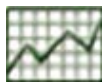


GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Embedded Resources



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 1

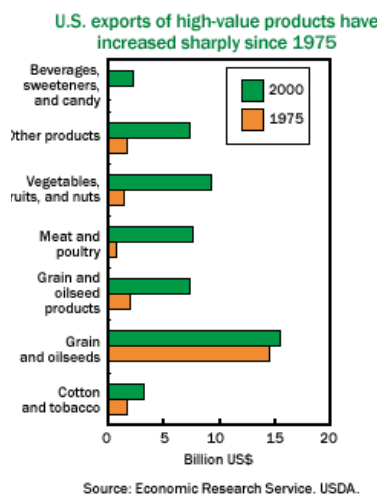
Agricultural exports

In the years between 1975 and 2000, agricultural exports rose sharply.

Questions: What foreign and domestic factors influence increases or decreases in exports? How do politics play a part in the availability of food to starving nations? What major imports do American consumers rely on? Are these necessities, or are they products of choice and convenience?

Era 10: Contemporary United States, Standard 2A

Source: Economic Research Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 2

Pesticides

Farmers readily adopted new pesticides and herbicides that were developed in the 1970s, which allowed them to capitalize on increased foreign trade with the Soviet Union.

Questions: What purpose do pesticides serve? Herbicides? Why do researchers continue to develop and improve these products today? Can you think of any specific pesticides or herbicides that are used in your area?



Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 3

Why is U.S. agriculture so successful?

The success of U.S. agriculture cannot be attributed to fertile soil and ideal growing conditions alone. Financial resources from the government are also vital to the achievements of American agriculture. Research funding, financial aid during poor growth seasons, and education programs are just a few of many examples that have led American farming to agricultural success.

Questions: How do government resources contribute to your success as a student? Why are they provided? Why does the government esteem research and education so highly?

Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 4

The Soviet Union

“Founded in the 12th century, the Principality of Muscovy, was able to emerge from over 200 years of Mongol domination (13th–15th centuries) and to gradually conquer and absorb surrounding principalities. In the early 17th century, a new Romanov Dynasty continued this policy of expansion across Siberia to the Pacific. Under Peter I (ruled 1682–1725), hegemony was extended to the Baltic Sea and the country was renamed the Russian Empire. During the 19th century, more territorial acquisitions were made in Europe and Asia. Repeated devastating defeats of the Russian army in World War I led to widespread rioting in the major cities of the Russian Empire and to the overthrow in 1917 of the imperial household. The Communists under Vladimir Lenin seized power soon after and formed the USSR. The brutal rule of Josef Stalin (1928–53) strengthened Russian dominance of the Soviet Union at a cost of tens of millions of lives. The Soviet economy and society stagnated in the following decades until General Secretary Mikhail Gorbachev (1985–91) introduced glasnost (openness) and perestroika (restructuring) in an attempt to modernize Communism, but his initiatives inadvertently released forces that by December 1991 splintered the USSR into 15 independent republics. Since then, Russia has struggled in its efforts to build a democratic political system and market economy to replace the strict social, political, and economic controls of the Communist period.”

Questions: How do you think the turmoil that the former Soviet Union has experienced, and is still experiencing, has affected its economy? How would such disarray influence agricultural productivity?

Era 10: Contemporary United States, Standard 2A

Source: *The World Factbook*, 2004, Central Intelligence Agency [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 5

Environmental laws

Since President Nixon established the United States Environmental Protection Agency (EPA) in 1970, Congress has passed dozens of laws that the EPA enforces to protect the environment. Visit the EPA website to help you answer these questions.

Questions: What are the three steps to create these laws? How is a regulation different from a law? How many of these environmental laws affect agriculture?

Era 10: Contemporary United States, Standard 2A

<http://www.epa.gov/epahome/lawintro.htm>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 1, Embedded Resource 6

Soil conservation

Fertile soil is one of the most valuable resources America possesses. Thus, soil conservation is a high priority for the USDA. Visit the Natural Resource Conservation Service website to learn more about this priceless natural resource.

Questions: Respecting and protecting environmental resources is one of the most valuable things we can do. What are some instances of environmental abuse during your lifetime? What are some instances of environmental abuse that you are aware of from the past?

Era 10: Contemporary United States, Standard 2A

<http://www.nrcs.usda.gov/feature/education/squirm/skworm.html>



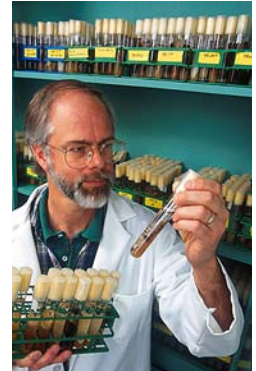
GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 2, Embedded Resource 1

Plant geneticist

Plant geneticists explore a plant's genes looking for those that control valuable traits, like tolerance to cold or the size or sweetness of its fruit. They also work to improve breeding methods and to ensure that future generations of a particular plant will have the traits farmers and consumers want.

Questions: How can plant gene research influence the size, taste, and color of certain crops? What questions would you research if you were a plant geneticist? Where would you start gathering information? How did plant research help bolster American agriculture during the export boom of the early 1970s?



Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 2, Embedded Resource 2

Hydrologist

“If you like discovering how soil and water create our environment, you may be interested in becoming a hydrologist or watershed specialist. Working with a variety of people, problem-solving, and application of some basic chemical concepts make this an interesting occupation. BLM [Bureau of Land Management] hydrologists/watershed specialists work at improving or maintaining water quality by recommending actions to minimize the effects of grazing, mining, logging, and other types of land uses. This involves developing an understanding of these land uses, developing long-term plans, and doing studies to ensure that the plans are successful. These specialists work with range conservationists, outdoor recreation planners, soil scientists, and others to help prepare plans for managing all the resources in a basin or watershed. These specialists must understand plants and soil, rocks and land features, water and weather. Sometimes they are called upon to recommend what kinds of grasses, shrubs, or trees to plant. They may design ponds or structures in streams to slow water and reduce erosion, or develop methods to study human uses of public land to determine if these uses are causing erosion and reducing plant cover for fish. High school courses that will help you prepare for a career as a hydrologist or watershed specialist include math, biology, physics, chemistry, computer science, speech, and English/writing courses. A bachelor's degree in a physical or natural science or engineering is required. Studies should include courses in hydrology, physical sciences, geophysics, chemistry, engineering science, soils, math, aquatic biology, geology, meteorology, oceanography, or the management or conservation of water resources.”



Questions: What contributions do hydrologists make to our society? How has the work of hydrologists impacted your life? What aspects of preparation for a career in hydrology match the career preparation you need?

Era 10: Contemporary United States, Standard 2A

Source: “Hydrologist,” *BLM Career Cards*, Bureau of Land Management [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 2, Embedded Resource 3

Renewable energy

“Renewable energy systems use resources that are constantly replaced and are usually less polluting. Examples of renewable energy systems include solar, wind, and geothermal energy (getting energy from the heat in the earth). We also get renewable energy from trees and plants, rivers, and even garbage.

“Renewable energy uses energy sources that are continually replenished by nature—the sun, the wind, water, the Earth’s heat, and plants. Renewable energy technologies turn these fuels into usable forms of energy—most often electricity, but also heat, chemicals, or mechanical power. . . .

“Today we primarily use fossil fuels to heat and power our homes and fuel our cars. It’s convenient to use coal, oil, and natural gas for meeting our energy needs, but we have a limited supply of these fuels on the Earth. We’re using them much more rapidly than they are being created. Eventually, they will run out. And because of safety concerns and waste disposal problems, the United States will retire much of its nuclear capacity by 2020. In the meantime, the nation’s energy needs are expected to grow by 33 percent during the next 20 years. Renewable energy can help fill the gap.

“Even if we had an unlimited supply of fossil fuels, using renewable energy is better for the environment. We often call renewable energy technologies ‘clean’ or ‘green’ because they produce few if any pollutants. Burning fossil fuels, however, sends greenhouse gases into the atmosphere, trapping the sun’s heat and contributing to global warming. Climate scientists generally agree that the Earth’s average temperature has risen in the past century. If this trend continues, sea levels will rise, and scientists predict that floods, heat waves, droughts, and other extreme weather conditions could occur more often.

“Other pollutants are released into the air, soil, and water when fossil fuels are burned. These pollutants take a dramatic toll on the environment—and on humans. Air pollution contributes to diseases like asthma. Acid rain from sulfur dioxide and nitrogen oxides harms plants and fish. Nitrogen oxides also contribute to smog.

“Renewable energy will also help us develop energy independence and security. The United States imports more than 50 percent of its oil, up from 34 percent in 1973. Replacing some of our petroleum with fuels made from plant matter, for example, could save money and strengthen our energy security.”

Questions: Which of the renewable energy resources seem most viable to you? What do you see as the major advantage of this resource? What are its disadvantages? What do you think the United States should do to increase its use of renewable resources?

Era 10: Contemporary United States, Standard 2A

Source: “Learning about Renewable Energy—For Young Scholars” and “Renewable Energy: An Overview,” Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 2, Embedded Resource 4

OPEC

The Organization of Petroleum Exporting Countries (OPEC) is currently made up of eleven countries. Visit the OPEC website to learn about these countries and find out where they are located.

Questions: What purpose does membership with OPEC serve? What would happen if one of the oil-exporting countries were to withdraw its membership from OPEC? Are there any other countries that possess oil as a natural resource? Why are they not members of OPEC?

Era 10: Contemporary United States, Standard 2A

<http://www.opec.org/>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 2, Embedded Resource 5

Camp David Accords

The Camp David Accords exist as a result of intense negotiations among Muhammad Anwar al-Sadat, President of the Arab Republic of Egypt; Menachem Begin, Prime Minister of Israel; and Jimmy Carter, President of the United States of America. This peace agreement followed the 1973 Yom Kippur War. The three leaders met at the presidential retreat at Camp David, Maryland, from September 5 to September 17, 1978. Visit the U.S. Department of State's Bureau of International Information Programs website to learn more about the results of this historic gathering.

Questions: Communication among the involved parties allowed for the peaceful resolution to years of conflict. What factors enabled the successful resolution of the conflict? How can communication between stakeholders allow for peaceful outcomes? What aspects of communication facilitate the resolution of such problems?

Era 10: Contemporary United States, Standard 2A

http://usinfo.state.gov/mena/Archive_Index/The_Camp_David_Accords.html



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 3, Embedded Resource 1

Agricultural exports

The low value of the American dollar in the 1970s increased opportunities for agricultural exports. America's farmers could boast that they fed the world as the economy depended more and more on trade overseas.



Questions: Do America's farmers still feed the world today? Do American agricultural exports still exceed its imports? From what country does the majority of U.S. imports come today?

Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 3, Embedded Resource 2

Oil prices

High oil prices in the 1970s led to significant strides in harnessing natural resources for energy. Visit the Energy Information Administration's website to see a chronological history of oil prices since 1970, and then answer the following questions.

Questions: How can political turmoil lead to downfalls in one industry, allowing research and development to progress in other industries at the same time? How do we see this pattern still happening today? What industries do you predict will experience further expansion in your lifetime?

Era 10: Contemporary United States, Standard 2A

<http://www.eia.doe.gov/emeu/cabs/chron.html>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 3, Embedded Resource 3

Soil scientist

“Laboratory studies of hydraulics and erosion that result from raindrop splash and shallow flow can be used to test and improve WEPP (Water Erosion Prediction Project) equations. Here, agricultural engineer Dennis Flanagan and soil scientist Stanley Livingston use a green dye to measure flow velocity and observe runoff patterns resulting from simulated rainfall.”

A soil scientist seeks to understand how soils form and their basic qualities or properties. For example, soils differ from place to place in part because they contain different ratios of clay, silt, and sand. This can affect which plants can grow, how well they can grow, and what farmers may need to do differently to get the best results.

Questions: What is the advantage to the U.S. government of employing soil scientists? What recent research has been done involving soil and its properties? What happens to soil when too many chemical fertilizers are used? When it's overused?



Era 10: Contemporary United States, Standard 2A

Source: “News and Events,” Agricultural Resource Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 3, Embedded Resource 4

Foot and mouth disease

“Foot-and-mouth disease outbreaks have occurred several times in the United States, the last time being in 1929. Each outbreak brought somber scenes of eradication based upon the costly strategy of shooting and burying all infected and exposed animals. Subsequently, the United States cooperated with Mexico in eradicating two major outbreaks there.

“But North America’s livestock industry can never relax its vigilance. The FMD virus lurks in many herds around the world, making accidental introduction a constant threat. The expectation of someday conquering FMD was raised in 1975 by news from the Plum Island Animal Disease Center—an isolated, maximum security research facility off the coast of Long Island, N.Y. ARS researchers there had discovered that injection of a protein derived from a portion of the coating of FMD virus and called VP3, confers immunity to the disease. However, methods then available for mass-producing a VP3 vaccine were not economically feasible.

“In 1980 the Plum Island scientists turned to another route to develop a safe and inexpensive vaccine[:] recombinant DNA technology. The USDA team was led by biochemist Howard L. Bachrach and collaborated with scientists from Genentech, a private research company. The researchers inserted a bioengineered plasmid containing the gene for VP3 into Escherichia coli bacteria. As these bacteria grew, they obeyed orders from the guest DNA and mass-produced the desired VP3 proteins. In 1981 the scientists reached their goal: a VP3 vaccine was produced that did not make either infectious virus or infectious RNA.

“The Plum Island research achievement now enables the U.S. to produce and hold a ready supply of FMD vaccine for emergency use. Equally important, the vaccine can be stored indefinitely without refrigeration, a boon to countries that rely on vaccination to control FMD.”

Questions: What are some of the symptoms of foot and mouth disease? How do outbreaks occur? Would a vaccine for this disease help to increase or decrease livestock exports to other countries?

Era 10: Contemporary United States, Standard 2A

Source: ARS Timeline: 138 Years of Ag Research, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 3, Embedded Resource 5

USDA researchers

During the 1970s, USDA plant scientists introduced numerous improved fruit, vegetable, cotton, and wheat varieties that enhanced the American farmer’s place in the global marketplace. Visit this USDA website to learn more about the USDA’s citrus development program, and then answer the following questions.

Questions: Why is the development of improved fruit varieties so valuable to domestic and foreign markets? What foods in your kitchen were developed through USDA’s research efforts?

Era 10: Contemporary United States, Standard 2A

<http://www.ars.usda.gov/is/timeline/citrus.htm>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 4, Embedded Resource 1

Improved irrigation systems

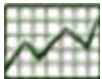
In 1981, scientists developed a new irrigation method called cablegation. “Cablegation is a gated-pipe system in which a moveable plug is allowed to slowly pass through a long section of gated pipe, with the rate of movement controlled by a cable and brake. Due to the oversizing and required slope of the pipe, water flow will gradually cease flowing into the first rows irrigated after the plug has progressed sufficiently far down the pipe. Improved water management is achieved by varying the speed of the plug, which controls the timing of water flows into each furrow.”



Questions: What advantages for farmers would there be in an irrigation system that improved water management? What advantage, if any, would there be in this farm technology for ordinary Americans?

Era 10: Contemporary United States, Standard 2A

Source: “Irrigation and Water Use: Glossary,” Economic Research Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 4, Embedded Resource 2

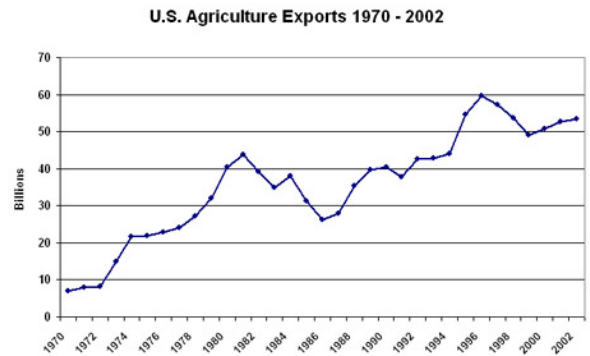
Agricultural exports

Examine this chart showing the value of U.S. agricultural exports from 1970 to 2002.

Questions: What happened to agricultural exports between 1980 and 1990? What impact do you think this economic change had on American farmers? What role do you think government should play if an important sector of the U.S. economy is struggling?

Era 10: Contemporary United States, Standard 2A

Source: U.S. Census Bureau [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 4, Embedded Resource 3

The Soviet grain embargo

In December 1979, the Soviet Union invaded Afghanistan. President Carter wanted the Soviet Union to know that they couldn't invade their neighbor without a strong response from the United States. As a result, the United States imposed a grain embargo, refusing to sell the Soviet Union 17 million tons of livestock grain that they had ordered. The embargo on grain was intended to impact the country's source of meat and thus force the Soviet government to reconsider the invasion. However, the Soviet Union was able to get enough grain from other countries, and didn't withdraw from Afghanistan until nearly ten years later. The embargo caused harm to an already struggling U.S. farm economy by removing an export market for American farmers. The grain embargo caused a surplus of grain, resulting in lower prices. In April 1981, soon after taking office, President Ronald Reagan lifted the embargo.

Questions: Should food be used as a weapon in foreign policy? Why or why not?

Era 10: Contemporary United States, Standard 2A

Source: Robert L. Paarlberg, “Lessons of the Grain Embargo,” *Foreign Affairs*, 1980 [online]; and Clifton B. Luttrell, “The Russian Grain Embargo: Dubious Success,” Federal Reserve Bank of St. Louis [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 4, Embedded Resource 4

U.S. droughts

In the 1980s, several areas of the United States suffered from serious droughts. Just as in previous years, droughts today still impact agriculture. A drought is a natural occurrence in nature that happens in an area when precipitation (snow or rainfall) is less than normal for a period of time. Other factors that may make droughts more severe include periods of hot and/or windy weather. Droughts often have a serious impact on agriculture and the people that depend on it. Visit the National Weather Service website to learn which areas in the United States are currently experiencing drought conditions.

Questions: Where are the droughts in the United States expected to persist? Where in the United States are drought conditions lessening? How do you think droughts in one part of the country impact other parts of the nation?

Era 10: Contemporary United States, Standard 2A

http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 4, Embedded Resource 5

Easy credit leads to hard times

During the 1970s, farmers took advantage of good economic times to expand. They bought more land, more expensive and better machines, and more farming supplies and services. Many farmers paid for the cost of expansion with low-interest loans. Unfortunately, the economy began to change in the late 1970s. Interest rates went up, people became more conservative in their spending habits, which forced prices on farm goods down, and farm debts began to grow. Some farmers hoped to ride out the bad times by getting more loans, but the hard times persisted, and farmers made even less money. Many farmers lost their farms, or had to get second jobs when their farm was not providing enough income to support their families.

Questions: For what purposes did farmers borrow money in the 1970s? How did the economic downturn of the early 1980s make it difficult or impossible to repay their debt? What lessons can Americans learn from their experience?

Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 5, Embedded Resource 1

Reaganomics

Read about the economy in the United States during the 1980s from *An Outline of the U.S. Economy*.

“The nation endured a deep recession throughout 1982. Business bankruptcies rose 50 percent over the previous year. Farmers were especially hard hit, as agricultural exports declined, crop prices fell, and interest rates rose. But while the medicine of a sharp slowdown was hard to swallow, it did break the destructive cycle in which the economy had been caught. By 1983, inflation had eased, the economy had rebounded, and the United States began a sustained period of economic growth. The annual inflation rate remained under 5 percent throughout most of the 1980s and into the 1990s.

“The economic upheaval of the 1970s had important political consequences. The American people expressed their discontent with federal policies by turning out Carter in 1980 and electing former Hollywood actor and California governor Ronald Reagan as president. Reagan (1981–1989) based his economic program on the theory of supply-side economics, which advocated reducing tax rates so people could keep more of what they earned. The theory was that lower tax rates would induce people to work harder and longer, and that this in turn would lead to more saving and investment, resulting in more production and stimulating overall economic growth. While the Reagan-inspired tax cuts served mainly to benefit wealthier Americans, the economic theory behind the cuts argued that benefits would extend to lower-income people as well because higher investment would lead [to] new job opportunities and higher wages.

“The central theme of Reagan’s national agenda, however, was his belief that the federal government had become too big and intrusive. In the early 1980s, while he was cutting taxes, Reagan was also slashing social programs. Reagan also undertook a campaign throughout his tenure to reduce or eliminate government regulations affecting the consumer, the workplace, and the environment. At the same time, however, he feared that the United States had neglected its military in the wake of the Vietnam War, so he successfully pushed for big increases in defense spending.

“The combination of tax cuts and higher military spending overwhelmed more modest reductions in spending on domestic programs. As a result, the federal budget deficit swelled even beyond the levels it had reached during the recession of the early 1980s. From \$74,000 million in 1980, the federal budget deficit rose to \$221,000 million in 1986. It fell back to \$150,000 million in 1987, but then started growing again. Some economists worried that heavy spending and borrowing by the federal government would re-ignite inflation, but the Federal Reserve remained vigilant about controlling price increases, moving quickly to raise interest rates any time it seemed a threat. Under Chairman Paul Volcker and his successor, Alan Greenspan, the Federal Reserve retained the central role of economic traffic cop, eclipsing Congress and the president in guiding the nation’s economy.

“The recovery that first built up steam in the early 1980s was not without its problems. Farmers, especially those operating small family farms, continued to face challenges in making a living, especially in 1986 and 1988, when the nation’s mid-section was hit by serious droughts, and several years later when it suffered extensive flooding. Some banks faltered from a combination of tight money and unwise lending practices, particularly those known as savings and loan associations, which went on a spree of unwise lending after they were partially deregulated. The federal government had to close many of these institutions and pay off their depositors, at enormous cost to taxpayers.”

Questions: What ideas formed the basis of President Ronald Reagan’s economic theory known as “Reaganomics”? How well did his economic policies work? What impact did they have on agriculture?

Era 10: Contemporary United States, Standard 2A

Source: “The U.S. Economy: A Brief History,” *An Outline of the U.S. Economy*, U.S. Information Agency [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 5, Embedded Resource 2

Conservation Reserve Program

"Originally authorized under the 1985 Farm Bill, [the Conservation Reserve Program (CRP)] is a voluntary program sponsored by USDA that provides incentives to landowners to remove environmentally sensitive land from agricultural production and instead establish protective vegetative cover of grass, trees, or wildlife habitat. Since its inception in 1986, this program has helped reduce soil erosion by more than 40 percent and restored 1.8 million acres of critical wetlands. Since President Bush signed the historic 2002 Farm Bill, CRP has increased enrollment by 2.6 million acres, conserving a total of 34.8 million acres of environmentally sensitive land for wildlife habitat, riparian buffers, and soil protection. The 2002 Farm Bill provides more than \$40 billion over a decade to restore millions of acres of wetlands, protect habitats, conserve water, and improve streams and rivers near working farms and ranches."



Questions: Why would the government be willing to pay farmers money to participate in the Conservation Reserve Program? How can this program change life in America? Why would a farmer want to participate in the program? Why not?

Era 10: Contemporary United States, Standard 2A

Source: "Conservation Initiatives Fact Sheet," White House [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 5: 1970-Present, Screen 5, Embedded Resource 3

FARM AID concerts

On September 22, 1985 in Champaign, Illinois, musicians Willie Nelson, Neil Young, and John Mellencamp organized the first FARM AID concert. The concert helped raise money for farmers who were threatened with losing their family farms. Some of the other singers and musicians who performed at the concert were Bob Dylan, Billy Joel, B. B. King, Loretta Lynn, Roy Orbison, and Tom Petty. Visit the website of the FARM AID organization to learn more about their history and mission.

Questions: Why were these singers and musicians so concerned about the plight of small family farms in the 1980s? What has happened to the FARM AID concerts? Do you agree or disagree with this organization's cause? Why or why not?

Era 10: Contemporary United States, Standard 2A

http://www.farmaid.org/site/PageServer?pagename=aboutus_history



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 5, Embedded Resource 4

Farmers Home Administration

Read about how the Congress directed the Farmers Home Administration to modify its credit policies for farmers during the 1980s.

“Congress established the Farmers Home Administration (FmHA) in response to the economic impact of the Great Depression of the 1930s. Both the Farm Credit System (FCS) and FmHA have played major roles in supplementing agricultural credit provided by private lenders such as commercial banks and life insurance companies by providing credit to enable producers to purchase farmland as well as to finance annual production expenses. The two lenders play different roles. The Farm Credit System provides credit to creditworthy borrowers. Farmers Home Administration makes financial assistance available primarily to family farmers unable to secure credit from private lenders.”

Furthermore:

“When the farm economy deteriorated in the early and mid-1980’s, it became apparent that a significant portion of FmHA’s loan portfolio would not be repaid by delinquent borrowers and that increased Congressional appropriations in the future would be needed to address shortfalls.

“In 1987, Congress addressed the deteriorating financial position of farm lending organizations across the country in two acts: the Agricultural Credit Act of 1987 (ACA), a supplemental appropriations act. Congress directed FmHA to reinstate the ‘continuation policy’ which allows borrowers to obtain additional credit without having to show an ability to repay prior loans. FmHA’s loan servicing process traditionally included rescheduling, reamortization, and deferrals. The ACA liberalized this, authorizing FmHA to write-down delinquent loans to allow borrowers to continue operating their farms whenever possible. The Food, Agriculture, Conservation and Trade Act of 1990 (FACTA) limited post-November 28, 1990 debt write-down to a lifetime amount of \$300,000. In addition, a loan cannot be written down to the point that the net present value of the reduced loan is less than the net recovery value of the loan (prior to restructuring) if liquidated through foreclosure. When no way can be found to restructure a loan through loan servicing and property is foreclosed on by FmHA or voluntarily conveyed to it, the former owner has the first opportunity to lease or repurchase the property, more often than not with Federal financing.”

Questions: What reasons would the government have for providing loans to farmers who could not obtain credit from commercial sources? Why would the government direct the Farmers Home Administration to be lenient on farmers who could not repay their debts during the 1980s?

Era 10: Contemporary United States, Standard 2A

Sources: “Crisis and Activism: 1929–1940,” *U.S. Senate Committee on Agriculture, Nutrition, and Forestry, 1825–1998* [online]; and “Agricultural Programs,” *The Impact of Federal Programs on Wetlands: A Report to Congress by the Secretary of the Interior, 1994* [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 5, Embedded Resource 5

Wetlands

Natural resources and sustainable agricultural systems are a major program area for the USDA's Agricultural Research Service. Many career scientists around the country work on projects in this program area.

Questions: Why would the U.S. Department of Agriculture be responsible for doing conservation research? How does American agriculture benefit from research on natural resources? How do farmers benefit? How does the American public benefit?



Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 5, Embedded Resource 6

World Trade Organization

The World Trade Organization (WTO) develops the rules for trade between nations. Visit the WTO In Brief web page to learn about the WTO. Explore some of the links on this page to examine the organization's history and its mission.

Questions: How might membership in the WTO benefit American agriculture? How might it cause problems for agriculture in the United States? What concerns might some Americans have regarding our nation's membership in the WTO?

Era 10: Contemporary United States, Standard 2A

http://www.wto.org/english/thewto_e/whatis_e/inbrief_e/inbr00_e.htm



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 6, Embedded Resource 1

Community Supported Agriculture

As an alternative to competing with large farms, many small farm owners are now marketing specialty products directly to consumers through Community Supported Agriculture (CSA). Visit the Sustainable Agriculture Research and Education website to learn about CSA farms. Find a CSA farm near you.

Questions: Why are there more CSA farms in some states than in others? What advantages do farmers with this kind of marketing approach enjoy? What might be the limitations? Besides providing Americans with an alternative source of food, what other benefits could there be?

Era 10: Contemporary United States, Standard 2A

<http://www.sare.org/csa/>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 6, Embedded Resource 2

Diversified farming

“Karl Kupers, an eastern Washington grain grower, was a typical dryland wheat farmer who idled his land in fallow to conserve moisture. After years of watching his soil blow away and his market price slip, he made drastic changes to his 5,600-acre operation. In place of fallow, he planted more profitable hard red and hard white wheats along with seed crops like condiment mustard, sunflower, grass and safflower. All of those were drilled using a no-till system Kupers calls direct-seeding.



“I look at this more diverse system as a tremendous opportunity to decrease chemical use and make more net profit per acre,’ said Kupers, who received a grant from USDA’s Sustainable Agriculture Research and Education (SARE) program to offset the risk. Now, he puts his exuberant personality to work as an aggressive marketer of alternative crops—clearing more profits each year while achieving his goal to save soil.

“Economically, I think we’re just about at that point where we can show that we can be sustainable for the short term and the future,’ he said. ‘We put no dust in the atmosphere, there’s no particulate matter, if water does run off our soils, it is clean water.’

“Although growing alternative crops to diversify a traditional farm rotation increase[s] profits while lessening adverse environmental impacts, the majority of U.S. cropland is still planted in just three crops: soybeans, corn and wheat. That lack of crop diversity can cause problems for farmers, from low profits to soil erosion. Adding new crops that fit climate, geography and management preferences can improve not only your bottom line, but also your whole farming outlook.

“Continued low commodity prices have gradually driven more and more people to look for other options,’ said Rob Myers, executive director of the Thomas Jefferson Agricultural Institute in Columbia, Mo. For some farmers, planting alternative crops has made an ‘immediate and significant’ improvement in income, he said.

“Kupers is not the only farmer who diversified his monoculture cropping system to enjoy renewed profits. Members of the Northwest Kansas Farm Management Association, for example, enjoyed average net farm incomes of \$50,485 in 1998—three times that of other Kansas growers—after diversifying their operations.”

Questions: Why did Karl Kupers diversify his farming operation? What benefits did Kupers achieve by planting alternative crops? How did the government help Mr. Kupers with his efforts to diversify his farm? Do you agree or disagree with the government’s efforts to support this farmer? Why or why not?

Era 10: Contemporary United States, Standard 2A

Source: “Diversifying Cropping Systems,” *Opportunities in Agriculture Bulletin*, Sustainable Agriculture Research and Education, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 6, Embedded Resource 3



Catfish farming

“Catfish farming makes up a large percentage of the U.S. aquaculture industry and typifies aquaculture in action.

“The life of a farm-raised catfish begins with the mating of genetically bred broodstock. Broodstock are sexually mature fish used solely for reproduction. They are so important that some farmers specialize in their production.

“Typically, once the eggs are laid and fertilized, they are placed in controlled hatching tanks with oxygenated water of suitable temperature and quality. The eggs hatch in seven to eight days, and 18 days after hatching the young catfish-’fry,’ as they are called-are strong enough to be transferred to outdoor ponds to mature.

“The pond size may vary from 5 to 20 acres, is 4 to 5 feet deep, and is usually fed by a good supply of well water. Catfish fry, which are less than 1 inch long at this point, are stocked at densities ranging from 70,000 per acre to upwards of 200,000 per acre, as recommended by hatchery biologists.

“Once fish enter the pond, their growth and survival will wholly depend upon the quality of that environment. Everything the fish comes into contact with has the potential of becoming a part of the edible flesh of that organism and can affect its life. If the water or food contains contaminants, they may end up in the fish. If improper drugs are used to treat a disease, residues of those drugs may also become a part of the fish. If too many aquatic plants are present, they will compete with the fish for oxygen. Sound management is essential to keep the fish growing.

“So, from the time of stocking to the time of harvest, the farmer is busy controlling the aquaculture system.

“First, every attention is given to the quality of the commercially prepared dry pellet diet. It must be high in protein, made of soybeans, corn, wheat, and fishmeal, and contain a balance of essential vitamins and minerals.

“A balanced diet of floating pellets is mechanically scattered on the fish pond’s surface once or twice daily. Fish gourmets credit the pellet for the catfish’s distinctive flavor, which they say they would recognize blindfolded. Others say the taste comes from the sweet well water in which the catfish grow. This, too, is managed by the farmer.

“Even before the fish go into the pond, water quality and location are concerns. The farmers make sure the pond’s soil is free of pesticides and not contaminated. Then they secure an abundant source of clean water. Most catfish farmers use well water because of its desirable chemical makeup and lack of contaminants.

“The water quality must be constantly checked for optimum growth requirements: proper temperature, the right amount of oxygen, the appropriate water chemistry, and just the right balance of aquatic plants and weeds.

“Under the best conditions, 18 to 24 months after hatching, the catfish reach a market weight size of one and one-quarter to one and one-half pounds. They are transferred from the pond to water-laden, oxygen-treated tank trucks for live shipment to the processing plant.”

Questions: How does fish farming compare to growing traditional agricultural products? What are the advantages? What are the disadvantages?

Era 10: Contemporary United States, Standard 2A

Source: Beverly Corey, “Life on a Fish Farm: Food Safety a Priority,” U.S. Food and Drug Administration [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 6, Embedded Resource 4

Sustainable agriculture

Read the booklet *Exploring Sustainability in Agriculture* at the Sustainable Agriculture Research and Education Service website, and then answer the following questions.

Questions: What makes sustainable agriculture different from conventional agriculture? How many different ways are there to practice sustainable agriculture? How would you define the basic principles of sustainable agriculture? In your opinion, how will this approach to agriculture change our nation and the world?

Era 10: Contemporary United States, Standard 2A

<http://www.sare.org/publications/explore/explore.pdf>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 6, Embedded Resource 5

Transitioning to organic farming

“When John Vollmer, a third-generation tobacco farmer in Bunn, N.C., decided to stop growing tobacco and start raising strawberries organically, it was an unexpected move for someone who describes himself as a chemical-oriented farmer. Yet, Vollmer, whose main priority was finding a way to keep the family farm in the family, recognized that organic production might be a route to greater profits.



“It was not an easy transition for me to think in other ways,’ said Vollmer, a former agricultural chemical salesman. Yet, as he read books on organic soil management, he soon found himself fascinated by organic farming concepts. Over the next two years, he built soil organic matter with composts and cover crops and carefully researched organic techniques. Then he began his transition.

“Since then, his two acres of organic strawberries have been so successful that Vollmer brought another 25 acres into mixed fruit and vegetable production using the same soil and pest management techniques. While he has not certified that new acreage because he still wants to apply agri-chemical sprays if needed, he now considers himself more organic than conventional in the new field. In fact, asked whether he has any doubts about organic farming, Vollmer replied that he has only one: whether he should be transitioning those 25 acres now~or later.

“Vollmer typifies the enormous changes that have occurred in organic farming over the last 20 years. Two decades ago, it would have been impossible to predict the huge expansion of the organic industry.”

Questions: How long did it take John Vollmer to prepare his farm to become an organic agricultural operation? What steps did he go through to make the transition? How successful did he feel his efforts were?

Era 10: Contemporary United States, Standard 2A

Source: “Transitioning to Organic Production,” *Opportunities in Agriculture Bulletin*, Sustainable Agriculture Research and Education, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 1

Precision agriculture

These northern Louisiana farmers are using global positioning technology to make precise applications of fertilizers, pesticides, and herbicides where they are needed on small areas of the field.



Questions: How might using computers and global positioning satellites benefit these farmers? How difficult would it be to make precise applications of fertilizers, pesticides, and herbicides to small areas of a field without the aid of computers and other information technologies?

Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 2

Natural Resource Conservation Service

The Plants Database is part of the USDA's Natural Resource Conservation Service. According to the USDA, the database contains "standardized information about the vascular plants, mosses, liverworts, hornworts, and lichens of the U.S. and its territories." Visit the database website and type in the common name of a plant in your part of the country.

Questions: Is the plant you typed in native to the United States? In what states is the plant found? What is its scientific name? Why would collecting all the plant information for the United States be part of the mission of the USDA's Natural Resource Conservation Service? How can farmers and ranchers make use of this information? How can Americans with backyards or rooftop and community gardens make use of this information?

Era 10: Contemporary United States, Standard 2A

<http://plants.usda.gov/>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 3

Global Positioning System

"The Global Positioning System (GPS) is a space-based radio-navigation system consisting of a constellation of satellites and a network of ground stations used for monitoring and control. A minimum of 24 GPS satellites orbit the Earth at an altitude of approximately 11,000 miles providing users with accurate information on position, velocity, and time anywhere in the world and in all weather conditions.

"GPS is operated and maintained by the Department of Defense (DoD). The Interagency GPS Executive Board (IGEB) manages GPS, while the U.S. Coast Guard acts as the civil interface to the public for GPS matters. The Federal Aviation Administration is investigating and applying the use of GPS as it pertains to aviation.

"History and Development GPS, formally known as the Navstar Global Positioning System, was initiated in 1973 to reduce the proliferation of navigation aids. By creating a system that overcame the limitations of many existing navigation systems, GPS became attractive to a broad spectrum of users worldwide. GPS has been successful in virtually all navigation applications, and because its capabilities are accessible using small, inexpensive equipment, GPS is being utilized in a wide variety of applications across the globe."

Questions: What areas of your life does the GPS impact? In what ways would a farmer benefit from the GPS?

Era 10: Contemporary United States, Standard 2A

Source: "GPS Basics," Satellite Navigation Product Teams, Federal Aviation Administration [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 4

Outlook for farmers and ranchers

The Bureau of Labor and Statistics *Occupational Outlook Handbook* contains detailed descriptions of the employment opportunities for farmers, ranchers, and agricultural managers. Visit their website and answer the following questions.

Questions: Which of the points are most significant to you? Why do people choose to work within these very important, but difficult, jobs?

Era 10: Contemporary United States, Standard 2A

<http://stats.bls.gov/oco/ocos176.htm>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 5

Farmers and computers

Successful farming requires “smart” work. Read this article about farmers and their use of computers at the *Journal of Extension* and answer the following questions.

Questions: Why does the author of the article write that farmers must farm “smarter”? How will computers help farmers be more successful?

Era 10: Contemporary United States, Standard 2A

<http://www.joe.org/joe/1990spring/a4.html>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 7, Embedded Resource 6

Extension Service

“All universities engage in research and teaching, but the nation’s more than 100 land-grant colleges and universities, have a third critical mission—extension. ‘Extension’ means ‘reaching out,’ and—along with teaching and research—land-grant institutions ‘extend’ their resources, solving public needs with college or university resources through non-formal, non-credit programs.

“Congress created the extension system nearly a century ago to address exclusively rural, agricultural issues. At that time, more than 50 percent of the U.S. population lived in rural areas, and 30 percent of the workforce was engaged in farming. Extension’s engagement with rural America helped make possible the American agricultural revolution, which dramatically increased farm productivity:

-In 1945, it took up to 14 labor-hours to produce 100 bushels of corn on 2 acres of land.

-By 1987, it took just under 3 labor-hours to produce that same 100 bushels of corn on just over 1 acre.

-In 2002, that same 100 bushels of corn were produced on less than 1 acre.

“That increase in productivity has allowed fewer farmers to produce more food.

“Fewer than 2 percent of Americans farm for a living today, and only 10 percent of Americans now live in rural areas. Yet, the extension service still plays an important role in American life—rural, urban, and suburban. With its unprecedented reach—with an office in or near most of the nation’s approximately 3,000 counties—extension agents help farmers grow crops, homeowners plan and maintain their homes, and children learn skills to become tomorrow’s leaders.”

Questions: How does the USDA and its land-grant extension partners work together to help farmers? Why does the government work with universities to do this work? Who benefits from extension services besides farmers?

Era 10: Contemporary United States, Standard 2A

Source: “Extension: Introduction,” Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 1

NAFTA

“The North American Free Trade Agreement (NAFTA), which took effect on January 1, 1994, called for the phasing out of virtually all restrictions on trade and investment flows among the United States, Canada, and Mexico over 10 years (with a few of the most sensitive restrictions eliminated over 15 years). The United States and Canada were already well into the elimination of the barriers between themselves in accordance with the Canada–United States Free Trade Agreement, so the main new feature of NAFTA was the removal of the barriers between Mexico and those two countries.”

Questions: Why did the United States enter into this agreement with Canada and Mexico? What benefits does NAFTA provide to each of the three countries? Do you think that NAFTA is a good idea? Why or why not?

Era 10: Contemporary United States, Standard 2A

Source: *The Effects of NAFTA on U.S. Mexican Trade and GDP*, Congressional Business Office [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 2

Human Genome Project

Since 1947, the Department of Energy (DOE) and its predecessor agencies have been charged by Congress with developing new energy resources and technologies and pursuing a deeper understanding of the potential health and environmental risks posed by their production and use. Such studies, for example, have provided the scientific basis for individual risk assessments of nuclear medicine technologies. Visit the Human Genome Project website sponsored by the DOE and answer the following questions.

Questions: Why is the Department of Energy tasked by Congress to study human genomes? What is the value of this research?

Era 10: Contemporary United States, Standard 2A

http://www.ornl.gov/sci/techresources/Human_Genome/publicat/primer2001/2.shtml



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 3

Cloning

“Proponents of livestock cloning see it benefiting consumers, producers, animals and the environment.

“The consumer is looking for a nutritious and wholesome product provided to them in a repeatable and reliable manner and produced in a humane and ethical way,’ says [rancher and veterinarian Donald] Coover, who also owns and manages SEK Genetics Inc., a beef cattle semen distribution company. ‘If a consumer spends \$30 on a steak dinner at a restaurant, they expect a great steak, but don’t always get it.’



“For farmers whose livelihoods depend on selling high-quality meat and dairy products, cloning can offer a tremendous advantage, says Coover. It gives them the ability to preserve and extend proven, superior genetics. They can select and propagate the best animals—beef cattle that are fast-growing, have lean but tender meat, and are disease-resistant[,] dairy cows and goats that give lots of milk and sheep that produce high-quality wool. Through cloning, it would be possible to predict the characteristics of each animal, rather than taking the chance that sexual reproduction and its gene reshuffling provide.

“Coover compares the process of identifying a superior animal to spinning a giant roulette wheel. ‘Sometimes you win, sometimes you lose, and sometimes you hit the jackpot.’ But a producer cannot tell if he’s hit the jackpot with a young animal. ‘It’s like trying to identify the school kid in the second grade who is going to grow up to solve the riddle of cancer,’ says Coover. ‘A rancher may think he has a good bull, but that bull has to sire calves, the calves have to mature and produce calves of their own, and this has to occur for several generations to know that it’s not a fluke. By that time, the bull is dead and gone, and its genetics are lost to the industry.’ Through SCNT cloning, even deceased animals can be cloned if a tissue sample is preserved in life or within a short time after death.

“Cloning has the potential to improve the welfare of farm animals by eliminating pain and suffering from disease. ‘From time to time, in nature, you find a naturally disease-resistant animal,’ says [Larisa] Rudenko [a molecular biologist and risk assessor in the Food and Drug Administration’s Center for Veterinary Medicine]. ‘You can expand that genome through cloning, and then breed that resistance into the overall population and help eliminate major diseases in livestock.’

“Cloning can reduce the number of unwanted animals, such as veal calves,’ says Ray Page, chief scientific officer and biomedical engineer at Cyagra, a livestock cloning company. Veal calves are commonly surplus male offspring from dairy cows. Since the males don’t produce milk, they are not as useful to the dairy industry and are turned into veal calves. Cloning can ensure the creation of more female offspring for dairy production.

“An environmental benefit could result from cloning grass-fed instead of grain-fed animals. Grain-fed animals are known to be better tasting and more tender, but once in a while, a high-quality grass-fed animal comes along. ‘If we can move our cattle-raising from a grain economy to a grass-fed economy, we can make food more efficiently and there are benefits to us as a society,’ says John Matheson, a toxicologist and environmentalist who serves as a senior regulatory review scientist for biotechnology in CVM. Grass is a soil-building crop. In addition to reducing erosion, grass does not need the quantities of fertilizers and pesticides required by grain. And because forage is cheaper than grain, production savings can be passed on to consumers.

“Cloning can help spread the best genetics over larger populations of animals,’ says [Ph.D. Steven] Stice. When farm animals are cloned, genetic diversity may be reduced, but cloning can also be a tool to preserve rare genetics in livestock and, potentially, wild animals. Stice encourages zoos and wildlife refuges to preserve the tissue of endangered species in the hopes that technology in the theoretical stage today can be developed to regenerate these species in the future.”

Questions: What are the anticipated benefits of cloning? What are the anticipated drawbacks of cloning? Do you think researchers should continue studying cloning techniques?

Era 10: Contemporary United States, Standard 2A

Source: Linda Bren, “Cloning: Revolution or Evolution in Animal Production?” *FDA Consumer Magazine* (May–June 2003) [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 4

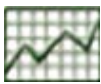
George H. W. Bush

George H. W. Bush was the forty-first President of the United States. Visit the White House website to read a brief biography of the father of the forty-third President, and then answer the following questions.

Questions: What were President Bush's greatest accomplishments? Why was he not elected to a second term?

Era 10: Contemporary United States, Standard 2A

<http://www.whitehouse.gov/history/presidents/gb41.html>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 5

NAFTA successes

"Some Positive Stories from NAFTA

"U.S. pork producers credit NAFTA with their gains in market share in Mexico for pork products which increased 130 percent between 1994 and 2000.

"The volume of U.S. beef and veal exports to Canada increased 26 percent between 1990 and 2000 and increased over fivefold to Mexico during 1993 to 2000.

"Sales of U.S. corn to Canada increased more than 127 percent in volume between 1990 and 2000 and increased nearly eighteen fold to Mexico during 1993 to 2000. Mexico chose to expedite its market openings for corn under NAFTA in order to provide lower cost food to its increasingly urban population and to ensure it had sufficient animal feed. The volume of U.S. soybean exports to Canada increased 15 percent between 1990 and 2000 and doubled for Mexico during 1993 to 2000.

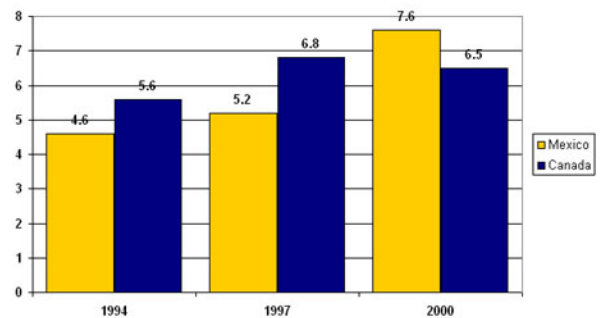
"Exports of U.S. horticultural products to Canada have increased almost 30 percent since 1994, reaching \$3.3 billion in 2000."

Questions: Why have agricultural exports increased since NAFTA took effect? What effect would these increases have on American farmers? Why do you think some people are against NAFTA?

Era 10: Contemporary United States, Standard 2A

Source: "Benefits of NAFTA," *FAS Backgrounder*, Foreign Agricultural Service, U.S. Department of Agriculture [online].

U.S. Agricultural Exports to NAFTA Partners
Have Increased by \$4 Billion Since 1994





GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 8, Embedded Resource 6

The Cold War ends

“After World War II, the alliance between the Soviet Union and its western allies disintegrated into the Cold War. During this time period, the United States and the Soviet Union (USSR) became the world’s two superpowers. They waged war not through direct confrontation, but instead through a series of arms races, nuclear threats, and smaller conflicts around the globe.



“As this war continued, the United States and the USSR stockpiled thousands of nuclear weapons in the anticipation that war might occur. The goal was to have so many weapons that the other side would not dare attack for fear of its own destruction.

“Fear of Communism spreading into the United States became widespread during the Cold War. In the 1950s, the McCarthy hearings were held, where zealous Congressional leaders tried to expose American citizens who may have been communist party members.

“During the Cold War, the United States wanted to prevent the spread of communism into new areas and became involved in various efforts to do this. The North Atlantic Treaty Organization (NATO) was organized in 1949 and led by the United States. This organization of western nations agreed to help each other if attacked by other nations. Among some of the conflicts that took place during the Cold War were the Berlin Blockade[,] the Communist take-over of China[,] the Korean War[,] the Bay of Pigs invasion[,] the Cuban Missile Crisis[,] the space race[,] the Vietnam War[,] and the East German, Polish, Hungarian, and Czechoslovakian uprisings.

“The Cold War finally ended in 1990. Communism proved to be an economic and political failure. Almost overnight, the communist governments in Eastern Europe and in the Soviet Union itself collapsed. Only China and Cuba today remain countries under a communist form of government.”

Questions: What influence has Communism had in the world? What influence does Communism continue to have? How important is it that Communism be overthrown?

Era 10: Contemporary United States, Standard 2A

Source: “The Cold War,” *Wars in U.S. History*, Download Learning [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 1

William J. Clinton

Bill Clinton was the first Democratic President since Franklin D. Roosevelt to win a second term. Visit the White House website to read a brief biography of this very popular President and answer the following questions.

Questions: Why was President Clinton so popular? Why did he eventually become only the second President to be impeached?

Era 10: Contemporary United States, Standard 2A

<http://www.whitehouse.gov/history/presidents/bc42.html>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 2

Organic food standards and labels

“The U.S. Department of Agriculture has put in place a set of national standards that food labeled ‘organic’ must meet, whether it is grown in the United States or imported from other countries. After October 21, 2002, when you buy food labeled ‘organic,’ you can be sure that it was produced using the highest organic production and handling standards in the world.



“What is organic food?”

Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides fertilizers made with synthetic ingredients or sewage sludge bioengineering or ionizing radiation. Before a product can be labeled ‘organic,’ a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too.

“Is organic food better for me and my family?”

USDA makes no claims that organically produced food is safer or more nutritious than conventionally produced food. Organic food differs from conventionally produced food in the way it is grown, handled, and processed.

“When I go to the supermarket, how can I tell organically produced food from conventionally produced food?”

You must look at package labels and watch for signs in the supermarket. Along with the national organic standards, USDA developed strict labeling rules to help consumers know the exact organic content of the food they buy. The USDA Organic seal also tells you that a product is at least 95 percent organic.

“Single-ingredient foods

Look for the word ‘organic’ and a small sticker version of the USDA Organic seal on vegetables or pieces of fruit. Or they may appear on the sign above the organic produce display.

“The word ‘organic’ and the seal may also appear on packages of meat, cartons of milk or eggs, cheese, and other single-ingredient foods.

“Foods with more than one ingredient

“The above photo shows examples of the labels that may be used on a wide variety of products that use organic ingredients.

“The sample cereal boxes show the four labeling categories. From left: cereal with 100 percent organic ingredients[,] cereal with 95–100 percent organic ingredients[,] cereal made with at least 70 percent organic ingredients[,] and cereal with less than 70 percent organic ingredients. Products with less than 70 percent organic ingredients may list specific organically produced ingredients on the side panel of the package, but may not make any organic claims on the front of the package. Look for the name and address of the Government-approved certifier on all packaged products that contain at least 70 percent organic ingredients.

“Will I find the USDA Organic seal on all 100 percent organic products, or products with at least 95 percent organic ingredients?”

No. The use of the seal is voluntary.

“How is use of the USDA Organic seal protected?”

People who sell or label a product ‘organic’ when they know it does not meet USDA standards can be fined up to \$10,000 for each violation.

“Does natural mean organic?”

No. Natural and organic are not interchangeable. Other truthful claims, such as free-range, hormone-free, and natural, can still appear on food labels. However, don’t confuse these terms with ‘organic.’ Only food labeled ‘organic’ has been certified as meeting USDA organic standards.”

Questions: Do you or your family use organically grown foods? Why or why not? How important is the supply of organically grown foods to you?

Era 10: Contemporary United States, Standard 2A

Source: “Organic Food Standards and Labels: The Facts,” Agricultural Marketing Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 3

Careers in agricultural science

Visit the Florida-Agriculture website to learn about careers in agriculture.

Questions: Why have careers in agricultural science become so specialized? Which careers are interesting to you, and what can you do to pursue them?

Era 10: Contemporary United States, Standard 2A

<http://www.florida-agriculture.com/consumers/careers.htm>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 4

Food safety

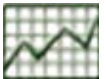
In his January 25, 1997 radio address, President Bill Clinton said the following:

“We have built a solid foundation for the health of America’s families. But clearly we must do more. No parent should have to think twice about the juice they pour their children at breakfast, or a hamburger ordered during dinner out.”

Questions: How do you feel about the safety of the food you eat each day? Why was the President concerned about the safety of America’s food supply?

Era 10: Contemporary United States, Standard 2A

Source: “Food Safety Initiative Fact Sheet,” FoodSafety.gov [online].

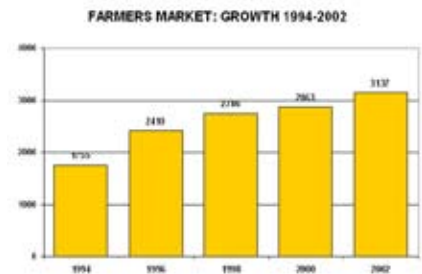


GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 5

Farmers’ markets

“Direct marketing of farm products through farmers markets continues to be an important sales outlet for agricultural producers nationwide. Farmers markets, now an integral part in the urban/farm linkage, have continued to rise in popularity, mostly due to the growing consumer interest in obtaining fresh products directly from the farm. The number of farmers markets in the United States has grown dramatically, increasing 79 percent from 1994 to 2002. According to the 2002 National Farmers Market Directory, there are over 3,100 farmers markets operating in the United States. This growth clearly indicates that farmers markets are meeting the needs of a growing number of farmers with small- to medium-size operations.”



Questions: Why have farmers’ markets grown in popularity among consumers? Why have they become more popular for farmers?

Era 10: Contemporary United States, Standard 2A

Source: “Farmers Market Facts,” Agricultural Marketing Service, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 9, Embedded Resource 6

Vertical integration

Vertical integration exists when a company owns all the different aspects of making, selling, and delivering a product or service. In the oil industry, for example, this refers to major oil companies that have ownership or control of the drilling, pumping, refining, and distribution of petroleum products.

Questions: How do you think vertical integration is used in agriculture? Who benefits from vertical integration in agriculture?

Era 10: Contemporary United States, Standard 2A



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 1

Global economy

“President George W. Bush said ‘We know that nations that open their economies to the benefit of trade are more successful in climbing out of poverty...We also know that free trade encourages the habits of liberty that sustain freedom. . . .’

“The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. The WTO agreements are negotiated and signed by the bulk of the world’s trading nations and ratified in their parliaments. The goal is to help producers of goods and services, exporters, and importers conduct their business.”

Questions: Do you think a global economy can work? What problems do you see for the United States and other countries around the world? What advantages are there to a global marketplace?

Era 10: Contemporary United States, Standard 2A

Source: E. Kwan Choi, “The Foundations of the World Trading System,” Economics 355, Iowa State University [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 2

Biosecurity

In response to the terrorist attacks on September 11, 2001, the President created the Department of Homeland Security, to coordinate counter terrorism efforts. Biosecurity is an important part of the Bioterrorism Preparedness and Response Act of 2002. Visit the USDA Cooperative State Research, Education, and Extension Service website on Agricultural and Food Biosecurity and answer the following questions.

Questions: How do you feel about our government’s actions to improve security? What are some of the animal and plant programs that make our nation’s agricultural system more secure?

Era 10: Contemporary United States, Standard 2A

http://www.csrees.usda.gov/nea/ag_biosecurity/ag_biosecurity.html



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 3

George W. Bush

George W. Bush was sworn into office in January of 2001. President Bush led the American people through the difficult days following the September 11 attacks. Visit the White House website to read a brief biography of President Bush and answer the following questions.

Questions: Which areas of President Bush's private life helped him become successful as President? What has President Bush done that impacted your life the most?

Era 10: Contemporary United States, Standard 2A

<http://www.whitehouse.gov/president/gwbbio.html>



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 4

Ann Veneman

"Ann M. Veneman was sworn in as the 27th Secretary of the U.S. Department of Agriculture (USDA) on January 20, 2001. Her lifelong commitment to food and farm issues, along with her bipartisan approach to solving problems and confronting new challenges, are reasons that explain why she was chosen by President George W. Bush to serve in his Cabinet and unanimously confirmed by the U.S. Senate.

"Growing up on a family farm in a small rural community, Ann Veneman understands well the issues important to America's farmers and ranchers. She has spent much of her career dedicated to food and agriculture issues and advancing sound U.S. farm and food policies.

"President Bush has often said that the spirit of the American farmer is emblematic of the spirit of America, signifying the values of hard work, faith and entrepreneurship. Secretary Veneman believes strongly in these principles and since taking office, has worked to foster economic opportunities for farmers and ranchers, ensure a safe and wholesome food supply, protect agriculture against pests and diseases, encourage conservation and environmental stewardship, invest in rural communities, and support the next generation of agricultural leaders through new educational opportunities.

"Secretary Veneman [played] a key role in eliminating trade barriers and expanding opportunities for American farmers through new export markets. She [worked] closely with U.S. Trade Representative Robert Zoellick, helping lead to the successful launch of a new round of trade negotiations for the World Trade Organization.

"Following a devastating outbreak of foot and mouth disease in parts of Europe and the tragic events of September 11th, Secretary Veneman and her team acted swiftly to respond to potential threats and continues working to strengthen USDA's protection systems. The Secretary has been an advocate for strong pest and disease, food safety and research programs to ensure U.S. agriculture and consumers have a safe, wholesome food supply and the infrastructure to protect it.

"Secretary Veneman [was] a strong advocate of agriculture education and established the 'Leaders of Tomorrow' initiative to strengthen USDA education programs, particularly those involved with mentoring young adults.

"The Secretary earned her bachelor's degree in political science from the University of California, Davis, a master's degree in public policy from the University of California, Berkeley, and a juris doctorate degree from the University of California, Hastings College of Law. In a personal capacity, she serves as a board member of the Close Up Foundation, a nonpartisan civic education organization."

Questions: What formal and informal training prepared Secretary Veneman for a position in President Bush's cabinet? What would you focus on if you were the Secretary of Agriculture?

Era 10: Contemporary United States, Standard 2A

Source: White House [online].





GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 5

Ethanol

“A golden kernel of corn is a rich source of many food and industrial products, one of which is ethanol. Ethanol production in the United States grew from 175 million gallons in 1980 to a record 2.8 billion gallons in 2003. This boost in ethanol demand has created a significant new market for corn.



“The United States is producing more ethanol from corn and other domestic, renewable resources than ever before,” says Kevin Hicks, research leader in ARS’s Crop Conversion Science and Engineering Research Unit. ‘Almost 10 percent of the U.S. corn crop is used to make fuel ethanol. That’s good for America’s farmers. Ethanol is also good for the environment because its use reduces greenhouse gas emissions.’”

Questions: What should America do to increase the production of alternative fuels? What can you do to help alleviate the difficulties America experiences with fuel shortages?

Era 10: Contemporary United States, Standard 2A

Source: “New Milling Methods Improve Corn Ethanol Production,” *Agricultural Research Magazine*, U.S. Department of Agriculture [online].



GROWING A NATION: INTO A NEW MILLENNIUM

Lesson 4: 1970-Present, Screen 10, Embedded Resource 6

Mike Johanns

In January 2005, Mike Johanns was sworn in as the twenty-eighth Secretary of the U.S. Department of Agriculture.

The Secretary was born in Iowa and grew up on a dairy farm. Read his biography at the U.S. Department of Agriculture website to learn why he was selected for this important position.

Questions: What qualifications do you think are necessary for a person to be selected as the Secretary of Agriculture? What impact do you think the Secretary of Agriculture has on agriculture in the United States?

Era 10: Contemporary United States, Standard 2A

http://www.usda.gov/wps/portal/!ut/p/ s.7 0 A/7 0 IOB?contentidonly=true&contentid=bios_johanns.xml