

Farmers, Ranchers, and Agricultural Managers

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Significant Points

- Modern farming requires knowledge of new developments in agriculture, and work experience acquired through growing up on a farm or through a small number of internships now available.
- Overall employment is projected to decline because of increasing productivity and consolidation of farms.
- Aquaculture and horticulture should provide better employment opportunities.
- Developments in value-added marketing and organic farming are making small-scale farming economically viable again.

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 produce a surplus for export.

Farmers and ranchers own and operate mainly family-owned farms. They may also lease land from a landowner and operate it as a working farm. The type of farm they operate determines their specific tasks. On crop farms—farms growing grain, cotton, and other fibers, fruit, and vegetables—farmers are responsible for preparing, tilling, planting, fertilizing, cultivating, spraying, and harvesting. After the harvest, they make sure the crops are properly packaged, stored, or marketed. Livestock, dairy, and poultry farmers must feed, and care for the animals and keep barns, pens, coops, and other farm buildings clean and in good condition. They also plan and oversee breeding and marketing activities. Horticultural specialty farmers oversee the production of ornamental plants, nursery products—such as flowers, bulbs, shrubbery, and sod—and fruits and vegetables grown in greenhouses. 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.

Responsibilities of farmers and ranchers range from caring for livestock, to operating machinery, to maintaining equipment and facilities. The size of the farm or ranch often determines which of these tasks farmers and ranchers will 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, on the other hand, 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 one or two 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 manage the day-to-day activities of one or more farms, ranches, nurseries, timber tracts, greenhouses, and other agricultural establishments for farmers, absentee landowners, or corporations. Their duties and responsibilities vary widely, but are concentrated on the business aspects of running a farm. On

small farms, they may oversee the entire operation, while on large farms they may oversee a single activity, such as marketing. Agricultural managers usually do not perform production activities; instead they hire and supervise farm and livestock workers, who perform most of the daily production tasks. In these cases, 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.

Farmers, ranchers, and agricultural managers make many managerial decisions. Farm output is 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, harvest, and market. They use different strategies to protect themselves from unpredictable changes in the markets for agricultural products. Many farmers and managers carefully plan the combination of crops they grow so that if the price of one crop drops, they will have sufficient income from another to make up for the loss. While most farm output is sold to middlemen—primarily food processing companies—some farmers, particularly operators of smaller farms, may choose to sell their goods directly through farmers' markets, or use cooperatives to reduce their financial risk and to gain a larger share of consumers' expenditures on food. For example, in Community Supported Agriculture (CSA), cooperatives sell to consumers shares of a harvest 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 as well as their livestock and seed. They must also keep abreast of constantly changing prices for their products and be able to manage the risk of fluctuating prices. Those who plan ahead may be able to store their crops or keep their livestock to take advantage of better prices later in the year. Those who participate in the risky futures market, where contracts on agricultural goods are bought and sold at specified prices in the future, can minimize the risk of sudden price changes by buying futures contracts that guarantee they will get at least a certain price for their agricultural goods when they are ready to sell.

Like other businesses, farming operations have become more complex in recent years, so many farmers use computers to keep



Getting a crop to market is a prime responsibility of farmers and agricultural managers.

financial and inventory records. They also use computer databases and spreadsheets to manage breeding, dairy, and other farm operations.

Working Conditions

The work of farmers, ranchers, and agricultural managers is often strenuous; work hours are frequently long; and they rarely have days off during the planting, growing, and harvesting seasons. Nevertheless, for those who enter farming or ranching, the disadvantages are outweighed by the quality of life in a rural area, working outdoors, being self-employed, and making a living working the land. Farmers and farm managers on crop farms usually work from sunrise to sunset during the planting and harvesting seasons. During the rest of the year they plan next season's crops, market their output, and repair machinery; some may earn additional income by working a second job off the farm.

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 rarely get the chance to get away unless they hire an assistant or arrange for a temporary substitute.

Farmers who grow produce and perishables have different demands on their time. For example, organic farmers must maintain cover crops during the cold months, which keep them occupied with farming beyond the typical growing season.

Farm work also 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 is necessary to avoid accidents and protect the environment.

On very large farms, farmers spend substantial time meeting with farm managers or farm supervisors in charge of various 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 spend time at conferences, particularly during the winter months, exchanging information.

Employment

Farmers, ranchers, and agricultural managers held nearly 1.4 million jobs in 2002. About 84 percent were self-employed. Most farmers, ranchers, and agricultural managers oversee crop production activities, while others manage livestock and dairy production. A smaller number are involved in agricultural services, such as contract harvesting and farm labor contracting.

The soil, topography of the land, and climate determine the type of farming and ranching done in a particular area. For example, California, Wisconsin, New York, and Pennsylvania lead the country in milk production, while Iowa, Ohio, Pennsylvania, and California lead in egg production. Texas, California, Mississippi, Georgia, and Arizona are the biggest cotton producers; and Kansas, North Dakota, Washington, and Montana are the biggest wheat producers.

Training, Other Qualifications, and Advancement

Growing up on a family farm and participating in agricultural programs for young people (sponsored by the National FFA Organization, formerly known as the Future Farmers of America, or the 4-H

youth educational programs, or other educational opportunities offered by the Extension Service) are important sources of training for those interested in pursuing agriculture as a career. However, modern farming requires increasingly complex scientific, business, and financial decisions. Therefore, even people who were raised on farms must acquire the appropriate education.

Not all agricultural managers grew up on farms or ranches. For these people, a bachelor's degree in business with a concentration in agriculture is important. In addition to formal education, they need several years of work experience in the different aspects of farm and ranch operations in order to qualify for an agricultural manager position.

Students should select the college most appropriate to their specific interests and location. In the United States, all State university systems have one land-grant 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. Whatever one's interest, the college curriculum should include courses in agricultural production, marketing, and economics.

Professional status can be enhanced through voluntary certification as an Accredited Farm Manager (AFM) by the American Society of Farm Managers and Rural Appraisers. Certification 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 relating to business, financial, and legal aspects of farm and ranch management.

Farmers, ranchers, and agricultural managers need to keep abreast of continuing advances in agricultural methods both in the United States and abroad, as well as changes in governmental regulations that may impact methods or markets for particular crops. Besides print journals that inform the agricultural community, the spread of the Internet allows quick access to the latest developments in areas such as agricultural marketing, legal arrangements, or growing crops, vegetables, and livestock. Electronic mail, on-line journals, and newsletters from agricultural organizations also speed the exchange of information directly between farming associations and individual farmers.

Farmers, ranchers, and agricultural managers also must have enough technical knowledge of crops, growing conditions, and plant diseases to make decisions ensuring the successful operation of their farms. A rudimentary knowledge of veterinary science, as well as animal husbandry, is important for livestock and dairy farmers. Knowledge of the relationship between farm operations—for example, the use of pesticides—and environmental conditions is essential. Mechanical aptitude and the ability to work with tools of all kinds are also valuable skills for the operator of a small farm, who often maintains and repairs machinery or farm structures.

Farmers, ranchers, and agricultural managers need the managerial skills necessary to organize and operate a business. A basic knowledge of accounting and bookkeeping is essential in keeping financial records, while knowledge of credit sources is vital for buying seed, fertilizer, and other inputs necessary for planting. It is also necessary to be familiar with complex safety regulations and requirements of governmental agricultural support programs. Computer skills are increasingly important, especially on large farms, where computers are widely used for recordkeeping and business analysis. For example, some farmers, ranchers, and agricultural managers use personal computers to access the Internet to get the

latest information on prices of farm products and other agricultural news. Additionally, skills in personnel management, communication, and conflict resolution are equally important in the operation of a farm or ranch business.

High school training should include courses in mathematics and in biology and other life sciences. Completion of a 2-year degree, and preferably a 4-year bachelor's degree program in a college of agriculture, is becoming increasingly important. But even after obtaining formal education, novices may need to spend time working under an experienced farmer to learn how to put into practice the skills learned through academic training. A small number of farms offer, on a formal basis, apprenticeships to help young people acquire such practical skills.

Job Outlook

Market pressures and low prices for many agricultural goods, will cause more farms to go out of business over the 2002-2012 period. The complexity of modern farming and keen competition among farmers leaves little room for the marginally successful farmer. Therefore, the long-term trend toward consolidation of farms into fewer and larger farms is expected to continue over the 2002-12 period, and result in the continued decline in employment of self-employed farmers and ranchers and slower than average growth in employment of salaried agricultural managers. As land, machinery, seed, and chemicals become more expensive, only well capitalized farmers and corporations are able to acquire many of the farms that become available. It is the larger, more productive farms that are better able to withstand the adverse effects of climate and price fluctuations upon farm output and income and to cover operating costs for livestock, feed, seed, and fuel, for example. Larger farms also have advantages in competing for government subsidies and payments.

In addition, the agriculture sector continues to produce more with fewer workers. Increasing productivity in the U.S. agricultural production industry is expected to allow greater domestic consumption needs and export requirements to be met with fewer farmers, ranchers, and agricultural managers overall. The overwhelming majority of job openings for self-employed farmers and ranchers will result from the need to replace farmers who retire or leave the occupation for economic or other reasons.

Despite the expected continued consolidation of farm land and the projected decline in overall employment of farmers, ranchers, and agricultural managers, 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, as more consumers demand food grown without pesticides or chemicals. 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, such as some dairy 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 also should continue to provide some new employment opportunities over the 2002-12 period. Overfishing has resulted in declining ocean catches 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's presence in even landlocked States has increased as farmers attempt to diversify and cater to the growing demand for fish by consumers. Additionally, growing consumer demand for

horticulture products, such as flowers and ornamentals, trees, shrubs, and other non-edibles, is expected to produce better employment opportunities for greenhouse and nursery farmers and managers.

Earnings

Incomes of farmers and ranchers vary greatly from year to year because prices of farm products fluctuate depending upon weather conditions and other factors that influence the quantity and quality of farm output and the demand for those products. A farm that shows a large profit in one year may show a loss in the following year. Farmers, however, often receive government subsidies or other payments that supplement their incomes and reduce some of the risk of farming. Price supports for dairy farmers, though, are being phased out and may result in lower incomes for these farmers. Many 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 annual earnings of \$43,740 in 2002. The middle half earned between \$32,620 and \$59,330. The highest paid 10 percent earned more than \$81,100, and the lowest paid 10 percent earned less than \$24,410.

Farmers and self-employed farm managers make their own provisions for benefits. As members of farm organizations, they may derive benefits such as 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 is related to agricultural products 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:

- ▶ 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 46268-0960. 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 20250-2220. Internet: <http://www.reeusda.gov/smallfarm/>

For information on aquaculture, education, training, or Community Supported Agriculture, contact:

- ▶ Alternative Farming System Information Center (AFSIC), National Agricultural Library USDA, 10301 Baltimore Ave., Room 132, Beltsville, MD 20705-2351. Internet: <http://www.nal.usda.gov/afsic>
- ▶ Appropriate Technology Transfer for Rural Areas, P.O. Box 3657, Fayetteville, AR 72702. Internet: <http://www.attra.org>