

Unit Two

Importance of Livestock Agriculture to the U.S.

Overview

This unit examines the importance of livestock agriculture to the United States. It describes the contribution that agriculture makes to U.S. society and examines how recent trends in agriculture have increased the vulnerability of livestock agriculture to disasters.

Objectives

Upon completion of this unit, you should be able to:

- List several reasons why agriculture is important to the U.S. food supply.
- List several reasons why agriculture is important to the U.S. economy.
- Describe trends and factors that have increased the vulnerability of livestock agriculture to disasters.

Livestock Agriculture

In the U.S., agriculture plays a huge role in our lives. Agriculture is the principal source of food for Americans. Agriculture is also important to us economically and socially.

The U.S. is the largest food-producing nation in the world. This huge industry allows us to enjoy one of the most abundant food production systems and the safest supply of food in the world.

Agriculture generates approximately \$190 billion in cash receipts a year, of which just over 50 percent are generated from livestock agriculture. Cash receipts from agriculture exports are approximately \$49.1 billion, of which approximately 20 percent are from export of animals and animal products. These exports make the U.S. one of the largest suppliers of food for humanitarian programs in developing countries.

Protecting U.S. livestock agriculture is one of the principal justifications for this course. Emergency managers should know the livestock producers in their jurisdictions, understand their problems, and work with them to plan for mitigating against, responding to, and recovering from disasters. In this unit, you will learn how important livestock agriculture is and what is at stake when it is struck by disasters.

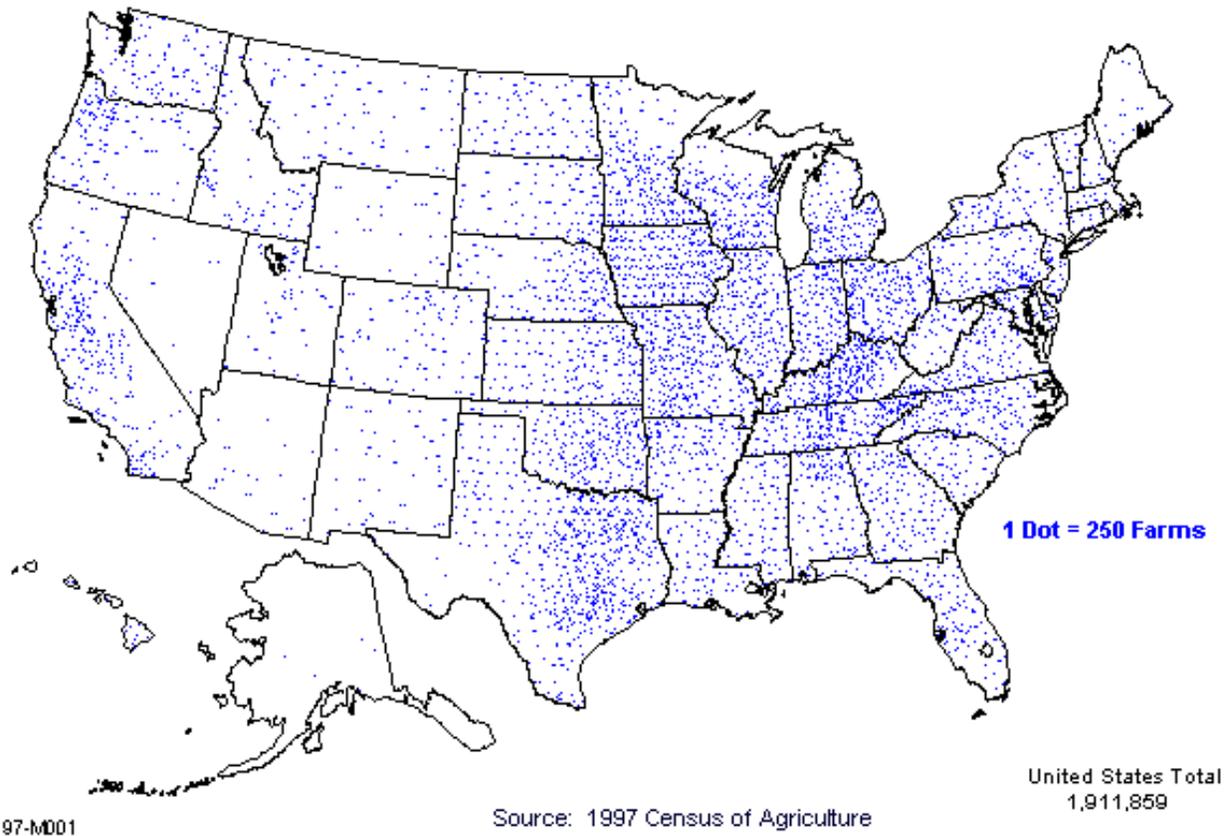
USDA Census

We know so much about U.S. agriculture because the U.S. Department of Agriculture (USDA) has compiled statistics for more than 100 years. Every 5 years, the USDA conducts a national census of agriculture. The data generated from the census allow us to estimate the magnitude of production and to detect and monitor trends in agriculture.

The USDA defines a farm as “any place from which \$1,000 or more of agricultural products were produced, sold, or normally would have been sold” during the year the census was conducted. Properties that meet this definition are statistically sampled as part of the USDA national census every 5 years. The last census was conducted in 1997; the next will be in 2002.

In 1997, there were almost 2 million farms in the U.S. The figure below illustrates the distribution of farms across the country.

Number of Farms: 1997



Food Consumption in the U.S.

Animal source foods are an integral part of most Americans' diets. The average American consumes more than 3,800 calories a day. The average American diet contains lots of meat and dairy products. Red meat, poultry, and fish consumption is at a record high. Americans eat over 3.5 times as much cheese today as they did in the 1950s.

The table below lists the average per capita consumption of some major foods.

U.S. Per Capita Consumption of Major Food Commodities

Food	Pounds Consumed in a Year
Dairy products (milk-equivalent, milk fat basis); including	597.9
♦ Beverage milks	203.8
♦ Cheese (excluding cottage cheese)	29.8
♦ Ice cream	16.8
Flour and cereal products	201.9
Caloric sweeteners (e.g., sugar and high fructose corn syrup)	158.4
Beef	65.8
Chicken	54.2
Pork	50.5
Fish and shellfish	15.2
Turkey	14.1
Lamb and mutton	0.9
Veal	0.6
Eggs (approx. number)	32.8 (240)

Source: (Agriculture Outlook 2001)

Part of the reason the consumption of dairy products is so high in American diets is because dairy products are present in approximately 80 percent of all processed food products.

On the whole and in moderation, food of animal origin is healthy. On average, foods of animal origin provide Americans with 99.4 percent of their daily Vitamin B-12, 76.8 percent of calcium, 61.5 percent of protein, 59.5 percent of phosphorus, and up to 50 percent of fat. Animal source foods provide significant amounts of many other macro and micro minerals and vitamins.

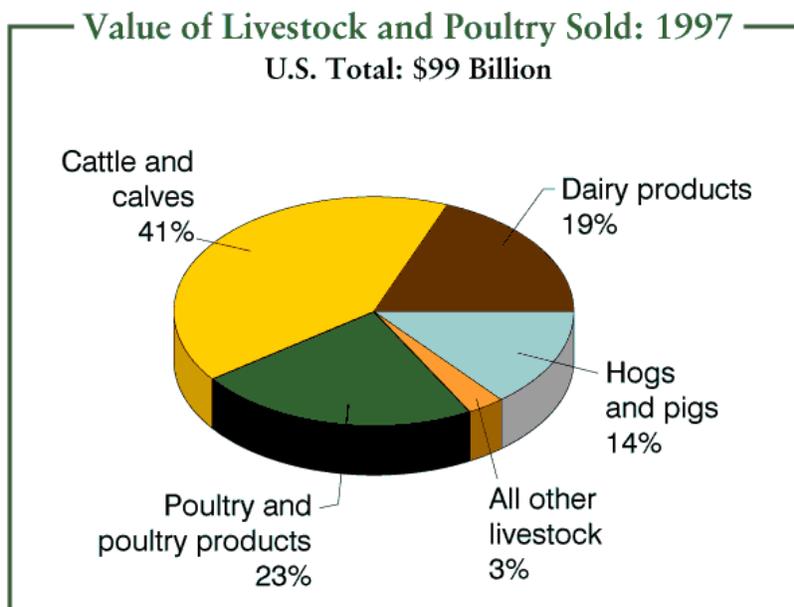
Economic Value of Agriculture

Agriculture is the largest economic sector in the U.S.

The net value added to the U.S. economy from food and fiber in 2001 was \$965.7 billion. The farm sector contributed \$73.1 billion, or approximately 15.6 percent, of the U.S. Gross Domestic Product (GDP).

Economic value of livestock

In 1997, the value of livestock and poultry sold was approximately \$99 billion. The figure below shows the distribution of the value of livestock and poultry sold.



Trends in agriculture

Livestock agriculture has undergone considerable changes since the end of World War II. These changes have occurred because of the use of new technologies, mechanization, increased chemical use, and government policies that favored maximizing production.

The increased use of machines and government price supports during the past century encouraged farm operators to increase the size of their farms and gain efficiencies.

As a result of these changes, food and fiber productivity in the U.S. has soared. However, because of greatly improved efficiency in production, fewer people work on farms now than 100 years ago. While almost 40 percent of the country's population lived and worked on farms at the beginning of the 20th century, today only 1.8 percent live on farms.

Changes in Agriculture During the Last Century

	Beginning of the 20 th Century (1900)	End of the 20 th Century (1997)
Number of farms	5,739,657	1,911,859
Average farm acreage	147 acres	487 acres
Percent Population living on farms	39.2%	1.8% (1990)
Percent Labor Force on Farms	38.8%	1.7% (1990)
Crops (% of farms growing)		
Corn	82%	23%
Hay	62%	46%
Vegetables	61%	3%
Irish Potatoes	49%	1%
Orchards	48%	6%
Oats	37%	5%
Soybeans	0%	19%
Livestock		
Cattle	85%	55%
Milk cows	79%	6%
Hogs and pigs	76%	6%
Chickens	97%	5%
Farm Mechanization		
Wheel tractor	4%	89%
Horses	79%	20%
Mules	26%	2%

Source: (USDA's National Agricultural Statistics Service)

Trends in U.S. livestock agriculture

Similar trends in intensification occurred in the livestock industry. Today, a great proportion of livestock is raised on fewer and larger farms than ever before. For example, currently, more than 50 percent of the hogs in the U.S. are raised on farms with more than 5,000 hogs.

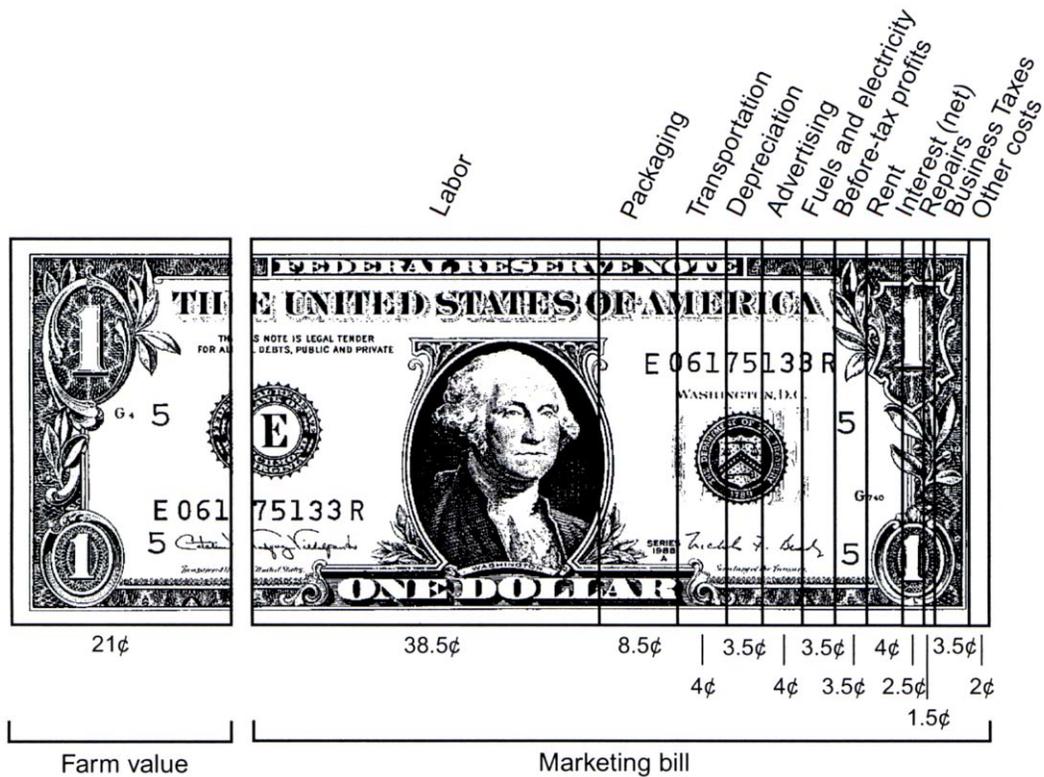
The dairy industry has also intensified. This is reflected in the trend that fewer cows produce more milk than ever before. Between 1991 and 2000, the number of milk cows decreased, on average, 6 percent per year; milk production increased, on average, 14 percent per year.

While intensification has increased productivity, it has also increased the vulnerability of livestock farms to disasters. This vulnerability is a result of having more animals in a smaller space. Under these conditions, even localized disasters can have very large impacts on livestock agriculture.

The increased vulnerability that arises from intensification became evident during Hurricane Floyd that swept across part of North Carolina in 1999. As a result of floods approximately 28,000 hogs, 2.1 million chickens, and 800,000 turkeys drowned.

The allied industries

Many people think of agriculture as the farmers and producers who produce the crops or raise livestock. However, there are many more persons involved in agriculture than farmers. These groups make up the allied industries. On average, for every dollar we spend on food in the U.S., only \$0.20 pays the farmer; the remaining \$0.80 pays for value-added processes such as labor, packaging, transportation, and advertising.



Who bears the cost in disasters affecting agriculture?

It should not be surprising that when a farm is struck by disaster, the impact is much greater than the losses to farmers and producers alone. Based on the distribution of the expenditure on food, it is estimated that for every dollar lost in disasters by a farmer, the allied industries lose an additional four dollars, on average.

Therefore, when disaster strikes agriculture, we all bear the cost. We pay these higher costs through payments to farmers for losses suffered in disasters as well as through increased costs of food. Throughout this course, you will learn how farmers can act to minimize these costs.



Learning Check

Directions: Determine if the following statements are true or false based on the material presented in the unit. When you have finished, check your answers on page 2-12.

1. The U.S. enjoys one of the safest food supplies in the world.

True or False?

2. U.S. agriculture generates over \$190 billion in cash receipts a year.

True or False?

3. In the 1990s, Americans ate 3.5 times less cheese than they did in the 1950s.

True or False?

4. Approximately 80 percent of processed foods contain dairy products.

True or False?

5. Foods of animal origin are the least common source of Vitamin B-12 in the average American diet.

True or False?

6. A farm generates less than \$1,000.00 a year in revenues.

True or False?



Learning Check

7. There are approximately 4 million farms in the U.S.
True or False?

8. The farm sector contributes approximately 15 percent of the Gross Domestic Product to the U.S.
True or False?

9. The value of livestock and livestock products sold in the U.S. each year is approximately \$99 billion.
True or False?

10. U.S. agricultural productivity has decreased in the last century.
True or False?

11. Today less than 2 percent of U.S. families live on farms.
True or False?

12. Intensification means that the U.S. has fewer but larger farms than in years past.
True or False?



Learning Check

13. Intensification of U.S. pork production has manifested itself as fewer, larger units.

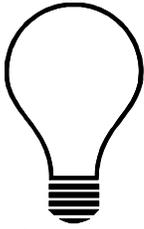
True or False?

14. Intensification of U.S. dairy production has manifested itself as greater productivity of individual cows.

True or False?

15. For every dollar Americans pay for their food, on average, approximately \$0.80 is paid to farmers.

True or False?



Answers

For every question that you answered incorrectly, review the page listed next to the answer to find out why your answer was incorrect.

1. True.....2-1
2. True.....2-1
3. False.....2-3
4. True.....2-4
5. False.....2-4
6. False.....2-2
7. False.....2-2
8. True.....2-5
9. True.....2-5
10. False.....2-5
11. True.....2-6
12. True.....2-7
13. True.....2-7
14. True.....2-7
15. False.....2-7

Summary

In this unit, you learned about the contribution that agriculture makes to U.S. society, and how recent trends in agriculture have increased the vulnerability of livestock agriculture to disasters.

In the next unit, we will examine in more detail how disasters affect livestock agriculture.