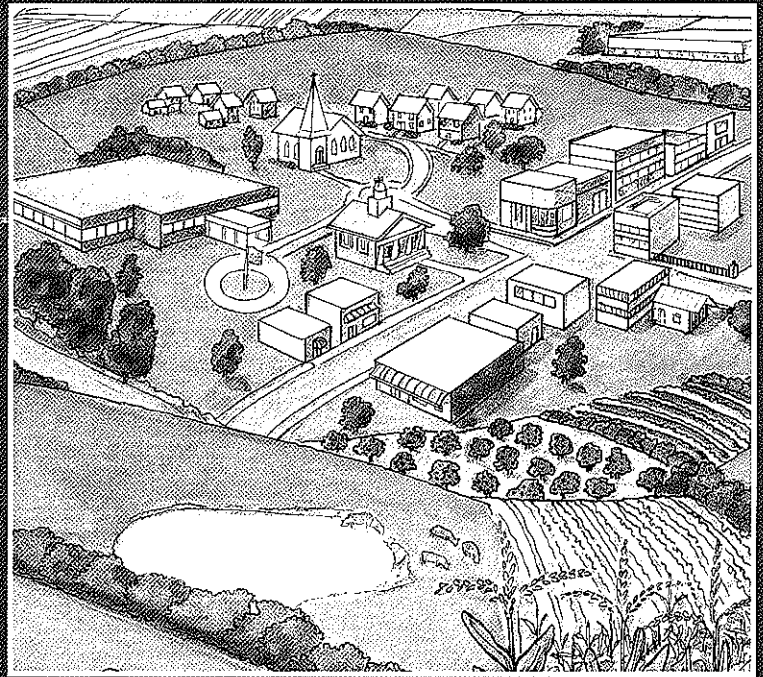
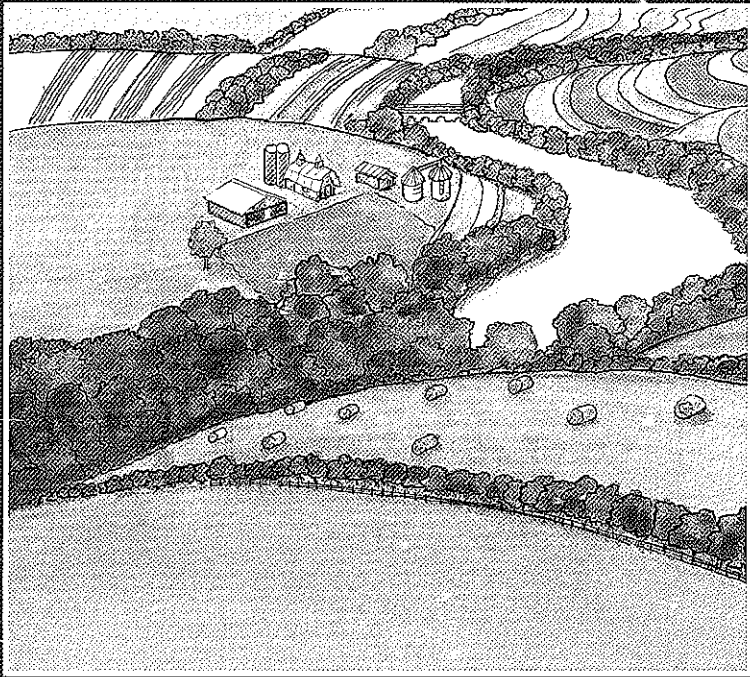


— FOOD & FARM —

FACTS

FARM BUREAU®



Farm Bureau Is ...

With more than 6.2 million member families, our organization represents a diverse range of agricultural producers and supporters from all 50 states and Puerto Rico. Our grassroots structure ensures that active farmers and ranchers are the people who determine the goals of Farm Bureau at the county, state and national levels. People have the right and the responsibility to speak for themselves. Active, involved Farm Bureau volunteers recognize the necessity and accept the obligation to stand up and speak out for agriculture. They are the foundation of our organization.

FOOD & FARM FACTS is produced by the AMERICAN FARM BUREAU FEDERATION® PUBLIC RELATIONS DEPARTMENT
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more online at: <http://foodandfarmfacts.fb.org/> or <http://www.ageducate.org/>



Why Does Agriculture Matter?

Agriculture is one of many words used so often in varied contexts that reflecting on its true definition from time to time can be rewarding:

Agriculture (noun) – The art or science of cultivating the ground, including the harvesting of crops, and the raising and management of livestock.

To put it another way, America's farm and ranch families harvesting crops and managing livestock is what puts food on the table for our citizens and for many other people around the world. We are fortunate to be able to enjoy an abundant supply that is among the safest in the world.

America's farmers and ranchers provide food security for this nation and much of the rest of the world. They're also the world's most productive. Today, each one of our farmers produces food and fiber for 155 people in the United States and abroad.

But agriculture is much more than food – America's farmers and ranchers also produce fiber, fuel and shelter.

As stewards of the land, farmers and ranchers remain committed to protecting the environment through the use of modern conservation and tillage practices. This has resulted in a great reduction in the loss of soil through erosion, while increasing protection for our nation's waterways. America's farmers and ranchers effectively utilize many other new technologies. State-of-the-art tractors and combines, global positioning satellite systems and the most current computer systems are commonplace on many of today's farms and ranches.

In addition to their commitment to the land, many farmers and ranchers also raise livestock including beef and dairy cattle, sheep, goats, horses, hogs, poultry and even fish. Providing appropriate care to farm animals is a responsibility our folks take seriously and deliver on every day.

Rural Americans continue to rise to the challenge of adapting to fundamental changes in their lives. But one thing still holds true. Families remain fundamental to American agriculture. And with 98 percent of our farms and ranches family-owned, it's not surprising that traditional American values continue to flourish.

I encourage you to remember that agriculture reaches far beyond the farm and is important to everyone. Agriculture includes farmers as well as the many urban and suburban residents who process, package and transport our food to America's consumers.

"Food & Farm Facts" provides you with the opportunity to learn more about the art, science and business of farming. I hope that it will help you better understand and appreciate the vital role farmers and ranchers play in our lives on a daily basis. "Food & Farm Facts" is also a tribute to America's farm and ranch families — the most efficient food and fiber producers in the world.

It should help put into perspective how blessed we are to be Americans.



Bob Stallman
President, American Farm Bureau Federation

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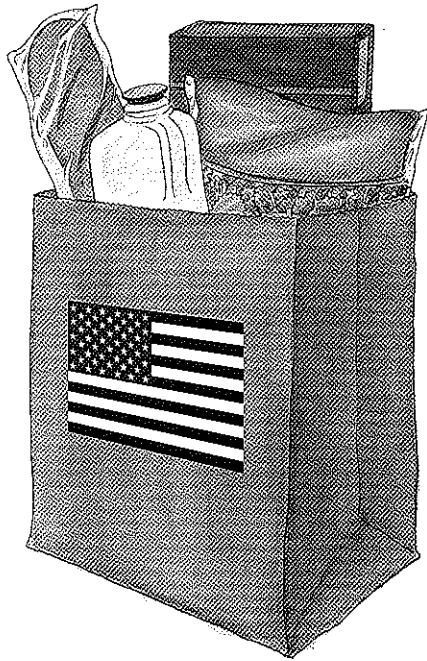
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How Can Consumers Stretch Their Grocery Dollars?

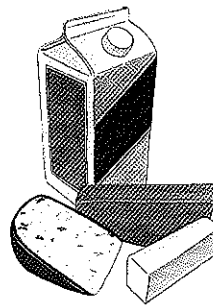
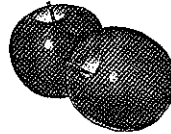
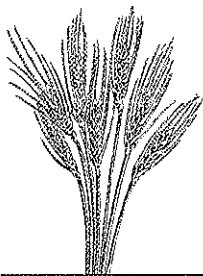


Shopping for food is typically a major determinant of both your family's expenses and health. Consider these tips to stretch your grocery dollars and eat more healthfully:

- Know your food budget and shop with a list
- Plan nutritious meals and snacks to prepare at home
- Use Nutrition Facts labels to make smart food choices
- Use MyPyramid.gov as a guide for what to eat and how much



For a 2,000-calorie adult diet, the Department of Agriculture's Center for Nutrition Policy and Promotion recommends the following each day:



GRAINS

Make half your grains whole.
6 ounces

VEGETABLES

Vary your veggies.
2.5 cups

FRUITS

Focus on fruits.
2 cups

MILK

Get your calcium-rich foods
3 cups

MEAT & BEANS

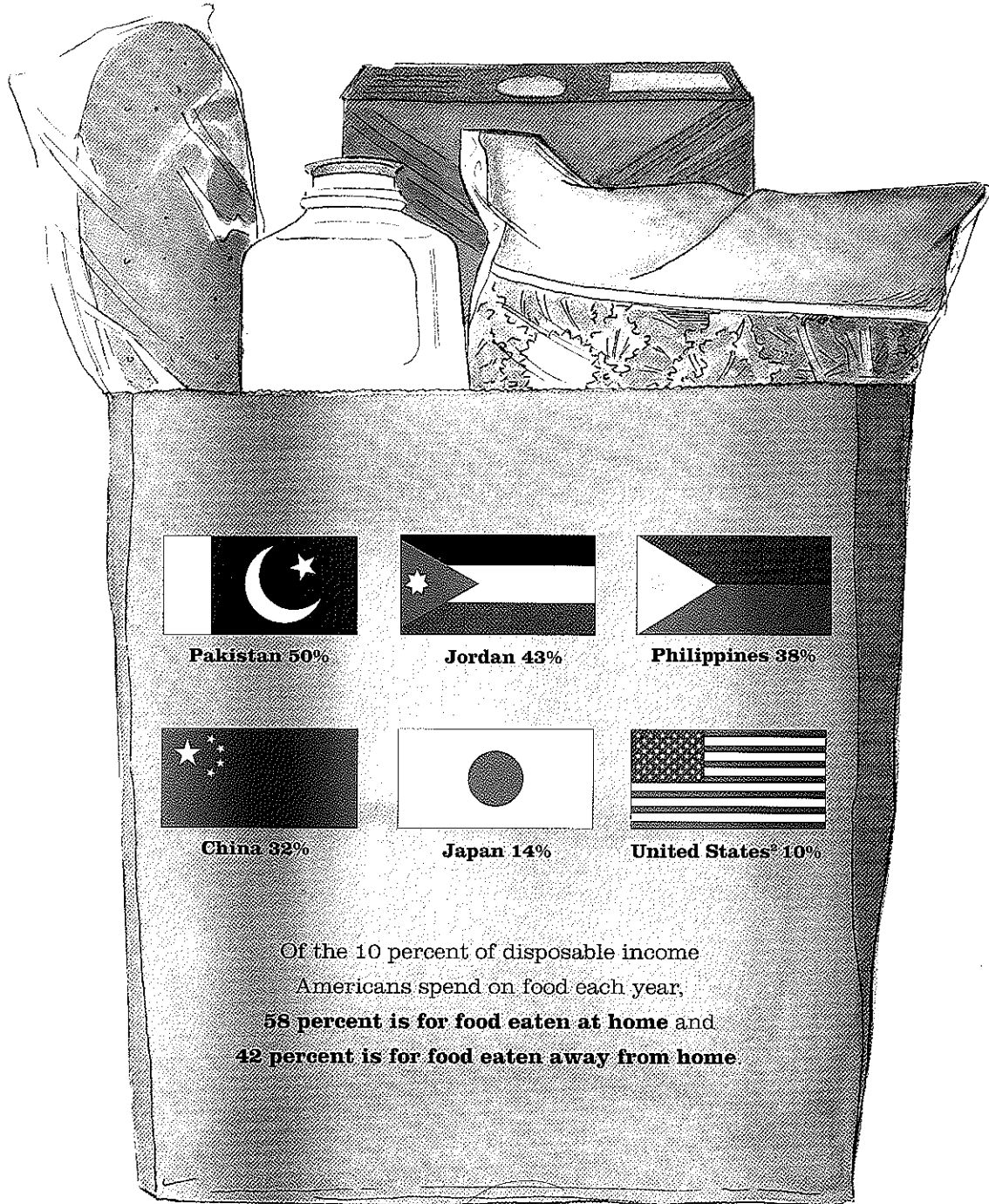
Go lean with protein.
5.5 ounces

Many county and state Farm Bureaus across the U.S. help consumers learn how to stretch their grocery dollars with healthy, nutritious food during **Food Check-Out Week**, held the third full week of February.

Who Pays the Least for Food?

U.S. consumers spend just **10 percent** of their disposable income on food each year, while those in other countries spend much more.¹

— Consumers —



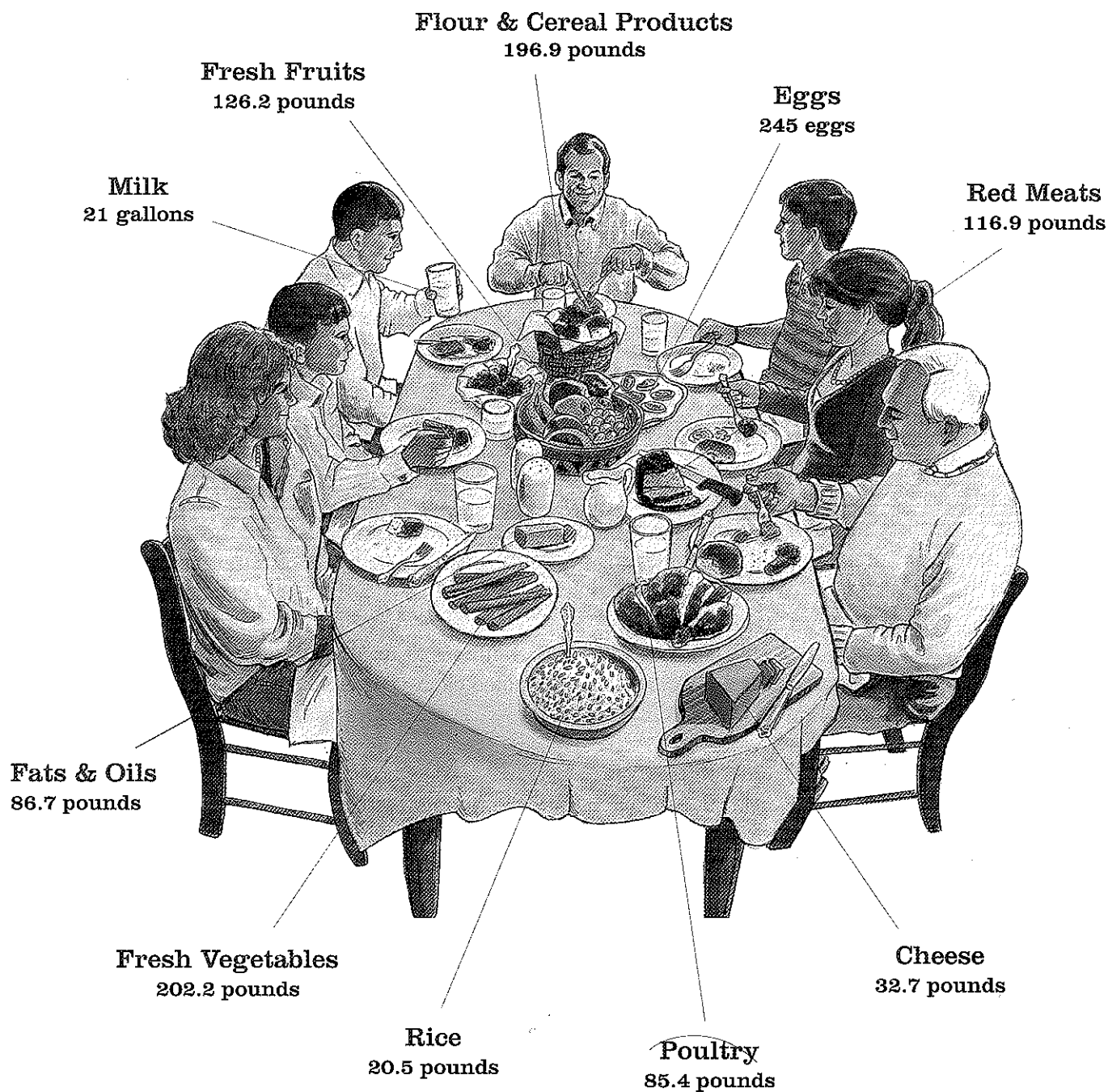
¹ 5-Year Average (2003-2007)

² U.S. figure is for food consumed at home and away from home. Figures for all other countries are for food consumed at home. As food consumed at home is less expensive, the gap between these countries and the U.S. would be even greater if food consumed away from home was added.

American Farm Bureau Federation® Graphic • Source: USDA – ERS

What's on America's Dinner Table?

— Consumers —



(annual per capita consumption of major foods)

American Farm Bureau Federation® Graphic • Source: ERS Food Consumption Database, February 2009

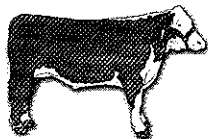
How do Farmers and Ranchers Care for Animals?

America's farmers and ranchers care deeply about the health and well-being of their animals. They care because their job is to provide healthy food for consumers, including their own families.

Farmers and ranchers take steps to ensure that their animals receive the best possible care – seven days a week, 52 weeks a year. This includes food, water and shelter, in addition to protection from disease, injury and predators.

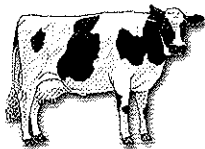
Animal Care Quick Facts

Beef Cattle



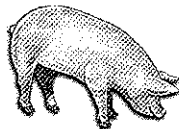
Supplemental nourishment such as hay or grain is available in winter and during droughts when cattle on pasture would otherwise not have enough food. Through participation in Beef Quality Assurance programs, beef producers demonstrate concern for animal well-being and a commitment to food safety and quality.

Dairy Cattle



Cows are checked for health and wellness at least twice a day during milking. More than 3.5 million tests conducted each year ensure milk supplies are wholesome and safe.

Hogs



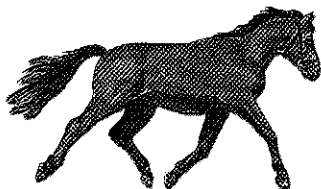
Each sow (mother pig) is monitored during birth to ensure her safety and that of the piglets. More than 10,000 U.S. pork producers adhere to Pork Quality Assurance Plus practices for improved animal and herd health management.

Poultry



Indoor facilities are cleaned between flocks and throughout the year. Producers who together care for more than 200 million egg-laying hens participate in the United Egg Producers Certified program. This assures eggs originate from farms that follow responsible, science-based production methods.

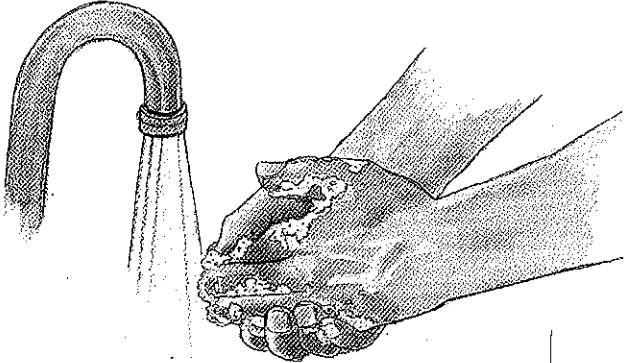
Horses



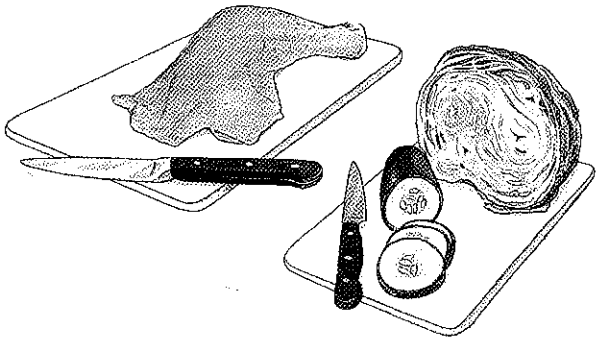
Veterinary specialists routinely check horses' mouths for healthy gums and teeth, sometimes doing extractions and dental surgery. It costs about \$2,300 annually to feed and shelter one horse (not including routine veterinary services or hoof care). Horses on ranches are often used for herding, which reduces stress on cattle.

What About Food Safety?

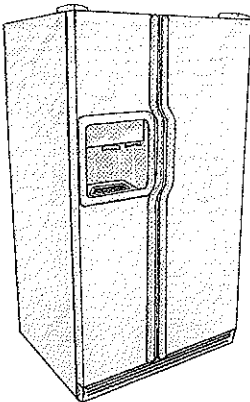
America's food supply is among the safest in the world. However, sometimes the food we eat can make us sick. Under the right conditions, an invisible enemy – bacteria – may be present on foods when they are purchased. Millions of bacteria can also get into food during preparation, cooking, serving or storage. Most cases of food-related illness can be prevented by following these simple steps when preparing food at home:



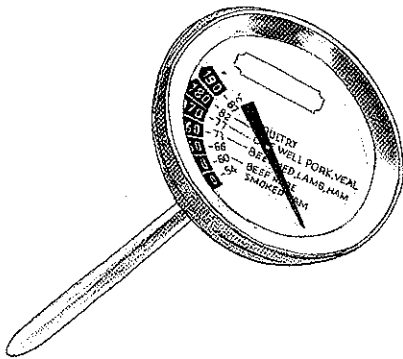
Clean
Wash hands often in hot, soapy water. Clean and disinfect kitchen surfaces before, during and after handling, cooking and serving food.



Separate
Keep raw meat, poultry, eggs, seafood and their juices away from ready-to-eat foods. Never place cooked food on a plate that previously held raw meat, poultry, eggs or seafood.



Chill
Refrigerate or freeze perishables, prepared food and leftovers within two hours. Make sure the refrigerator is set no higher than 40°F; the freezer should be set at 0°F.



Cook
Cook food to the proper internal temperature (this varies for different cuts and types of meat and poultry) and check for doneness with a food thermometer. Cook eggs until both the yolk and white are firm.

American Farm Bureau Federation* Graphic • Source: Partnership for Food Safety Education

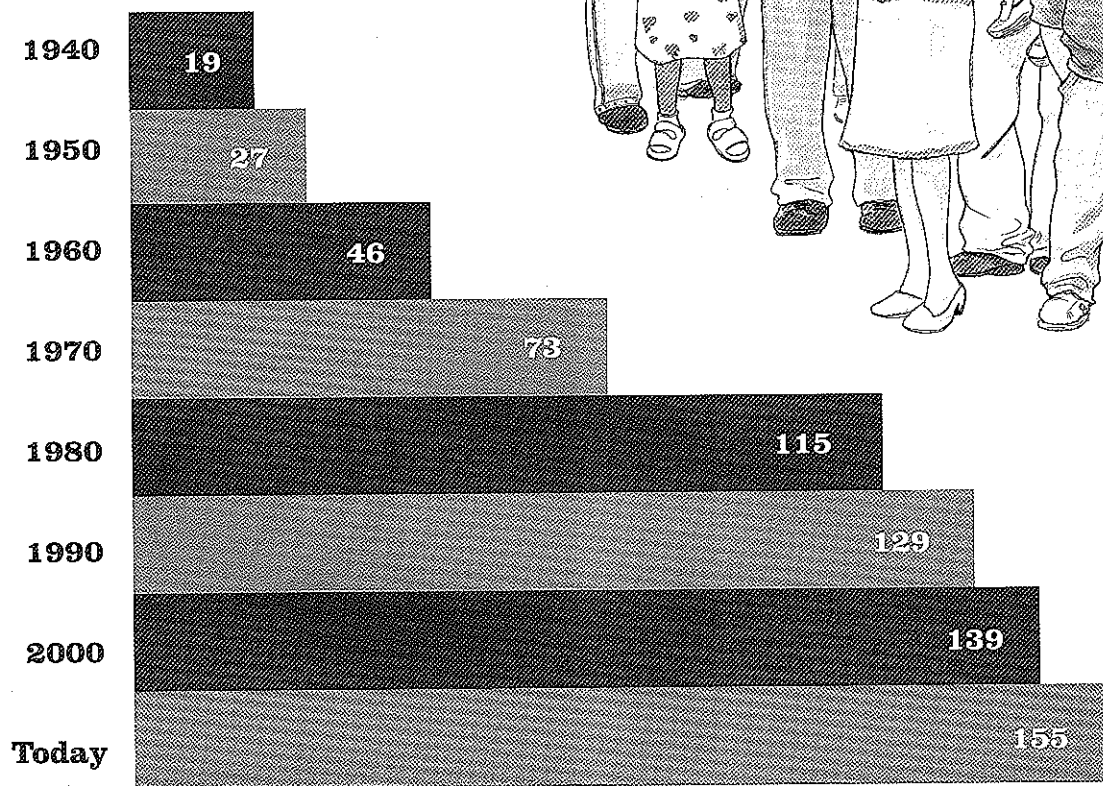
How Many People Does One Farmer Feed?

America's farmers are the world's most productive. Today, each U.S. farmer produces food and fiber for **155 people** in the United States and abroad.

— Today's Farmer —



Number of People Fed Annually By One Farmer



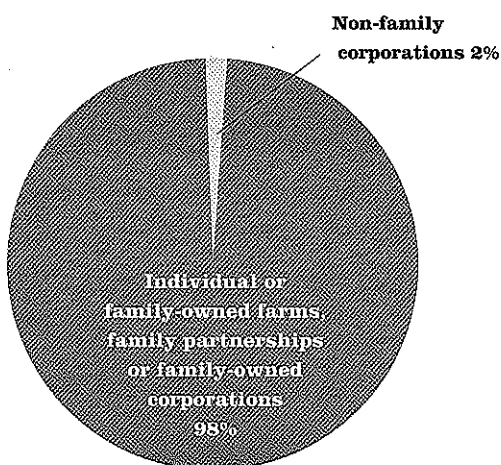
American Farm Bureau Federation® Graphic • Source: AFBF

Do We Still Have Family Farms?

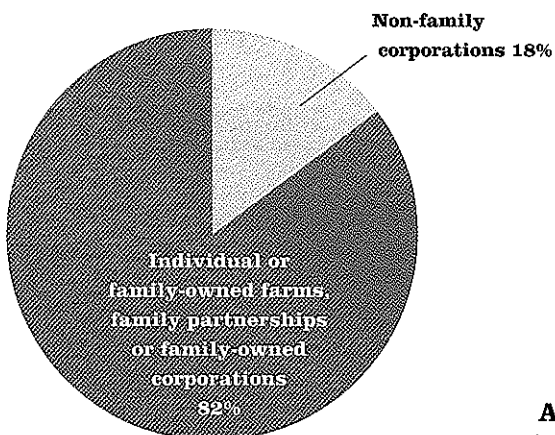
Most American farms are still family farms! Today, **98 percent** of all U.S. farms are owned by individuals, family partnerships or family corporations. Just **2 percent** of America's farms and ranches are owned by non-family corporations.

In addition, **82 percent** of U.S. ag products sold are produced on farms owned by individuals, family partnerships and family corporations. Non-family corporations account for only **18 percent** of U.S. ag product sales.

FARM OWNERSHIP



FARM PRODUCTION

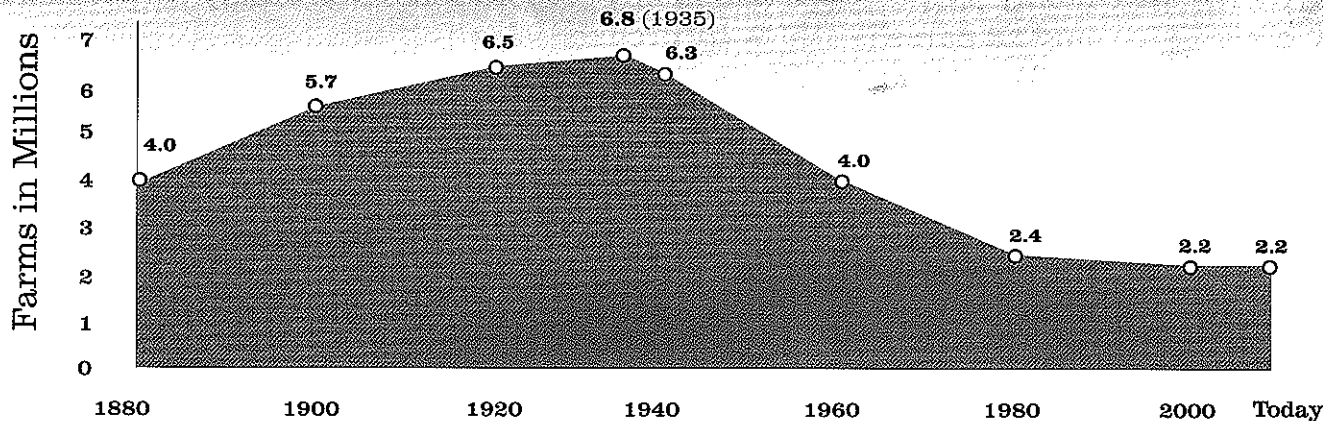
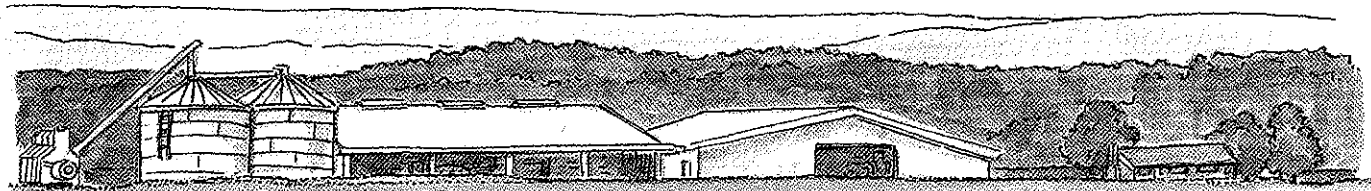


American farmers are business people, community leaders, environmentalists, animal caretakers, and family men and women.

American Farm Bureau Federation® Graphic • Source: USDA – ERS; ARMS Survey, 2007

How Many Farms and Farmers?

— Today's Farmer —



Farms

- In 1935, the number of farms in the United States peaked at 6.8 million. Today, there are 2.2 million farms dotting America's rural landscape. Texas had the most farms (247,500) in 2008, followed by Missouri (108,000), Iowa (92,600), Oklahoma (86,600) and Kentucky (85,300).
- Total land in farms was estimated at 919.9 million acres in 2008, compared to 1.04 billion acres in 1980. Since 1987, the average size of U.S. farms has hovered around 455 acres.
- A total of 373,500 farms had sales of \$100,000 or more in 2008. Those operations accounted for only 17 percent of all farms, but 89 percent of total sales.
- Agriculture and related industries (producing, processing, selling and trading the nation's food and fiber) employ more than 21 million Americans – 15 percent of the total U.S. workforce.

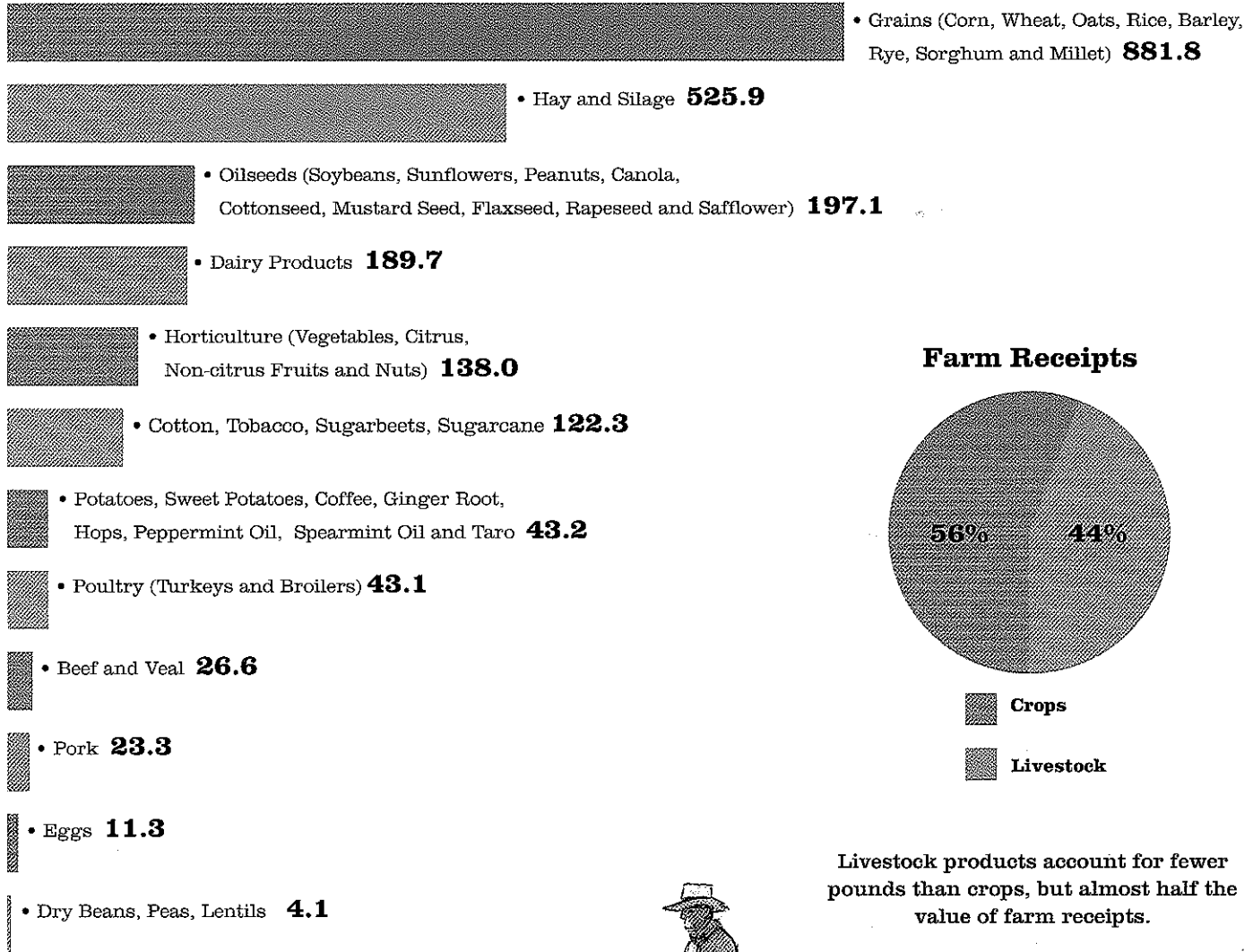
Farmers

- The Agriculture Department defines a farm operator as a person who operates a farm, either doing the work or making day-to-day decisions about such things as planting, harvesting, feeding and marketing. The operator may be the owner, a member of the owner's household, a hired manager, a tenant, a renter or a sharecropper.
- There are 3,337,450 farm operators. The average farmer is 57 years old.
- There were 306,209 women farmers in 2007, a 29 percent increase from 2002.
- There were 55,570 farmers of Spanish, Hispanic or Latino origin in 2007, a 10 percent increase from 2002.
- There were 30,599 African American farmers in 2007, a 5 percent increase from 2002.

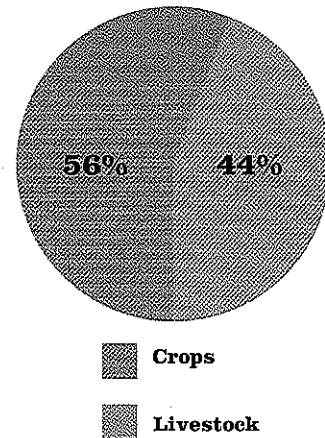
American Farm Bureau Federation® Graphic • Sources: Census of Agriculture (2007); ERS – ARMS Survey; USDA – NASS

What is Produced on America's Farms?

Total Annual Production: 2,207,504,580,000 pounds



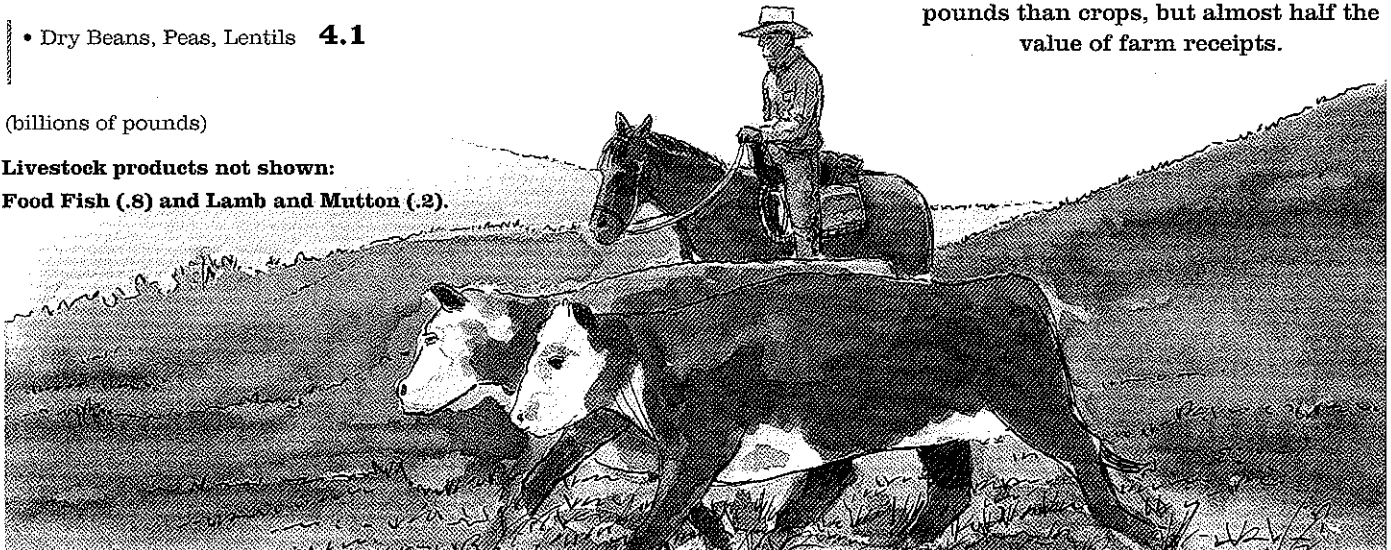
Farm Receipts



Livestock products account for fewer pounds than crops, but almost half the value of farm receipts.

(billions of pounds)

Livestock products not shown:
Food Fish (.8) and Lamb and Mutton (.2)

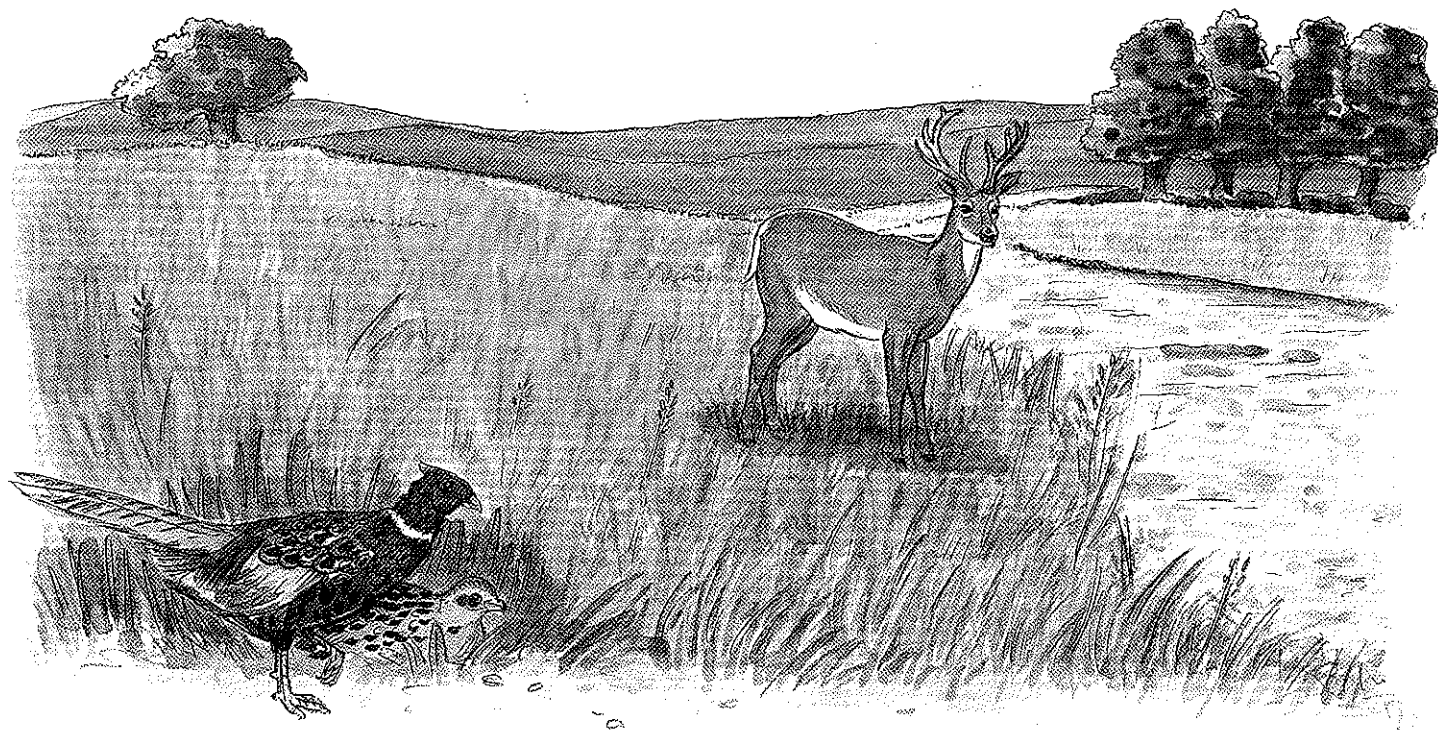


— Today's Farmer —

American Farm Bureau Federation® Graphic • Sources: USDA – ERS; USDA – NASS; WAOB

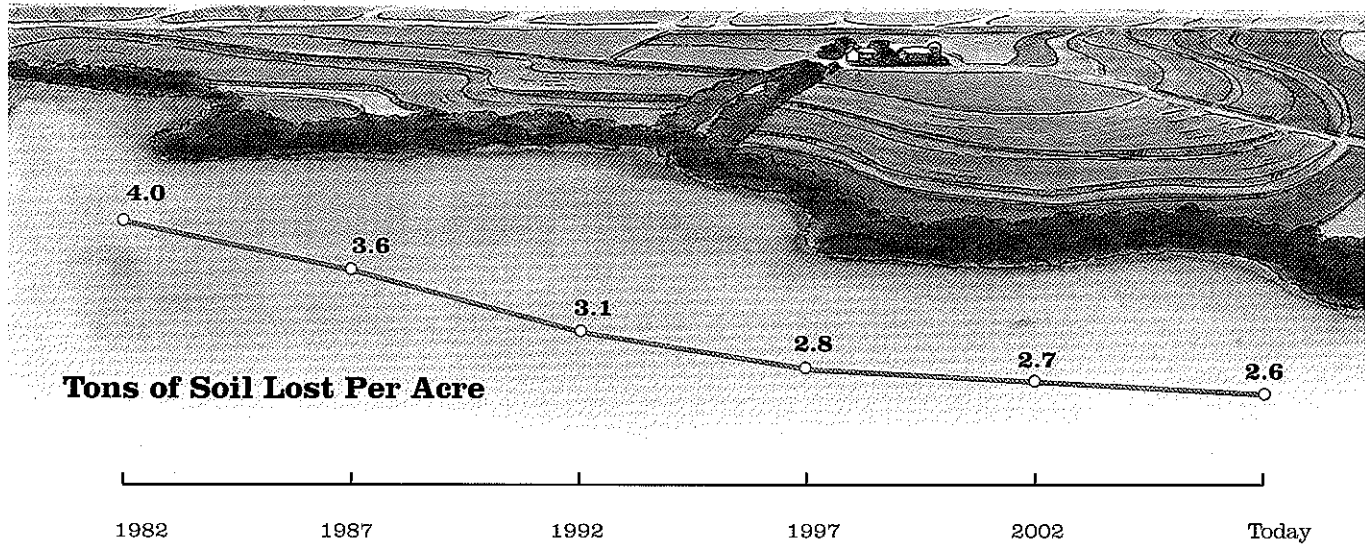
How Do Farmers Protect the Environment?

- Through the farm bill, funding is provided to farmers and ranchers for conservation, for programs that prevent soil erosion, preserve and restore wetlands, clean the air and water, and enhance wildlife.
- Farmers, ranchers and other landowners have installed **1.54 million miles** of conservation buffers under a USDA initiative. Agricultural producers who install buffers improve soil, air and water quality; enhance wildlife habitat; and create scenic landscapes.
- As of January 2009 farmers enrolled **33.6 million acres** of their land in the Conservation Reserve Program to protect the environment and provide habitat for wildlife.
- Each year, **hundreds of thousands** of trees are planted on farmland. Since CRP began in 1986, a total of **4.55 million acres** have been planted with trees as part of the program.
- Farmers and ranchers produced a net increase of **263,000 acres** of wetlands from 1997 to 2003 – a net gain of **44,000 acres** per year.
- **More than half** of America's agricultural producers intentionally provide habitat for wildlife. Deer, moose, fowl and other species have shown significant population increases for decades.



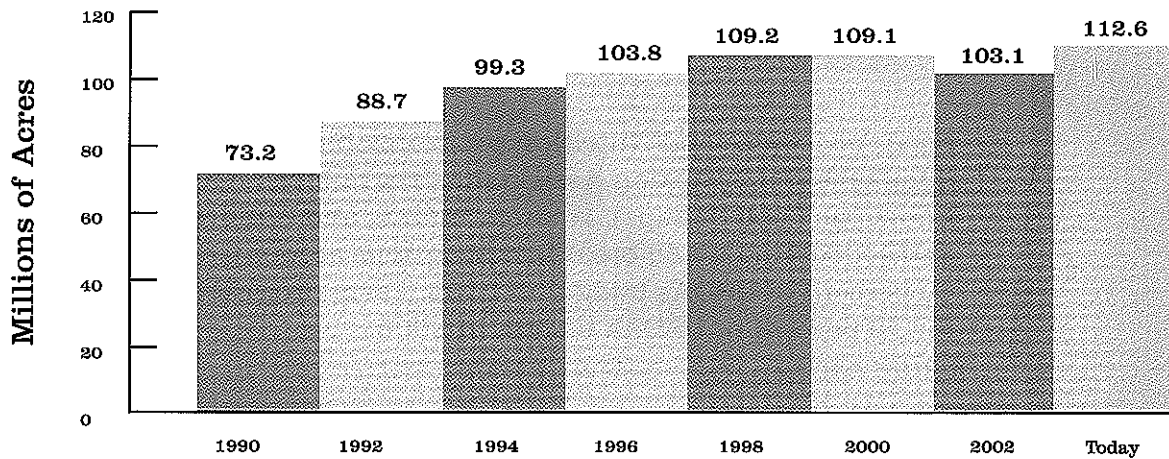
American Farm Bureau Federation® Graphic • Sources: AFBF; USDA – NRCS

Are Farmers Reducing Erosion on Cropland?



The erosion rate by water on U.S. croplands has been reduced by more than 40 percent since 1982.

Conservation Tillage



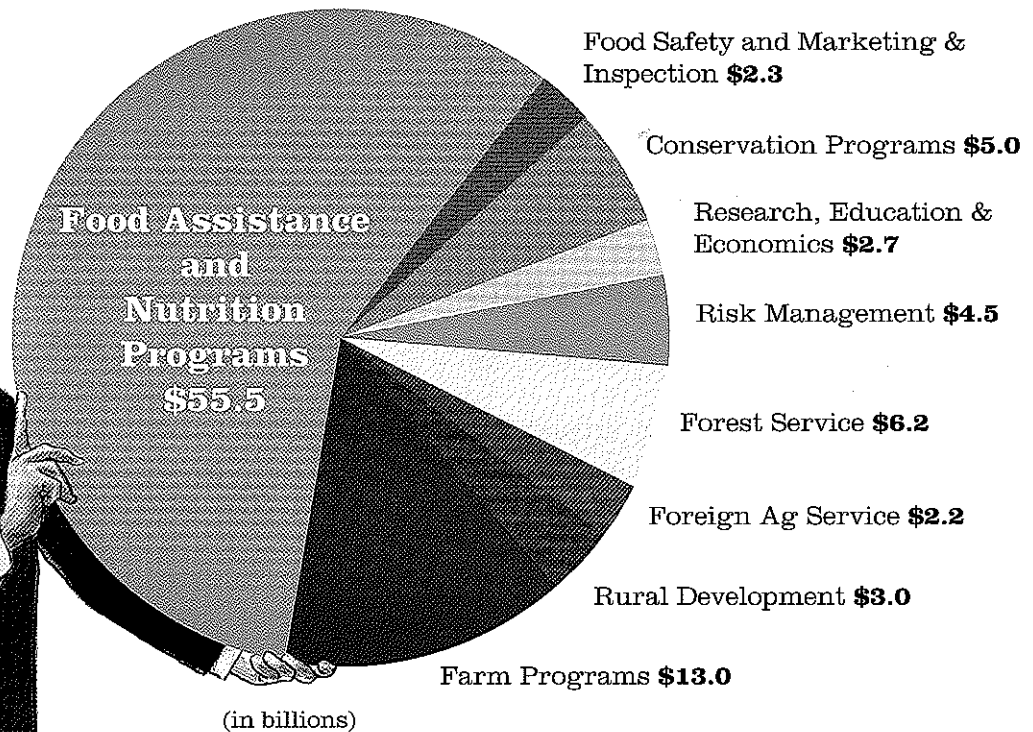
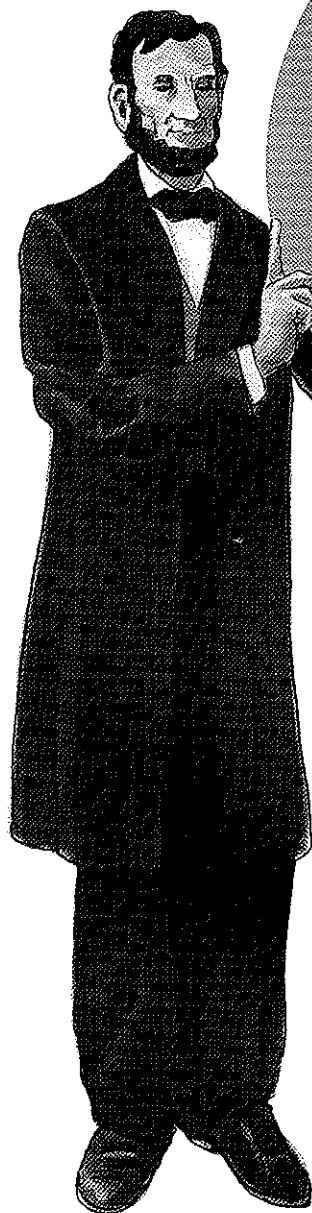
Conservation tillage is any one of several farming methods that reduces erosion (soil loss) on cropland and uses less energy while maintaining yields and quality. It also improves water quality. This method of producing crops provides for seed germination, plant growth and weed control, while maintaining effective ground cover throughout the year and disturbing the soil as little as possible. For about the past decade, some form of conservation tillage has been used on **112.6 million acres** of the total U.S. acres farmed (277 million acres in 2004).

American Farm Bureau Federation® Graphic • Sources: Conservation Technology Information Center; USDA – NRCS

What is USDA's Budget?

In 2008: \$94.8 Billion

— Economics —



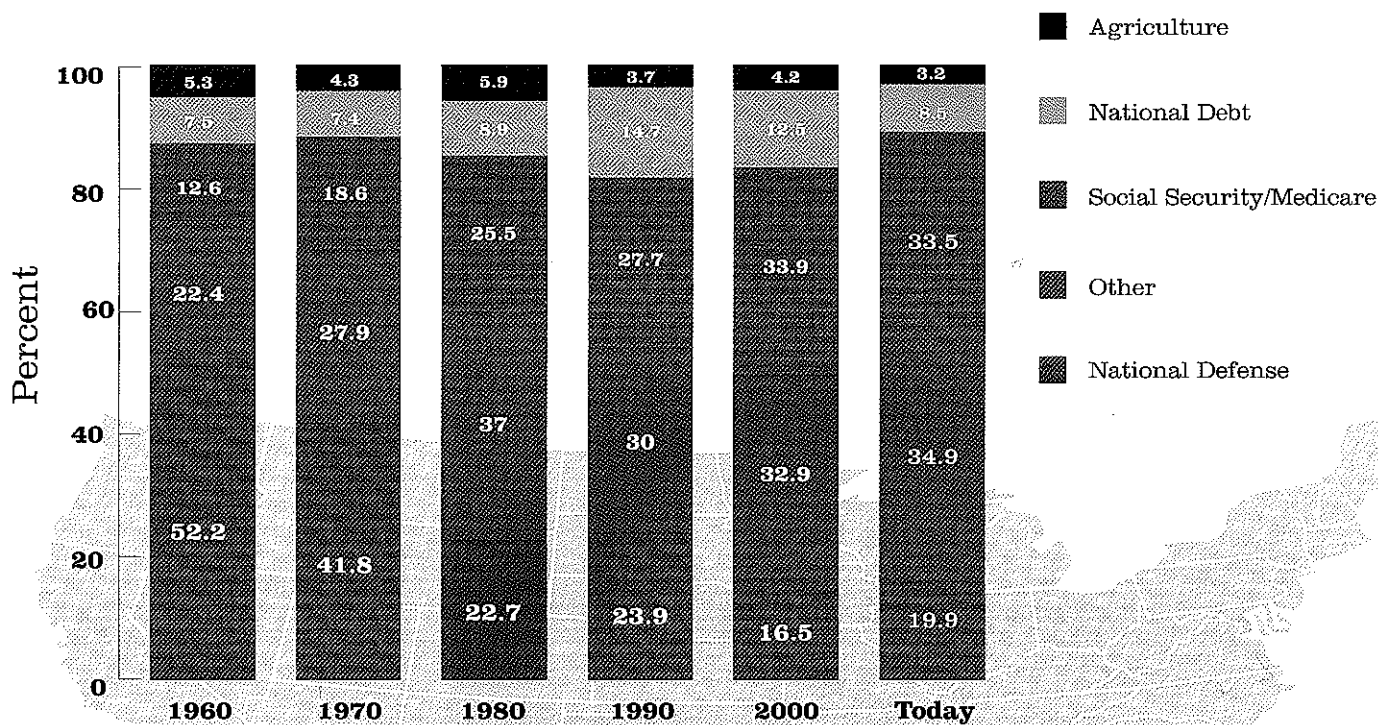
Food Assistance and Nutrition programs including the Supplemental Nutrition Assistance Program or SNAP (formerly known as Food Stamps), Women, Infants and Children or WIC, and school lunch and breakfast programs accounted for nearly 60 percent of USDA's budget in 2008. Farm programs accounted for 13 percent of USDA's budget in 2008.

Did You Know?

President Abraham Lincoln established the U.S. Department of Agriculture in 1862.

American Farm Bureau Federation® Graphic • Source: USDA 2009 Budget

What is Ag's Share of Federal Spending?



1960: Total Federal Budget = **\$92 billion**

1970: Total Federal Budget = **\$196 billion**

1980: Total Federal Budget = **\$591 billion**

1990: Total Federal Budget = **\$1,253 billion**

2000: Total Federal Budget = **\$1,789 billion**

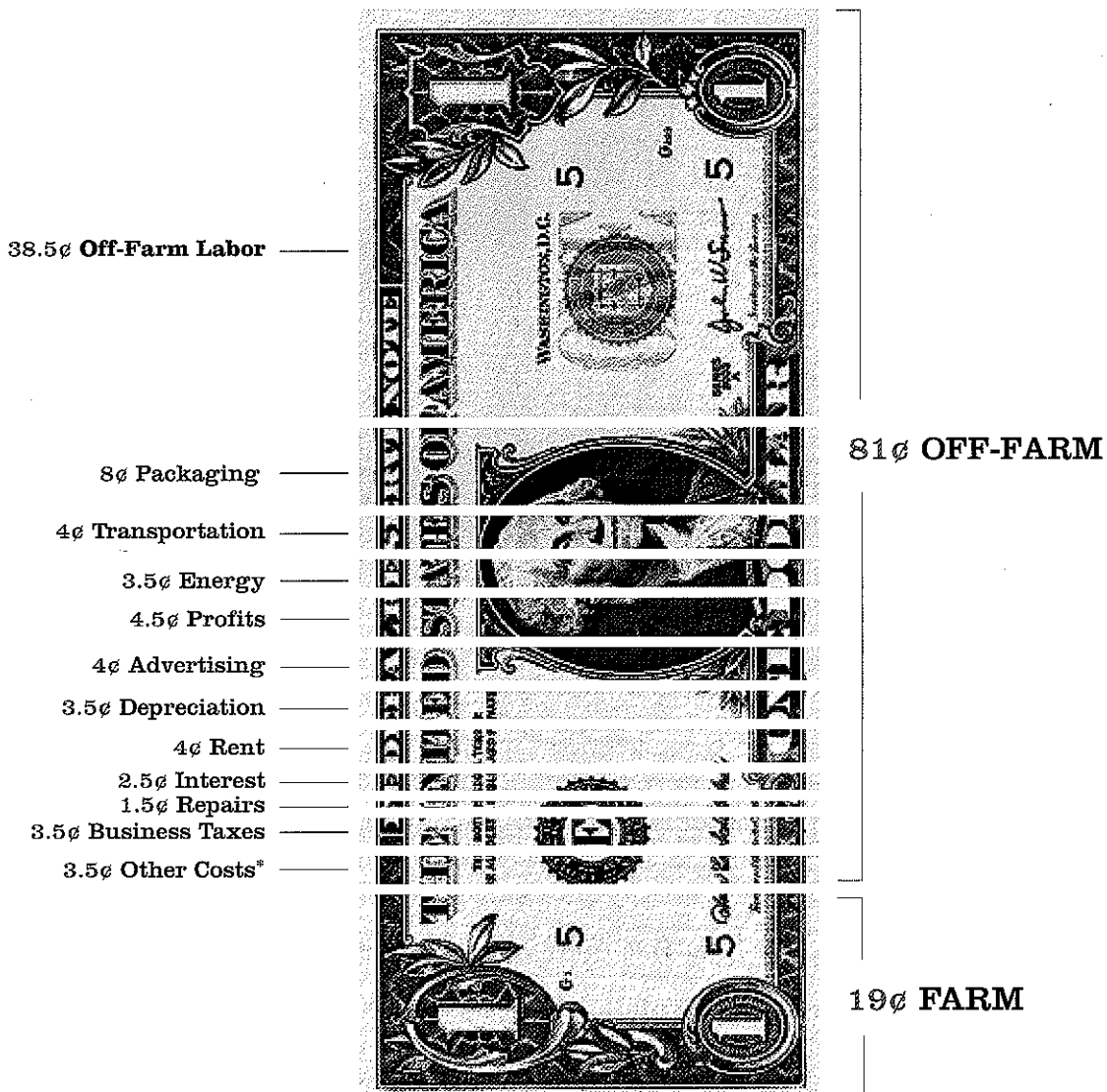
Total Federal Budget Today = \$2,983 billion

Agriculture's Share = \$94.8 billion

American Farm Bureau Federation® Graphic • Source: Fiscal 2010 Budget Overview; USDA 2009 Budget

Where Does Your Food Dollar Go?

OFF-FARM costs (marketing expenses associated with processing, wholesaling, distributing and retailing of food products) account for **81 cents** of every retail dollar spent on food.



FARMERS and RANCHERS receive only **19 cents** out of every retail dollar spent on food that is eaten at home and away from home. In 1980, farmers received **31 cents** out of every retail dollar spent on food in America.

***OTHER COSTS** include property taxes and insurance; accounting and professional services; promotion; bad debts; and many miscellaneous items.

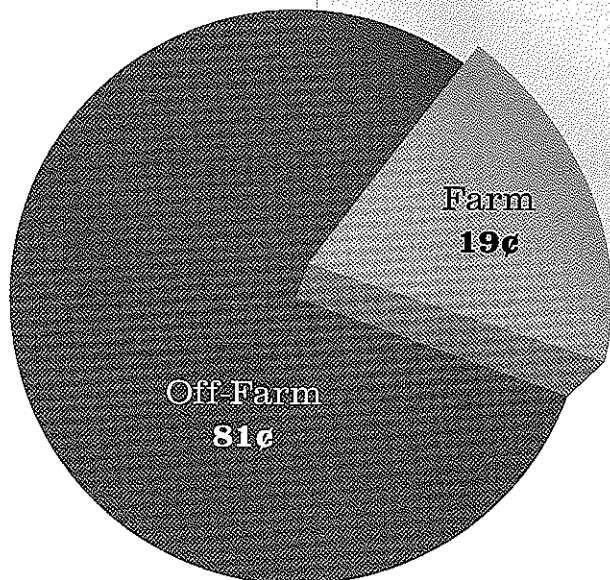
What Are the Farmer's Expenses?

In 2008, farm level production expenses were **14.2 percent** higher than in 2007 and **38.5 percent** higher than in 2004. This is how those expenses break down:



| | |
|---|---------------------|
| Fertilizer, Seed, Crop-Protecting Chemicals | 18.5 percent |
| Feed | 15.6 percent |
| Miscellaneous | 11.0 percent |
| Capital Upkeep and Replacement | 9.8 percent |
| Farm Labor | 9.3 percent |
| Interest, Property Taxes | 8.6 percent |
| Fuel, Electricity | 7.1 percent |
| Purchased Livestock | 6.1 percent |
| Repairs, Maintenance | 5.3 percent |
| Farm Services | 5.2 percent |
| Rent | 3.5 percent |

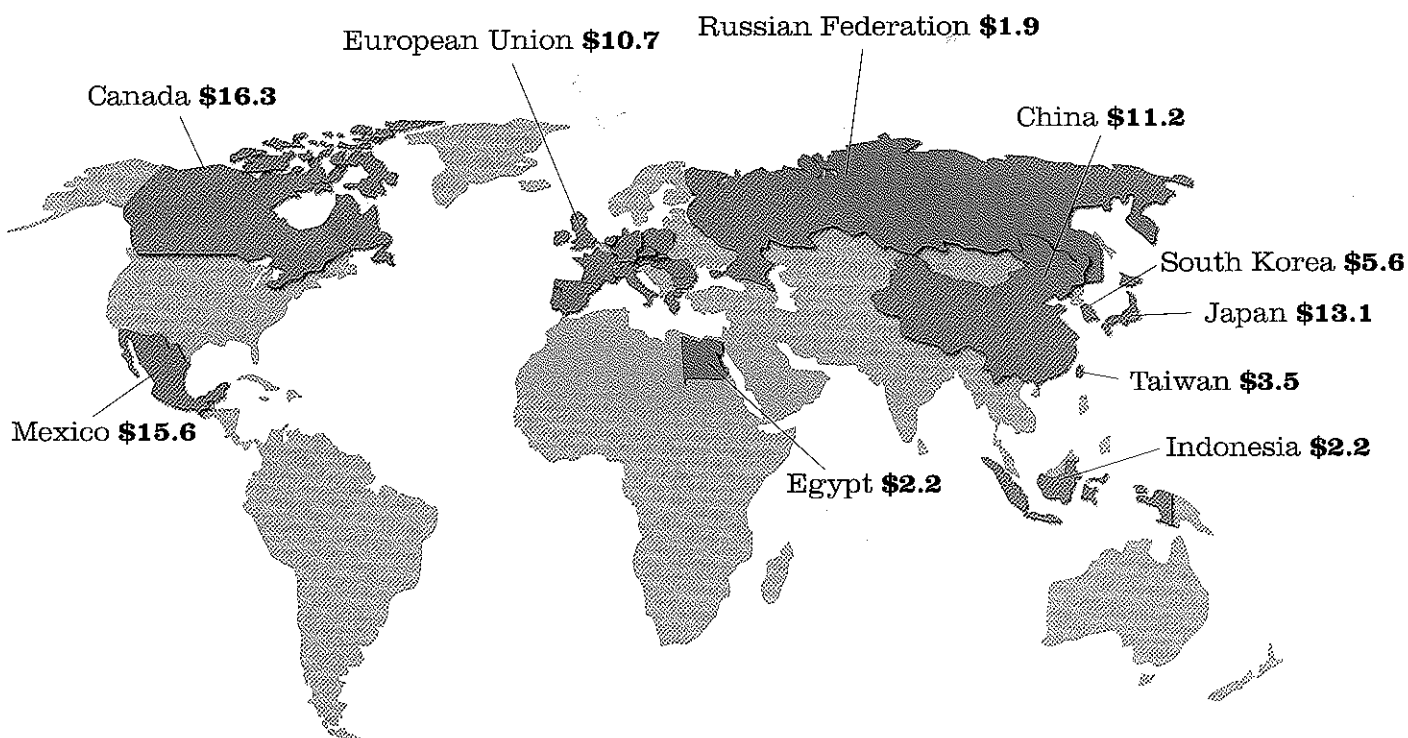
RETAIL FOOD DOLLAR



American Farm Bureau Federation® Graphic • Sources: USDA – ERS; USDA – NASS

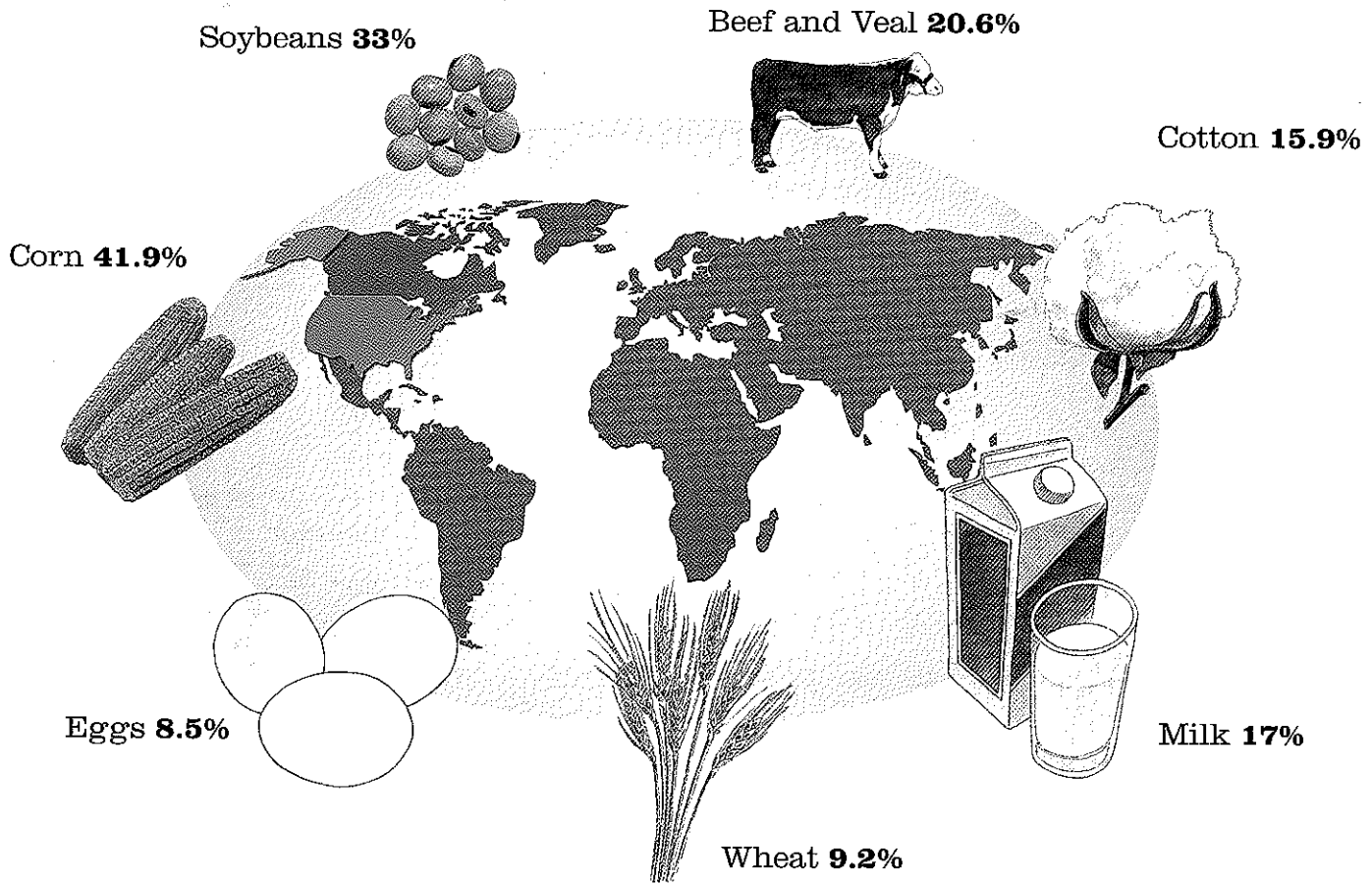
Who Imports U.S. Farm Products?

In 2008, **\$115.5 billion** worth of American agricultural products were exported around the globe. The “Top 5” countries (shown below in red) accounted for more than **50 percent** of all U.S. agricultural exports.



Canada and Mexico are the two largest trading partners of the U.S. Together, they account for nearly one-third of all U.S. agricultural exports.

What is the U.S. Share of World Production?



— Trade —

Agricultural Exports Contribute to a Strong U.S. Economy

Tapping into the world market ...

About **24 percent** of all U.S. agricultural products are exported yearly, including:

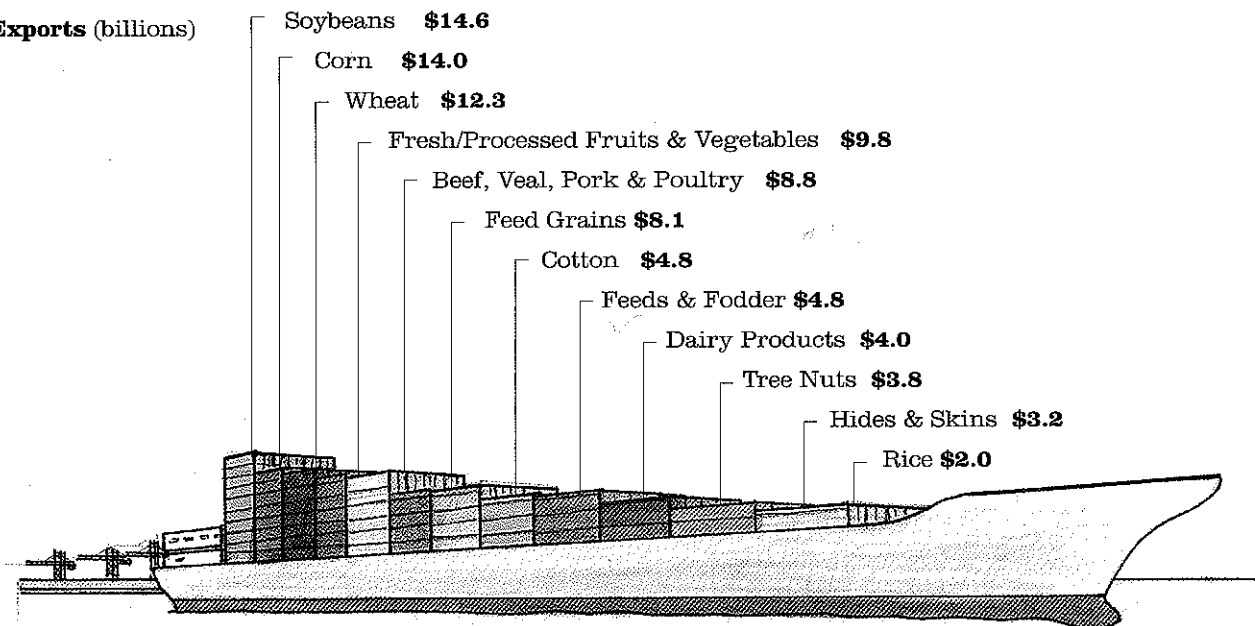
114 million tons of grains and feed
4 million tons of poultry meats
2 million tons of fresh vegetables

American Farm Bureau Federation® Graphic • Sources: USDA – ERS; USDA – FAS

What Do We Trade on the World Market?

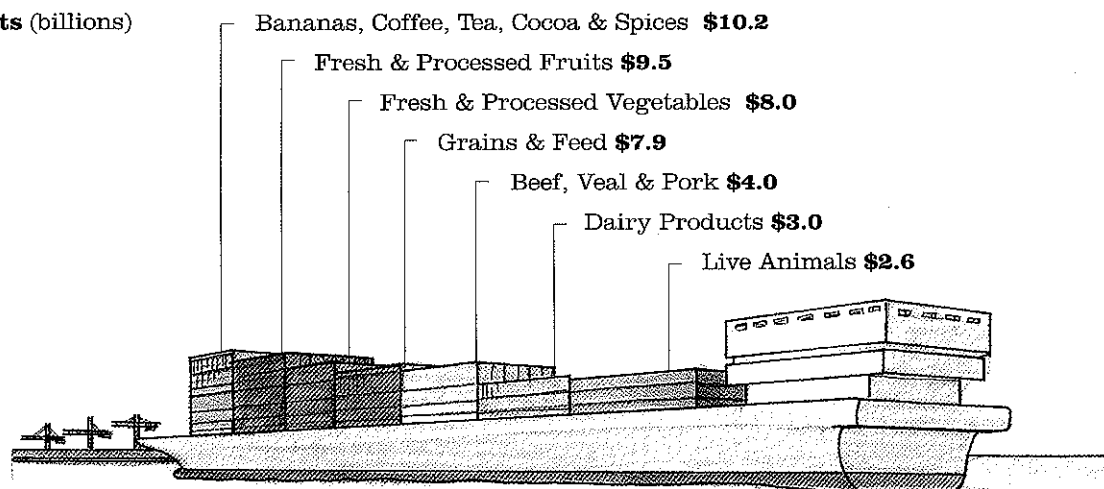
U.S. Ag Exports = \$115 billion

Top Exports (billions)



U.S. Ag Imports = \$79 billion

Top Imports (billions)



The United States sells more food and fiber to world markets than we import, creating a positive agricultural trade balance. Agriculture is one of the few U.S. industries with a positive trade balance. When we move more commodities into additional markets, both commodity prices and farm incomes tend to rise.

American Farm Bureau Federation® Graphic • Source: USDA – ERS/Agricultural Outlook Tables (2008)

Where Does Biotechnology Fit?

— Production —

Yesterday
(8000 B.C. to 3000 B.C.)

Environment

People first began to manipulate plant genetics. Wheat and corn are not wild plants but developed by humans.

Medicine

Plant and animal sources of medicines were discovered, cultivated and harvested.

Nutrition

Cheese making, bread making and pickling foods are all early forms of biotechnology.

Today

Weed- and pest-resistant crops require fewer pesticides.

Insulin to treat diabetes is produced by genetically engineered organisms.

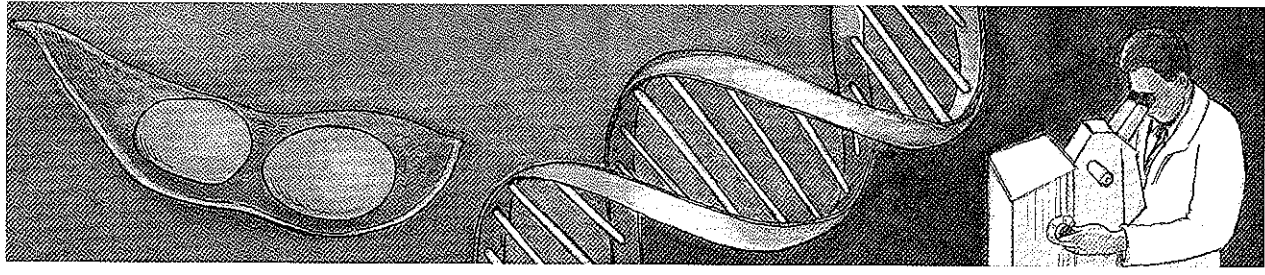
Oils from biotech crops contain fewer saturated fats and no trans fats after processing.

Tomorrow
?

More food will be produced on less land with fewer impacts on soil and water resources.

Gene therapy will be used to cure diseases with known genetic links such as cystic fibrosis, possibly through consumption of biotech foods.

Expanded food choices will be available to people with common food-related allergies.



American Farm Bureau Federation® Graphic • Sources: AFBF; Biotechnology Industry Organization

What About Aquaculture and Silviculture?

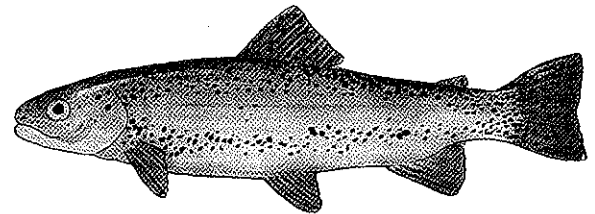
Aquaculture

is an important part of U.S. agriculture. The top five states for aquaculture sales are: Mississippi, Arkansas, Alabama, Louisiana and Florida.

There are **4,028** aquaculture farms in the U.S. Louisiana has the most (873), followed by Mississippi (403), Florida (359), Alabama (215) and Arkansas (211).

Comparing U.S. aquaculture products (In sales of \$1,000):

- Food Fish — 672,377
- Mollusks — 203,183
- Miscellaneous Fish — 56,003
- Crustaceans — 53,381
- Ornamental Fish — 51,297
- Bait Fish — 38,018
- Sport Fish — 18,126



Rainbow Trout

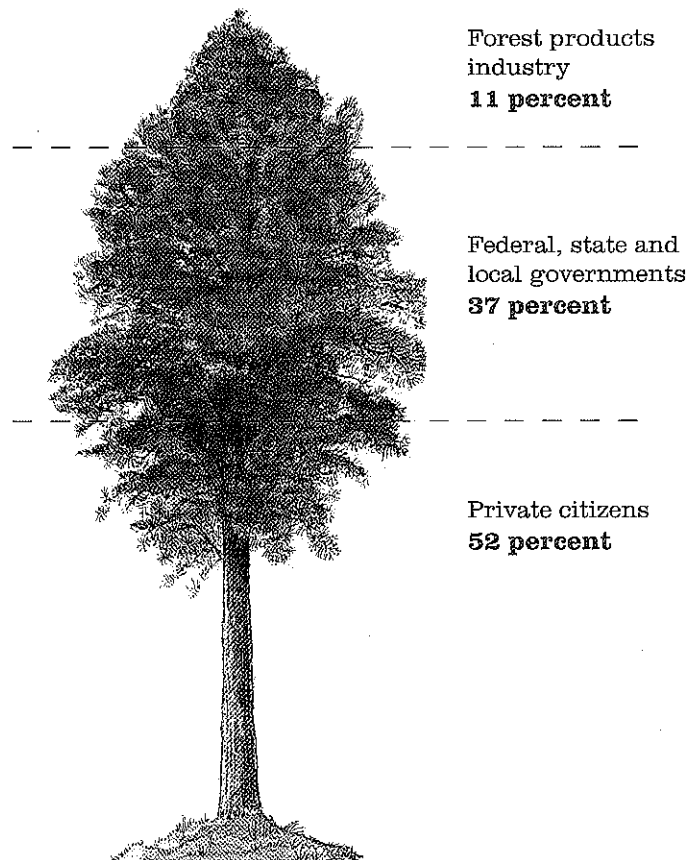
Silviculture

is a branch of forestry dealing with the management and cultivation of forest trees. The amount of U.S. forestland has increased by **12 million acres** in the last 20 years. About one-third of the U.S. – or **750 million acres** – is covered with trees.

The U.S. Forest Service manages **193 million acres** of forestland ... **145 million acres** or 75 percent of this natural resource is set aside for non-commercial uses including wildlife habitat and recreational activities.

Careful forest management allows regular harvesting of timber without harming air and water quality and wildlife habitats. The forest community plants an average of **4 million trees** each day – more than the total number harvested daily. Replanting trees promptly after harvest ensures that new forests are in place to prevent soil erosion and protect water quality.

Who owns America's forests?

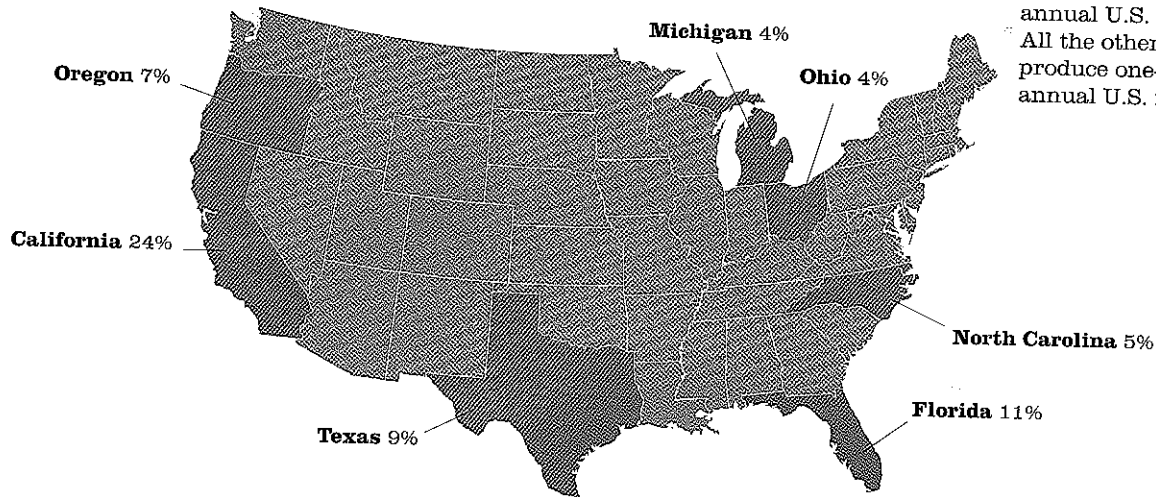


What About Nursery and Greenhouse Growers?

The nursery and greenhouse industry is made up of thousands of small family businesses that grow, retail, install and care for plants and landscapes. Grower cash receipts from nursery and greenhouse sales to retail and distribution businesses grew to **\$17.2 billion** in 2007, up from **\$15.4 billion** four years prior.

Where are nursery crops grown?

These seven states produce about two-thirds of the annual U.S. nursery crop. All the other states combined produce one-third of the annual U.S. nursery crop.



Typical Greenhouse Crops

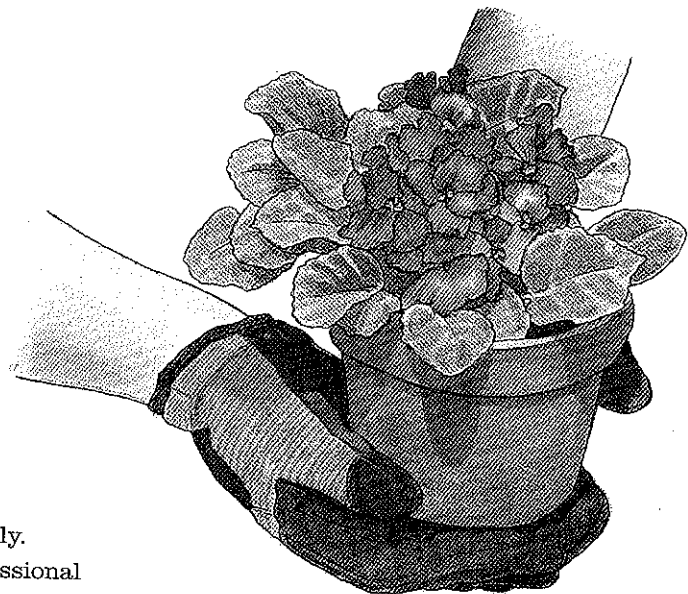
- Floral, foliage and vegetable plants including tomatoes
- Transplant seedlings and bulbs
- Aquatic plants
- Mushrooms, herbs and seeds

Typical Nursery Crops

- Cut and live Christmas trees
- Ornamental plants and trees with woody stems
- Fruit and nut plants for outdoor/landscape use
- Ornamental vines
- Turfgrass sod and other ground covers

Did you know?

Eighty-two million American households spend **\$35.1 billion** at lawn and garden retail outlets annually. U.S. consumers spend **\$44.7 billion** annually on professional landscape, lawn and tree care services.

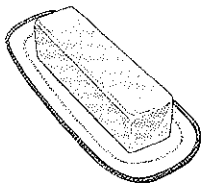


American Farm Bureau Federation® Graphic • Source: National Gardening Association; USDA – ERS

What Does a Dairy Cow Eat and Produce in a Day?

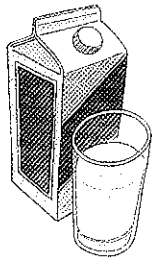
A typical cow weighs **1,500 pounds** and produces **70 pounds** of milk per day. A cow converts roughage and grains not consumed by people into high-energy foods.

One Day's Production



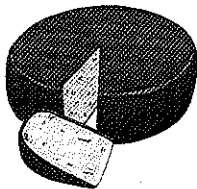
3.3 pounds of butter

OR



8.1 gallons of milk

OR



7 pounds of cheese

VALUE of a cow's daily production = **\$11.55**

COST

Feed = \$4.50

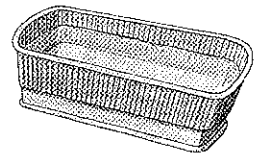
Supplies = \$3.00

Bldgs./overhead = \$3.75

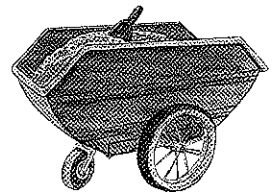
Daily Costs = **\$11.25**

RETURN on Labor = **\$0.30**

One Day's Consumption

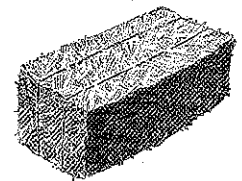


35 gallons of water



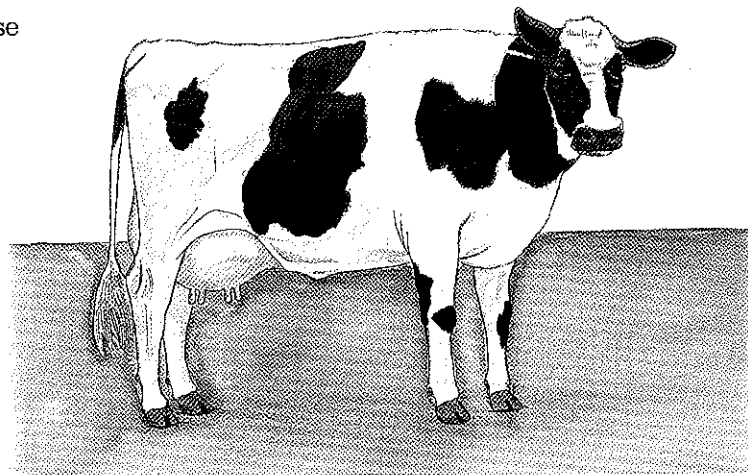
+

20 pounds of grain and concentrated feed



+

35 pounds of hay or silage

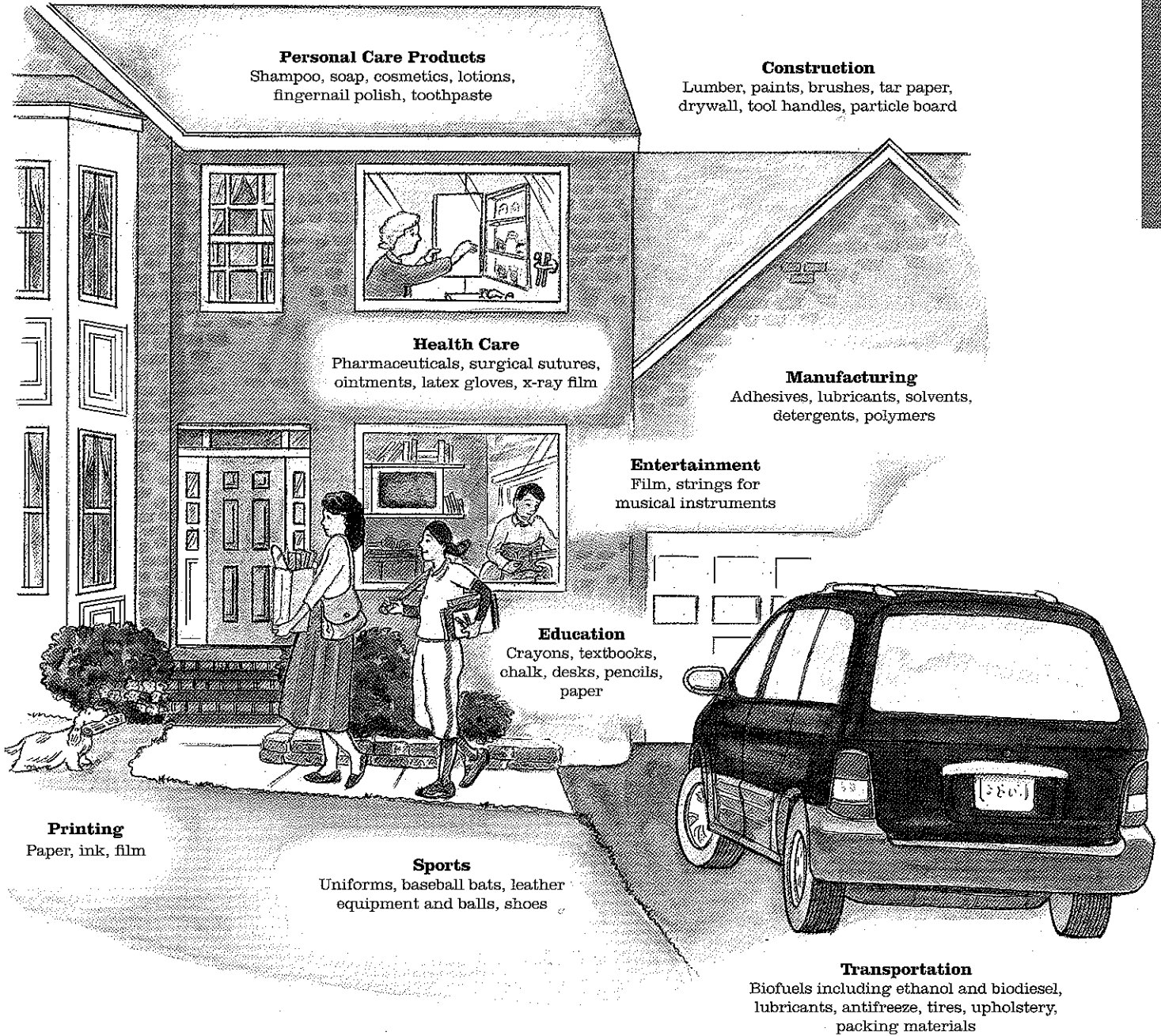


American Farm Bureau Federation® Graphic • Source: *Hoard's Dairyman*

How Are You Connected to Agriculture?

Products we use in our everyday lives come from plants and animals produced by America's farmers and ranchers.

— Production —



American Farm Bureau Federation® Graphic • Source: USDA – Agricultural Outlook

Where Does Pizza Come From?

Your favorite pizza originates on America's farms and ranches.

Top-producing states:

Mozzarella Cheese (Dairy Products)
California, Wisconsin, Pennsylvania

Mushrooms
Pennsylvania, California

Tomato Sauce (Fresh Tomatoes)
California, Florida, Virginia

Onions
Georgia, California, Texas

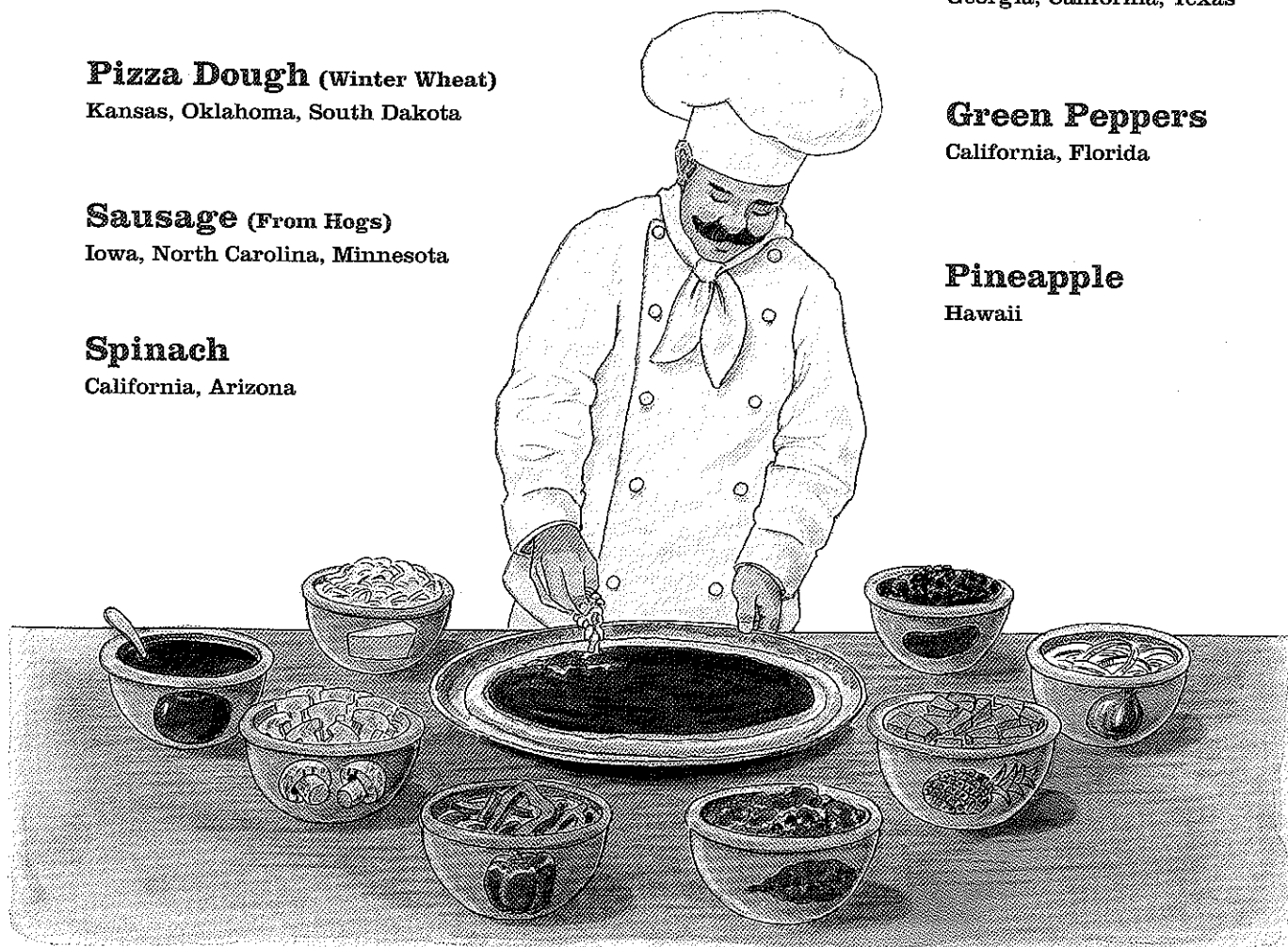
Pizza Dough (Winter Wheat)
Kansas, Oklahoma, South Dakota

Green Peppers
California, Florida

Sausage (From Hogs)
Iowa, North Carolina, Minnesota

Pineapple
Hawaii

Spinach
California, Arizona



Each year, Americans consume nearly **3 billion** pizzas. If you look at it another way, that means each person eats about **23 pounds** of pizza every year. In fact, **350 slices** of pizza are eaten every second!

American Farm Bureau Federation® Graphic • Sources: USDA – ERS; USDA – NASS; Pizzaware.com

What Does One Acre of Land Produce?

One acre of land can produce many different types of crops, depending on the fertility and type of soil, how much rain falls, temperature and how much the sun shines.

Cotton: 810 pounds

A bale of cotton weighs about 480 pounds. One bale can be used to make 215 pairs of jeans or 313,600 \$100 bills.

Wheat: 2,694 pounds

(44.5 bushels). One bushel of wheat produces about 42 pounds of flour, which can be used to make 42 loaves of bread or 42 pounds of traditional pasta. One bushel of whole wheat yields even more: 64 pounds of flour to make 64 loaves of bread or 64 pounds of pasta.

Sweet Corn: 11,500 pounds

Potatoes: 39,500 pounds

Corn and potatoes are two of several American crops introduced to Europe and other continents during the last 500 years.

Oranges: 31,000 pounds

Oranges were very expensive and eaten only on special occasions or holidays, such as Christmas, until the early 1900s.

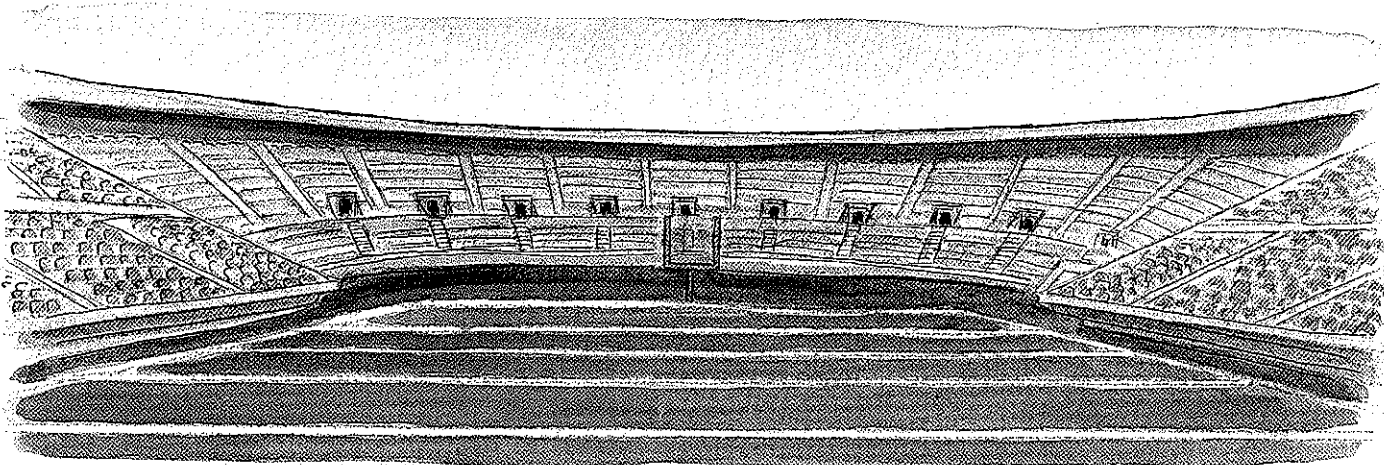
Lettuce: 35,600 pounds

Crisphead, butterhead, romaine and leaf are the four main types of lettuce. All are low in calories with a high water content.

Strawberries: 46,500 pounds

Respondents to a recent national survey labeled strawberry lovers as “health-conscious, fun-loving, intelligent and happy.”

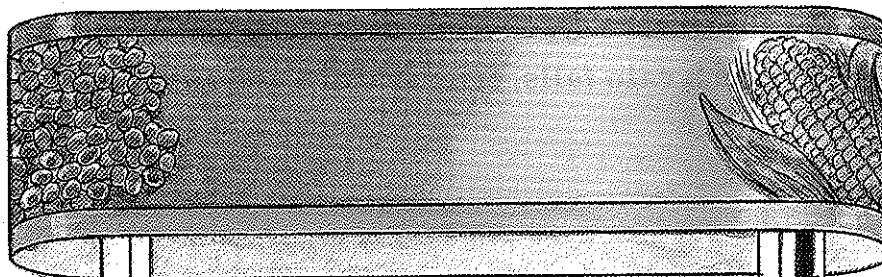
An acre is about the size of a football field.



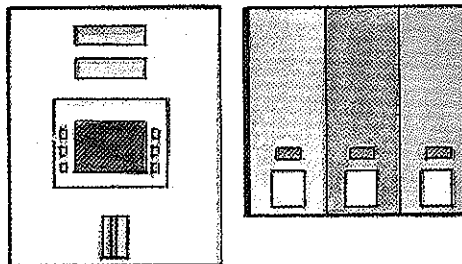
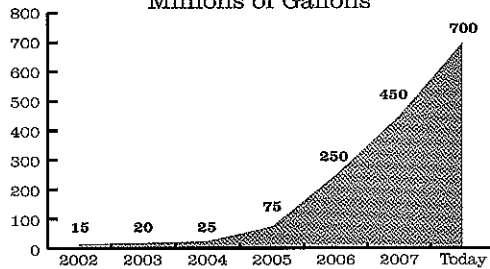
American Farm Bureau Federation® Graphic • Sources: North Dakota Wheat Commission; National Cotton Council of America; California Strawberry Commission; USDA – NASS

How Will We Fuel America?

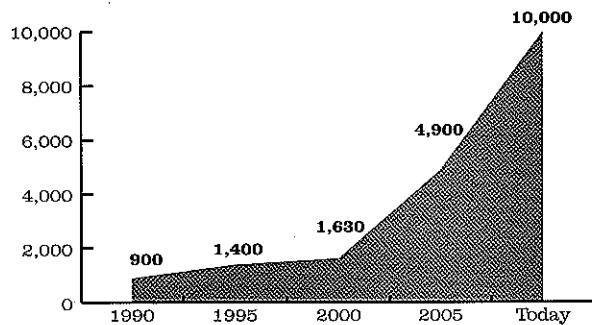
— Production —



Historic U.S. Biodiesel Production
Millions of Gallons



Historic U.S. Fuel Ethanol Production
Millions of Gallons



America's farm fields don't just produce fuel for our bodies. Crops such as corn and soybeans are used to produce fuel for our vehicles. Renewable fuels contribute to a cleaner environment, reduce pollution and reliance on foreign oil, and contribute to the stability of the rural farm economy by creating another commercial market for crops.

More than **800 filling stations** make biodiesel available to the public and **1,700 petroleum distributors** carry it nationwide. About **90 percent** of U.S. biodiesel is produced from soybean oil. In 2008, **16 percent** of soybean oil produced in the U.S. was used for biodiesel production.

With a record production of **10 billion gallons** of ethanol in 2008, about **3 billion bushels** of corn were used to produce fuel for our vehicles. **One in every four rows of corn** went into ethanol production in 2008. Cellulosic ethanol derived from grasses and agricultural waste, rather than corn, also offers great potential as a renewable energy source. Corn/starch-related ethanol production is projected to reach **15 billion gallons** in the future.

Does Modern Technology Increase Productivity?

America's farm and ranch families are high-tech!

They use computers and modern technology to produce food, fiber and fuel for the world:

92% of young (18-35) farmers and ranchers use computers

57% of U.S. farms have Internet access

46% of young farmers use the Internet for social media (Web 2.0)

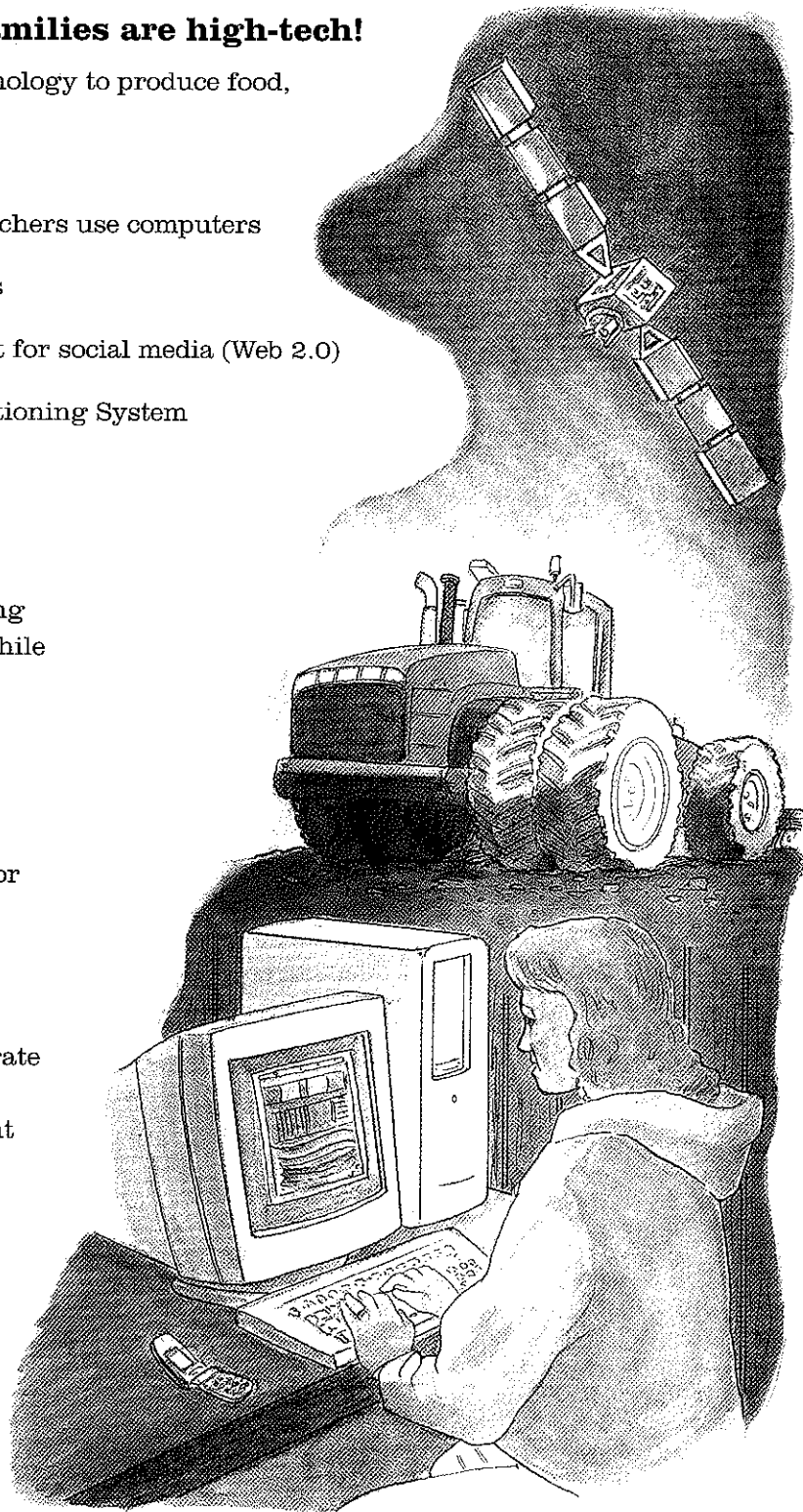
34% of young farmers use Global Positioning System (GPS) technology

GPS is a key technology utilized in precision agriculture. Precision farming reduces both chemical use and costs while increasing yields.

How does GPS work?

1. Linking to a system of satellites, a farmer uses a receiver to pinpoint his or her position.

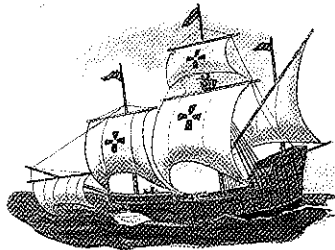
2. GPS receivers interpret the information for such uses as yield mapping, grid sampling and variable rate application. The information helps the farmer identify precisely where to plant and, if needed, to apply pesticides and fertilizer.



Significant Events in Agricultural History

8000 B.C. Animals and grain domesticated in the Middle East—the birth of agriculture.

1493 Christopher Columbus brought calves, goats, sheep, pigs, hens, citrus, melons and many kinds of vegetables to America.



1585 The potato was introduced in Spain from South America.

1607 English colonists in Jamestown, Va., planted grain, potatoes, pumpkins, melons, cotton, oranges and pineapples.

1609 Indians taught the Jamestown settlers how to grow corn.

1731 Jethro Tull introduced the horse-drawn cultivator and seed drill to English farming.

1783 Improved cattle, probably Shorthorns, were introduced to the U.S. from England.

1784 James Small invented the iron plow in England.

1793 Eli Whitney invented the cotton gin.

1798 John (Johnny Appleseed) Chapman planted some of his first apple trees in western Pennsylvania.

1834 Cyrus McCormick patented the grain reaper.

1837 John Deere began manufacturing steel plows.

1843 Sir John Lawes founded the commercial fertilizer industry by developing a process for making superphosphate.

1850 About 75-90 hours of labor required to produce 100 bushels of corn with walking plow, harrow and hand planting. Yields were about 40 bushels per acre.

1854 Self-governing windmill perfected.

1855 Michigan and Pennsylvania established the first state agricultural colleges.

1856 A patent for condensing milk was issued to Gail Borden.

1858 Mason jars, used for home canning, were invented.

1862 President Abraham Lincoln signed legislation creating the first Department of Agriculture. Lincoln also signed the Morrill Land Grant College Act.

1867 Barbed wire invented.

1869 Transcontinental railroad completed.

1870 Silos came into use.

1874 Georgia established the first state Department of Agriculture.

1879 The grain combine was patented.

1881 Hybridized corn produced.

1887 The Hatch Experiment Station Act was passed, providing federal grants to states for agricultural experimentation.

1888 The first long haul shipment of a refrigerated freight car was made from California to New York.

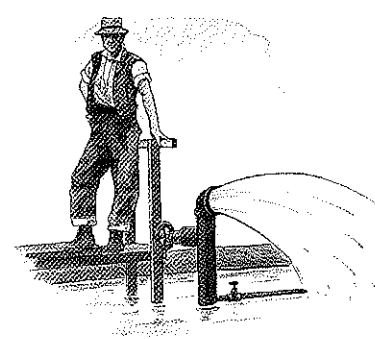
1892 The first gasoline tractor was built by John Froelich.

1900 Special work projects for farm youth were organized in Illinois; the name "4-H" was adopted in 1913.

1900 The amount of labor needed to produce 100 bushels of corn is down to 35-40 hours using a 2-bottom gang plow, disk and peg-tooth harrow and 2-row planter. Yields remain about the same as in 1850.

1902 Reclamation Act passed, leading to water projects for irrigation.

1906 The first rural electric line was constructed at Hood River, Ore. The Pure Food and Drug Law was enacted.



1911 The first county Farm Bureau was formed in Broome County, N.Y.

Significant Events in Agricultural History

— Appendix —

- 1914** Establishment of the federal-state Extension Service was a major step in direct education for farmers.
- 1919** American Farm Bureau® Federation formally organized in Chicago, Ill.
- 1921** The first farm market news radio report was broadcast over KDKA, Pittsburgh. The Packers and Stockyards Act was enacted.
- 1922** Capper-Volstead Act exempts farm cooperatives from federal antitrust statutes. The Grain Futures Trading Act was enacted.
- 1928** Otto Rohwedder introduced his bread-slicing machine.
- 1933** The Farm Credit Administration was established, creating specialized credit for agriculture.
- 1938** The Agricultural Adjustment Act was enacted, authorizing farm price supports and adjustment programs.
- 1945** Commercial fertilizer use helps increase yields. Corn yields now 50 bushels per acre. One farmer works 10-14 hours to produce 100 bushels of corn with a tractor, 3-bottom plow, disk, harrow, 4-row planter and 2-row picker. About 16 percent of the U.S. population is involved in production agriculture.
- 1946** The first National School Lunch Act enacted.
- 1947** Federal Insecticide, Fungicide and Rodenticide Act passed.
- 1948** The General Agreement on Tariffs and Trade (GATT) was put in place. It provided the rules for much of world trade for the next 47 years.
- 1949** Agricultural Act of 1949 passed, incorporating the principle of flexible price supports and giving surplus food to the needy.
- 1954** Food for Peace Program enacted.
- 1959** Mechanical tomato harvester developed.
- 1964** National Food Stamp Act passed.
- 1970** Plant Variety Protection Act passed.



- 1979** Grain embargo imposed against the Soviet Union following its invasion of Afghanistan.
- 1981** Soviet grain embargo lifted.
- 1987** Less than three hours of labor and about one acre of land are required to produce 100 bushels of corn, with one farmer using a tractor, 5-bottom plow, 20-foot tandem disk, planter, 20-foot herbicide applicator, 12-foot self-propelled combine and trucks.
- 1988** U.S. – Canada free trade accord ratified.
- 1990** Yeast for baking bread was the first biotech product available worldwide. It was introduced in Great Britain.
- 1993** The North American Free Trade Agreement (NAFTA) approved. Advances in biotechnology reach the agricultural producer and consumer level.
- 1994** Farmers begin using satellite technology to track and plan their farming practices. USDA approves the use of rBST to improve milk production in dairy cattle.
- 1996** World Trade Organization (WTO), the principal international forum governing world trade, is created. Food Quality Protection Act enacted.
- 1997** The first weed- and insect-resistant biotech crops—soybeans and cotton—are available commercially.
- 2000** USDA unveils organic standards for foods and the official organic seal.
- 2002** China admitted into the WTO.
- 2008** Each U.S. farmer produces food and fiber for 155 people.
- 2008** Food, Conservation and Energy Act enacted. Globally, more than 13.3 million people in 23 countries grow biotech crops; about 12.3 million of them are resource-poor farmers in developing countries. Accumulated acreage of biotech crops (since 1996) exceeded 2 billion for the first time.
- 2009** American Farm Bureau Federation® celebrates 90th Anniversary



Ag Terminology

Agronomy

The science of crop production and soil management.

Aquaculture

The production of aquatic plants or animals in a controlled environment.

Biotechnology

A collection of technologies applied to medicine, agriculture and environmental management that solve problems or enhance products through cellular and molecular processes.

Census of Agriculture

A count taken every five years by the U.S. government of the number of farms, land in farms, crop acreage, production information, farm value and farm products.

Conservation Buffers

Small areas or strips of land that improve soil, air and water quality; enhance wildlife habitat; and create scenic landscapes.

Conservation Reserve Program (CRP)

The Conservation Reserve Program is the single-largest government environmental improvement effort. It offers incentives to farmers and ranchers to plant various kinds of protective cover on suitable farm property to protect and improve air, water, soil quality and habitat for wildlife. Qualified landowners receive annual rental payments in exchange for agreeing to remove land from production.

Conservation Tillage

Any of several farming methods that provide for seed germination, plant growth and weed control, yet maintain effective ground cover throughout the year and disturb the soil as little as possible. The aim is to reduce soil loss and energy use while maintaining crop yields and quality.

Crop Rotation

The practice of growing different crops in succession on the same land.

Ecosystem Management

A collaborative process that strives to reconcile the promotion of economic opportunities and livable communities with the conservation of ecological integrity and biodiversity.

Erosion

The process by which water or wind moves soil from one location to another.

Export Subsidies

Special incentives, such as cash payments, tax exemptions, preferential exchange rates and special contracts extended by governments to encourage increased foreign sales.

Farm Bill

Federal legislation enacted every five or six years that supports commodity and conservation programs for farmers, renewable energy initiatives, food and nutrition programs for consumers, and agricultural research. The farm bill ensures consumers will continue to have access to U.S.-grown farm products they rely on to feed and clothe their families and fuel their lives.

Feed Grain

Any of several grains most commonly used for livestock or poultry feed, such as corn, soybeans, oats and barley.

Fertilizer

Any organic or inorganic material which is added to soil to provide nutrients for plant growth.

Gross Farm Income

Income that farm operators realize from farming. It includes cash receipts from the sale of farm products, value of food and fuel produced and consumed on farms, and the rental value of farm dwellings.

Herbicide

Any chemical used to destroy plants, especially weeds.

Horticulture

Nursery, greenhouse and floriculture crops.

Integrated Pest Management (IPM)

An integrated approach to controlling plant pests using careful monitoring of animals and weeds. It may include use of natural predators, chemical agents and crop rotations.

Net Farm Income

A measurement of the profit or loss associated with a given year's production. Net farm income equals the difference between gross farm income and total expenses.

Organic Farming

A production system that excludes the use of synthetic pesticides and fertilizers, genetically modified organisms, antibiotics and hormones.

Rangeland

Land which is predominantly grasses, grasslike plants or shrubs suitable for grazing.

Renewable Fuels

Renewable energy sources are constantly renewed and can be replenished in a relatively short period of time. The five renewable sources used most often are hydropower (water), solar, wind, geothermal and biomass (plant materials and animal wastes). Ethanol and biodiesel are produced from biomass. Ethanol may be produced from the fermentation of agricultural feedstocks such as corn, sugarcane, wood or switchgrass. It is blended with gasoline to enhance octane and reduce automobile exhaust pollution. Biodiesel is made from soybean oil, other vegetable oils or animal fats. It can be used by itself or blended with petroleum diesel for use in diesel engines.

Silviculture

The cultivation, care and harvesting of trees for human use.

Sustainable Agriculture

An integrated system of farming that will, over the long term, satisfy food and fiber needs, enhance environmental quality, make the most efficient use of resources, sustain the economic viability of farm operations and enhance quality of life.



Fast Facts About Agriculture

- There are 2.2 million farms dotting America's rural landscape. About 98 percent of U.S. farms are operated by individuals, family partnerships or family corporations.
- Americans enjoy a food supply that is the most affordable and abundant, and among the world's safest, thanks in large part to the efficiency and productivity of America's farm and ranch families.
- In 2008, \$115 billion worth of American agricultural products were exported around the world. The United States sells more food and fiber to world markets than we import, creating a positive agricultural trade balance.
- More than half of America's agricultural producers intentionally provide habitat for wildlife. Deer, moose, fowl and other species have shown significant population increases during the past several years.
- Thanks to modern farming techniques, such as biotechnology, global positioning satellites and conservation tillage, America's farmers and ranchers are producing more food on fewer acres with fewer inputs than ever before.
- More than 21 million American workers (15 percent of the total U.S. workforce) produce, process and sell the nation's food and fiber.
- Farmers and ranchers receive only 19 cents out of every dollar spent on food at home and away from home. The rest goes for costs beyond the farm gate: wages and materials for production, processing, marketing, transportation and distribution. In 1980, farmers and ranchers received 31 cents.
- U.S. farm programs typically cost each American just pennies per meal and account for less than one-half of 1 percent of the total U.S. budget.
- Renewable fuels, including ethanol and biodiesel made from corn, soybeans and other crops, are beneficial to the environment and promote energy security.
- America's farmers and ranchers are true professionals by bringing a variety of educational experiences to their agriculture businesses. For example, most farmers and ranchers are trained and certified in the use of agricultural chemicals.
- Technology is increasingly used on today's farms and ranches. USDA statistics show that 57 percent of U.S. farms have Internet access. A survey of young farmers and ranchers shows that 92 percent use a computer and 46 percent use the Internet for social media (Web 2.0).

Selected Acronyms

American Association of Equine Practitioners (AAEP); American Farm Bureau Federation (AFBF); Agricultural Marketing Service (ARMS); Agricultural Research Service (ARS); Agricultural Statistics Board (ASB); Biotechnology Information Organization (BIO); Economic Research Service (ERS); Foreign Agricultural Service (FAS); National Agricultural Statistics Service (NASS); Natural Resources Conservation Service (NRCS); United States Department of Agriculture (USDA); World Agricultural Outlook Board (WAOB).

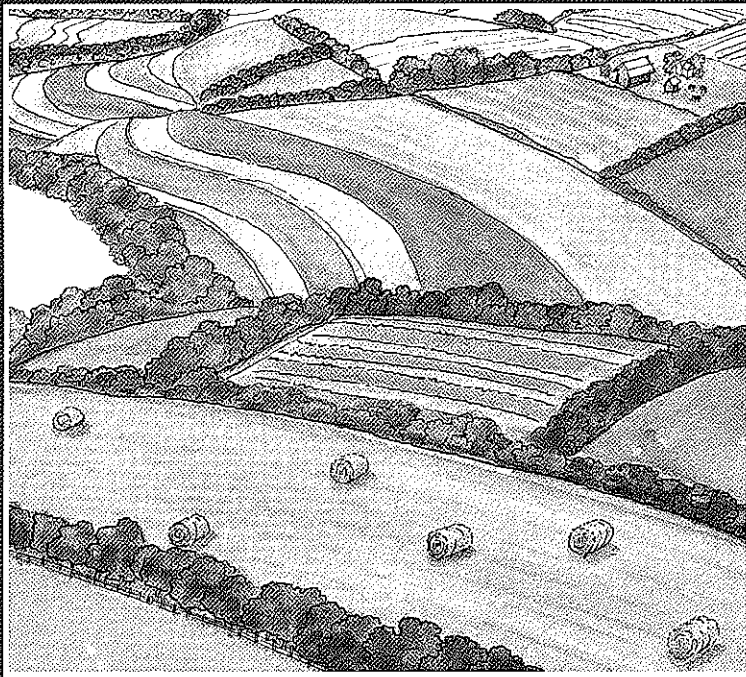
Selected Resources

Page 2: Economic Research Service – USDA (<http://www.ers.usda.gov>), Table 7, Food Expenditures by Families and Individuals as a Share of Disposable Personal Income. See also: Expenditures on Food, by Selected Countries.

Page 14: Economic Research Service – USDA (<http://www.ers.usda.gov>), Amber Waves, Calculating the Food Marketing Bill.

Page 15: National Agricultural Statistics Service – USDA (<http://www.nass.usda.gov>), Farm Production Expenditures. See also: Economic Research Service – USDA (<http://www.ers.usda.gov>), Farm Income and Costs.

Pages 28 & 29: (Significant Events) Agricultural Research Service – USDA (<http://www.ars.usda.gov>), ARS Timeline. See also: Ag in the Classroom (<http://www.agclassroom.org>), Growing A Nation, The Story of American Agriculture; and BIO (www.bio.org).



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