

Lesson 1: Role of Agricultural Businesses

Agricultural businesses are everywhere: local grocery stores; cattle ranches; operations that raise beans, wheat, beets, and many other crops; and companies like Monsanto and Farmland, to name a few. Just like any business, agricultural businesses rely on one another for resources. Grain elevator operators depend on producers to harvest corn, and the cattle rancher relies on the grain elevator for cattle feed. In turn, the corn-fed cattle are taken to a meat processing facility where they are processed into various cuts of meat, which are then distributed to grocery stores and sold to consumers.

Within agricultural businesses, many different processes are involved, such as buying, using, distributing, or producing. These diverse processes offer opportunities for employment, which helps the economy. This lesson defines agricultural businesses and reviews business structures and sectors that comprise agricultural business. It also examines the importance of agriculture to the local community, the nation, and the world, and finally discusses the role of technology in agricultural businesses.

Agricultural Business

An agricultural business is any enterprise that produces crops or livestock or is involved with providing

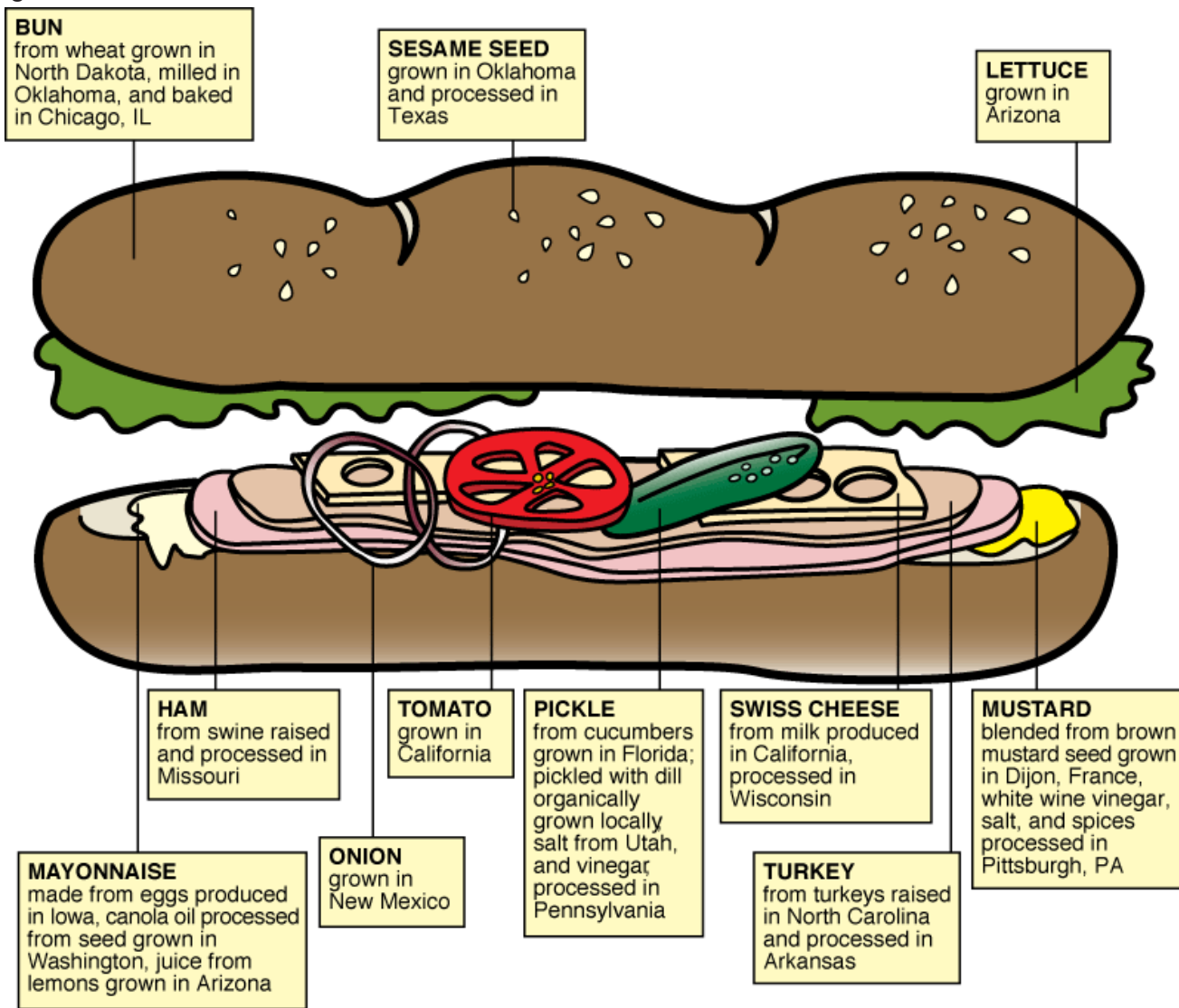
agricultural supplies and/or processing, marketing, transporting, and distributing agricultural materials and consumer products. Agriculture in the past consisted mainly of producers and ranchers raising enough food for their own consumption. Today, however, most people employed in agriculture work in the feed, seed, farm machinery, processing, and chemical supply businesses. Many people also work in marketing firms that move food and fiber from production agriculturalists (such as most of the local producers) to the consumers. The majority of agricultural businesses are found in *urban*, not rural, areas.

Agricultural services include transportation, storage, refrigeration, credit and finance, insurance, and processing the food we eat. It also involves services related to animal health care (veterinarians, pet services), landscaping, lawn mowing services, environmental services, forestry, and conservation.

Examples of agricultural products come from crops, plants, nurseries, and horticulture; livestock and small animals (pets); equipment; supplies; processed food products; and plant and animal by-products. The production of many everyday items, such as a sandwich as depicted in Figure 1.1, relies on various agricultural businesses. Each component of the deli sandwich came from a different region of the United States or from another country, such as France, where the mustard seed was grown.

Introduction to Agricultural Business

Figure 1.1 - Deli Sandwich



In addition to traveling great distances, many agricultural products require several stages of processing. Figure 1.2 illustrates the steps involved in producing a piece of ham.

Figure 1.2 - Ham Production Process



Business Structures

Agricultural businesses are divided into the following four structures: sole ownership, partnership, cooperative, and corporation.

An individual who owns and manages a business, such as a tree nursery, assumes sole ownership. A student

who mows lawns and takes full responsibility for his/her operation, such as paying for maintenance, fuel, and repairs; adhering to the clients' needs; and recording profits and expenses is considered a sole ownership. These individuals are known as "entrepreneurs" - people who devote finances and effort to a specific endeavor in hopes of earning a profit. A sole ownership is usually small, simple to operate, and easily managed.

Role of Agricultural Businesses

Sole ownership offers independence. The owner makes all decisions concerning financial issues, receives all the profits, pays all expenses, but also suffers all the losses as well. If the owner becomes sick or wants to go on a vacation, there may be no one available to take over.

Partnerships are business associations that involve two or more people who share responsibilities. It is very beneficial if the partners possess specialized skills that can be applied to a particular business. An example of a partnership is a greenhouse owned by two brothers, one who is the producer and the other who is in charge of sales. Both people are involved in specific business activities related to the greenhouse.

Cooperatives provide goods and services to members at cost, or as close to cost as possible. They are formed not to make a profit but to serve the individuals who own shares in the organization. Many mills are cooperatives. Producers combine their efforts for a common goal. Riceland Foods Cooperative in Stuttgart, Arkansas, is the world's largest miller and marketer for rice producers.

A corporation is an organization owned by many people but legally considered as one entity. It is made up of individuals known as "stockholders" who elect a board of directors. The board makes all decisions for the corporation. An example of a major corporation is Archer Daniels Midland Company, whose various agribusiness operations include wheat milling and soybean processing. Another corporation, Monsanto, located in St. Louis, is a leader in biotechnology.

Corporations can be one of two types: S-corporations and C-corporations. S-corporation status is reserved for families or small businesses (no more than 75 shareholders). The advantage of an S-corporation is that shareholders do not pay taxes. A disadvantage is that shareholders who own 2% or more shares of the company cannot deduct any benefits, such as health insurance.

C-corporation status is required for regular corporations that sell stocks to investors. Profits and the shareholders' dividends are taxed.

Agricultural Business Sectors

As with any business, many different components work together to process raw materials and transport them to the consumer. Each agricultural business can be categorized into one of four sectors: (1) inputs (also known as services and supply), (2) production, (3) processing and marketing, and (4) wholesale and retail (sales and customer service). Missouri agricultural sectors are illustrated in Figure 1.3.

The input sector provides the necessary resources required to produce goods and services for various agricultural businesses. Services include financing, consulting services, insurance and various federally sponsored programs, such as price support, conservation programs, disaster assistance, and commodity operations. For example, Farmer Mac, established by Congress, helps agricultural producers get credit for mortgages. North Star Commodity Investment Company is a consulting firm that provides advice on marketing options for extensive production operations.

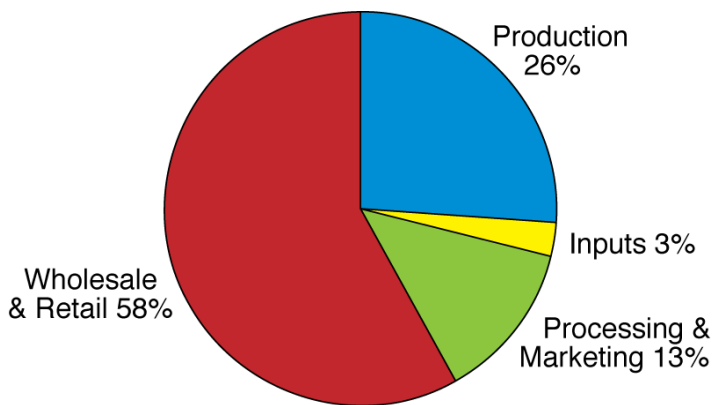
Introduction to Agricultural Business

Supplies include water, seed, feed, fertilizer, livestock feeder stock, farm machinery and equipment, petroleum, and chemicals, etc.

Agricultural businesses in this sector may be local, national, or worldwide companies.

Examples of service/supply agricultural businesses are John Deere (farm equipment), and Monsanto (chemicals).

Figure 1.3 - Agricultural Business Sectors in Missouri



Agricultural production uses diverse services and supplies to produce the raw commodities that come from farms, ranches, plantations, or any other places of production. Some items produced are cattle, wheat, vegetables, fruit, and rabbits. These items are usually taken to another location for processing.

The next sector entails two separate procedures: processing and marketing. During processing, various activities occur to transform raw commodities after they are produced into final products for sale. Examples of processing include grinding wheat into flour and processing cattle into various cuts of meat such as hamburger and steak. Many other products require some type of processing before they are sent to the retailer. Processing facilities are found mainly in urban areas.

When the raw commodity is processed into the finished product, it is marketed through advertising, public service announcements, media campaigns,

etc. This informs the consumer about the desirable features of the finished commodity.

After marketing, the finished product is transported and then distributed to either an individual or a grocery store. This step is critical to the producer. The commodity must reach the consumer safely. Once delivered, the producer can realize a profit on his/her efforts.

The final sector involves sales and customer service. A finished product may be sold wholesale, which means that large quantities of processed commodities are sold at the first point of sale, such as a discount store or a members-only outlet. The wholesaler sells this product to someone who then sells it *directly* to the consumer at the retail price. Retail is higher than the wholesale price. In addition, retailers (supermarkets, department stores, chain stores, etc.) frequently offer extra services to their customers, which cost money to provide. A grocery store may have a pharmacy, florist, video rental, and delicatessen in addition to its regular inventory. A personal shopper, beauty salon, or makeup consultant might be available at a department store. Some home improvement stores offer classes in plumbing, dry walling, carpentry, etc.

Importance of Agricultural Businesses to the Community, Nation, and World

Agricultural businesses play an important role in the community in which you live, the nation, and the world.

Agricultural businesses support the community by providing local jobs, income, food, products, supplies, and services. By contributing to the local tax base, some businesses may also support community activities, fund scholarships, and help pay for public education. In many areas, agriculture is a way of life that provides food and employment for many people. Some communities are close to neighboring towns, so obtaining goods and services within the region is quite easy. In this way, the sense of “community” is extended; it becomes a combination of different places, and the population benefits from this diversity.

Role of Agricultural Businesses

Agricultural businesses located throughout the nation help support the country's economy. Food, supplies, and other commodities from specific regions are transported throughout the country, benefiting urban and rural areas alike. Various agricultural businesses also help create shelter and provide clothing for the entire country. Thanks to the corn and soybean industries, fuel production is enhanced. Ethanol, derived from corn, is a renewable resource, unlike crude oil. If ethanol is blended with regular gasoline, pollution can be reduced. Additives made from soybeans can improve the performance of diesel fuel. If soybean additives are used, emissions can be significantly reduced.

Agricultural businesses have an important role in the world. Historically, U.S. agricultural businesses have supported developing nations by providing food, supplies, and services. In addition to providing assistance, U.S. consumers benefit from international trade. Goods that are unavailable in this country, such as bananas and coffee, can be obtained internationally. Foreign countries that cannot produce certain items can obtain them from the United States. Worldwide trade stimulates international economic growth. The result is not only increased profit for those involved, but also an increased awareness of other cultures and customs.

Role of Technology in Agricultural Businesses

Since 1950, technology has accounted for more than two-thirds of the increase in worldwide agricultural production. The local farmer has been able to increase production with hybrid seed and the use of artificial insemination. Technology also provides an easy and efficient way for people around the world to find out what an individual is producing and how they can obtain that product.

Plant Production

Technological advancements in plant production occurred through the development of pesticide- and

herbicide-resistant crops. Hybridized seeds are genetically engineered to select the most desirable traits, such as drought resistance. Through the development of genetically modified organisms (GMOs), Monsanto has helped producers increase their yields using biotechnology. Its herbicide, Roundup, is used worldwide to protect and increase crops. Monsanto has also developed genetically altered seeds for plants such as soybeans that can tolerate Roundup. This tolerance to Roundup not only saves the grower money in herbicide expenses, but it also produces abundant, safe crops.

Roundup is considered an "environmentally friendly" herbicide for two reasons: Because it is broken down by the sun, Roundup does not get absorbed into the soil. This means that the groundwater and our drinking supply are protected. In addition, the producer applies Roundup only when weeds emerge; therefore, the amount used is reduced.

Plant production benefits from technologies that use genetic engineering to substantially increase yield and the quality of the crop. By splicing genes, plant scientists are able to develop new plants that are more nutritious, tastier, and have a higher quality. On the emerging frontier of plant science are specialized areas known as pharmaceuticals and nutraceuticals. Pharmaceuticals insert antibodies, medicines, or vaccines into plant-based products. Nutraceuticals deliver vitamins or health supplements through food.

An environmentally friendly means of promoting plant production is using *Bt* (*Bacillus thuringiensis*), which is a soil bacterium. *Bt* is a safe alternative to chemical insecticides and when it is applied to corn, the crop is resistant to diseases and insects.

Production can also be greatly improved by an agricultural management technique called "precision agriculture." The purpose of precision agriculture is to increase productivity through conserving energy,

Introduction to Agricultural Business

protecting the groundwater and soil, and using chemicals efficiently. This goal is accomplished through the use of the GPS (global positioning system).

The GPS is a radio-navigational system that operates from 24 satellites and their ground stations. Producers use the GPS to obtain detailed information about their fields' soil fertility and crop characteristics. As a reference point, the GPS helps producers determine where to apply exact amounts of chemicals, seed, fertilizer, etc., required for production. Production costs are thereby reduced and adverse environmental impacts are minimized.

Animal Production

Thanks to various technological advancements in animal production, animals are reproduced more efficiently and selectively. Artificial insemination allows producers to breed superior animals without having to own or manage them, which saves producers money and time. This technique creates higher-quality animals much more quickly than by natural breeding practices. It enables the producer to market excellent quality livestock for processing.

Embryo transfers also produce genetically superior animals. Fertilized eggs from a highly valued donor are placed in the reproductive tract of less-valuable females. The offspring will have the favorable genetic traits of the donor. Several embryos from a valuable female may be transferred to the less-valued females. This procedure enables producers to raise more high-quality animals than by natural breeding practices.

Another scientific technology that produces superior animals is cloning. This process reproduces a fertilized egg that has the identical genetic components as the donor that is carefully selected for desirable traits. Cloning may also be used to provide valuable medicine for other animal species.

Scientists use genetic engineering to isolate and select desirable genetic components, such as size and sex. It is even possible to produce an animal that is disease resistant through this technology. Some animal

genes have been identified that produce medicine and vaccines for humans and animals.

Computer

A critical technological tool in agricultural business is the computer. Thanks to the Internet, producers can access the latest market prices, which helps them determine when to buy, sell, or invest. Various software programs make record keeping much easier by organizing receipts, expenses, and investments in a logical format. Other programs, such as TurboTax and Quicken, help generate tax returns. A spreadsheet can help producers calculate the ration formulations for their livestock. Through e-commerce, agricultural products can be marketed and distributed worldwide. Producers can communicate with each other instantaneously and exchange information locally, nationally, or globally.

Summary

Agricultural business comprises many types of production and services. It provides producers with supplies and equipment needed for raising and protecting crops and livestock. The majority of employees in agricultural business work in urban areas. Agricultural businesses are generally divided into four types of business structures: sole ownership, partnership, cooperative, and corporation. The different sectors in agricultural business are inputs (services and supplies), production, processing and marketing, and wholesale and retail (sales and customer service). Agricultural business is a vital force to local communities, the nation, and to the world. Technology is a critical component to agricultural business through the use of plant and animal technological processes, the computer, and e-commerce.

Role of Agricultural Businesses

Credits:

“All About GPS.” <<http://www.trimble.com/gps/>> (3-1-01)

Becker, Hank. “Census Shows Where Milkweed Grows.” Agricultural Research Service. <<http://www.ars.usda.gov/is/AR/archive/key.htm>> (3-7-01)

“Biotech Basics - Roundup Ready Soybeans.” <http://www.biotechbasics.com/achieve/roundup_ready_soybeans.html> (1-11-01)

Burton, L. DeVere. *Agriscience & Technology* 2nd ed. Albany, NY: Delmar Publishers, 1997.

“ESOPs in S Corporations.” <http://www.nceo.org/library/s_corp.html> (1-23-01)

Exploring Agriculture (Student Reference). University of Missouri-Columbia, Instructional Materials Laboratory, 2000.

“Farmer Mac.” <<http://www.farmermac.com/plane/frames.htm>> (3-16-01)

Giovannucci, Daniele P., editor. *Agribusiness & Markets Thematic Group. “The Guide to Developing Agricultural Markets & Agro-Enterprises, Introduction.”* <http://wbln0018.worldbank.org/essd/essd.nsf/Agroenterprise/agro_guide> (1-3-01)

Gold, Mary V. “Sustainable Agriculture: Definition and Terms.” National Agricultural Library, Agricultural Research Service. U.S. Department of Agriculture. 1999. <http://www.nal.usda.gov/afsic/AFSIC_pubs/srb9902.htm> (2-28-01)

“History of Archer Daniels Midland Company.” <<http://www.admworld.com/about/>> (1-11-01)

Krebs, Alfred H. *Agriculture in Our Lives* 5th ed. Danville: The Interstate Printers & Publishers, Inc. 1984.

“Mission and Spacecraft Library Program - Global Positioning System (GPS).” <<http://leonardo.jpl.nasa.gov/msl/Programs/gps.html>> (2-28-01)

“Missouri Fact Sheet,” Economic Research Service, USDA, 1997. <<http://www.ers.usda.gov/StateFacts/MO.htm>> (3-15-01)

“Monsanto Company.” <<http://www.hoovers.com/cocapsule/2/0,2163,100932,00.html>> (1-11-01)

“North Star Commodity Investment Company.” <<http://www.north-star-commodity.com/consult.htm>> (3-16-01)

“Pros & Cons of C-Corporations, S-Corps, Ltd Liability Companies, etc.” <<http://www.lectlaw.com/files/buo03.htm>> (1-23-01)

Ricketts, Cliff and Omri Rawlins. *Introduction to Agribusiness*. Albany, NY: Delmar Thomson Learning, 2001.

“USDA Crop Profiles.” <<http://pestdata.ncsu.edu/cropprofiles/cplist.cfm?org=crop>> (3-7-01)

U.S. Department of Agriculture. <<http://www.usda.gov>> (11/3/00)

“U.S. Farm Economics Summary.” <<http://www.usda.gov/nass/pubs/stathigh/2000/economicpages23-51.pdf>> (3-07-01)

