several years of farm management experience, the appropriate academic background—a bachelor's degree or, preferably, a master's degree in a field of agricultural science—and the passing of courses and examinations related to the business, financial, and legal aspects of farm and ranch management.

Employment

Farmers, ranchers, and agricultural managers held nearly 1.3 million jobs in 2006. About 80 percent are self-employed farmers and ranchers, and the remainder is agricultural managers. Most farmers, ranchers, and agricultural managers oversee crop-production activities, while others manage livestock and dairy production. Most farmers and ranchers operate small farms on a part-time basis.

The soil, topography of the land, and climate often determine the type of farming and ranching done in a particular area. California, Texas, Iowa, Nebraska, and Kansas are the leading agricultural States in terms of agricultural output measured in dollars. Texas, Missouri, Iowa, Kentucky, and Tennessee are the leading agricultural States in terms of numbers of farms.

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Agricultural managers.....	11-9010	1,317,000	1,230,000	-87,000	-7
Farm, ranch, and other agricultural managers.....	11-9011	258,000	261,000	2,900	1
Farmers and ranchers	11-9012	1,058,000	969,000	-90,000	-8

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

Job Outlook

The long-term trend toward the consolidation of farms into fewer and larger ones is expected to continue over the 2006–16 decade and to result in a continued, moderate decline in employment of self-employed farmers and ranchers and little or no change in employment of salaried agricultural managers. Nevertheless, a number of jobs will be available due to the need to replace the large number of farmers expected to retire or leave the profession over the next decade.

Employment change. Employment of self-employed farmers is expected to decline moderately by 8 percent over the 2006–2016 decade. The continuing ability of the agriculture sector to produce more with fewer workers will cause some farmers to go out of business as market pressures leave little room for the marginally successful farmer. As land, machinery, seed, and chemicals become more expensive, only well-capitalized farmers and corporations will be able to buy many of the farms that become available. These larger, more productive farms are better able to withstand the adverse effects of climate and price fluctuations on farm output and income. Larger farms also have advantages in obtaining government subsidies and payments because these payments are usually based on acreage owned and per-unit production.

In contrast, agricultural managers are projected to gain jobs, growing by 1 percent—effectively little or no change in the occupation. Owners of large tracts of land, who often do not live on the property they own, increasingly will seek the expertise of agricultural managers to run their farms and ranches in a business-like manner.

Despite the expected continued consolidation of farmland and the projected decline in overall employment of this occupation, an increasing number of small-scale farmers have developed successful market niches that involve personalized, direct contact with their customers. Many are finding opportunities in organic food production, which is the fastest growing segment in agriculture. Others use farmers' markets that cater directly to urban and suburban consumers, allowing the farmers to capture a greater share of consumers' food dollars. Some small-scale farmers belong to collectively owned marketing cooperatives that process and sell their product. Other farmers participate in community-supported agriculture cooperatives that allow consumers to directly buy a share of the farmer's harvest.

Aquaculture may continue to provide some new employment opportunities over the 2006–16 decade. Concerns about overfishing and the depletion of the stock of some wild fish species will likely lead to more restrictions on deep-sea fishing, even as public demand for the consumption of seafood continues to grow. This has spurred the growth of aquaculture farms that

raise selected aquatic species—such as shrimp, salmon, trout, and catfish—in pens or ponds. Aquaculture has increased even in landlocked States, as farmers attempt to diversify.

Job prospects. Job prospects are expected to be favorable for those who want to go into farming. With fewer people wanting to become farmers and a large number of farmers expected to retire or give up their farms in the next decade, there will be some opportunities to own or lease a farm. The market for agricultural products is projected to be good for most products over the next decade, and thus many farmers who retire will need to be replaced. Farmers who produce corn used to produce ethanol will be in particular demand as ethanol plays a greater role in energy production as fuel for automobiles. Farmers who grow crops used in landscaping, such as trees, shrubs, turf, and other ornamentals, also will have better job prospects, as people put more money into landscaping their homes and businesses.

Earnings

Incomes of farmers and ranchers vary greatly from year to year, because prices of farm products fluctuate with weather conditions and the other factors that influence the quantity and quality of farm output and the demand for those products. A farm that shows a large profit one year may show a loss the following year. According to the U.S. Department of Agriculture, the average net cash farm business income for farm operator households in 2005 was \$15,603. This figure, however, does not reflect that farmers often receive government subsidies or other payments that supplement their incomes and reduce some of the risk of farming. Additionally, most farmers—primarily operators of small farms—have income from off-farm business activities or careers, often greater than that of their farm income.

Full-time, salaried farm managers had median weekly earnings of \$1,001 in May 2006. The middle half earned between \$766 and \$1,382. The highest paid 10 percent earned more than \$1,924, and the lowest paid 10 percent earned less than \$572.

Self-employed farmers must procure their own health and life insurance. As members of farm organizations, they may receive group discounts on health and life insurance premiums.

Related Occupations

Farmers, ranchers, and agricultural managers strive to improve the quality of agricultural products and the efficiency of farms. Others whose work relates to agriculture include agricultural engineers, agricultural and food scientists, agricultural workers, and purchasing agents and buyers of farm products.

Sources of Additional Information

For general information about farming and agricultural occupations, contact either of the following organizations:

➤ Center for Rural Affairs, P.O. Box 406, Walthill, NE 68067.

Internet: <http://www.cfra.org>

➤ National FFA Organization, The National FFA Center, Attention Career Information Requests, P.O. Box 68690, Indianapolis, IN 46268. Internet: <http://www.ffa.org>

For information about certification as an accredited farm manager, contact:

➤ American Society of Farm Managers and Rural Appraisers, 950 Cherry St., Suite 508, Denver, CO 80222.

Internet: <http://www.asfmra.org>

For information on the USDA's program to help small farmers get started, contact:

➤ Small Farm Program, U.S. Department of Agriculture, Cooperative State, Research, Education, and Extension Service, Stop 2220, Washington, DC 20250.

Internet: <http://www.csrees.usda.gov/smallfarms.cfm>

For information about organic farming, horticulture, and internships, contact:

➤ Alternative Farming System Information Center, NAL, 10301 Baltimore Ave., Room 132, Beltsville, MD 20705.

Internet: <http://www.nal.usda.gov>

➤ ATTRA, National Sustainable Agriculture Information Service, P.O. Box 3657, Fayetteville, AR 72702.

Internet: <http://www.attra.ncat.org>

To learn more about how technological and other changes are affecting agricultural careers, see the *Occupational Outlook Quarterly* article "Farming in the 21st century: A modern business in the modern world," in print at many libraries and career centers and online at:

<http://www.bls.gov/opub/ooq/2005/spring/art02.pdf>