

GROWING A NATION

THE STORY OF AMERICAN AGRICULTURE

Into a New Millennium, Lesson 4: 1970–Present

Materials

- ◆ *Growing a Nation* CD and necessary projection equipment or computer lab
- ◆ Embedded Resource Cards
- ◆ *Farm Facts* booklets from <http://www.fb-orders.com/afbf/>
- ◆ Worksheets
- ◆ Transparency Masters

Background: Environment and Economics

Two Standards from Era 10 of the National United States History Standards related to agriculture, the environment and economics. Lesson 4 of the *Growing a Nation* program also focuses on this area. The Embedded Resources, discussed in Activity 1, provide an overview of Standards 1 and 2 concerning the environment, energy and economy of the United States. The “conservation movement” promoted by Teddy Roosevelt, Jon Muir (naturalist, preservationist), and Gifford Pinchot (conservationist, head of U.S. Forest Service) in the early 20th Century gave way to the “environmental movement” punctuated by Rachel Carson in the 1960s and continues on through environmental activism of the 21st Century. Evaluating the effectiveness of presidential administrations and how they have addressed social and environmental issues is at the core of Standard 1A. In voting for a president, Americans learn about the candidate’s environmental positions and may need to sort through environmental “facts” and “opinions.” Teddy Roosevelt condemned the view that America’s resources were endless and made conservation a primary concern. Roosevelt, Pinchot and most Progressives believed in using experts and scientific and technical information to solve problems. For Roosevelt conservation meant that some wilderness area would be preserved while others would be developed for the common good.

Carson’s book resulted in the Water Quality Act of 1965. President Johnson said that “There is no excuse. . .for chemical companies and oil refineries using our major rivers as pipelines for toxic wastes.” In 1970, President Nixon consolidated 15 existing federal pollution programs into the Environmental Protection Agency (EPA). In the 1980s, the environmental movement began to struggle with the balance between the environment, jobs, and progress.

Activity 2 uses critical thinking to help students examine an issue, risks, and how decisions are made. Activity 3 focuses on U.S. production, exports, and imports as they relate to international trade and economic trends. Students will analyze how issues such as na-

National Standards Explored

National Standards for Era 10. To view the correlated Standards and the student understanding of each Standard visit www.agclassroom.org/gan.

Era 10, Standard 1

- Evaluate the effectiveness of the administrations in addressing social and environmental issues.
- Describe agricultural innovation and consolidation in the postwar period and assess their impact on the world economy.

Era 10, Standard 2

- Evaluate how scientific advances and technological changes affect the economy and the nature of work.
- Assess the effects of international trade, transnational business organization, and overseas competition on the economy.

Enduring Understanding

The significant events throughout American agricultural history that have changed American society and the lives of her citizens.

Essential Questions:

- *Does America need to farm in the 21st Century?*
- *Who supports the 2% who grow products on farms and then ensure a finished product arrives as food, clothes, shelter, or energy? (Another 9% of the population in the role of scientists, specialists, processors, business professionals, etc.)*
- *Who will be the next generation of farmers, agricultural scientists and agricultural educators?*
- *What is sovereignty as it relates to America’s food and energy supplies?*

tional security, sovereignty, overseas competition, and environmental concerns affect the U.S. economy.

Activity 1: Embedded Resource

After students view selected slides, assign each student or group of students an Embedded Resource Card (Appendix 2) and ask them to be prepared to answer the Embedded Resource questions either by direct response or by using one of the Teaching and Learning Strategies outlined in Appendix 2. You may want to assign a particular strategy or cut the strategies into strips and ask each student to pick one or two. If the student or group of students is allowed to pick two, ask them to choose the learning strategy they prefer and put the other one back.

The embedded resources that pop up on each *Growing a Nation* screen are designed to be adaptable to a variety of teaching strategies and flexible for diverse learning styles. Each slide contains five or six embedded resources that detail events in American history that can be explored for a greater understanding of the time period or historical cause and effect relationships. Each embedded resource asks higher order questions to not only increase student knowledge but to increase their comprehension to the level of application, analysis, synthesis and evaluation (Bloom's Taxonomy of educational objectives). The Teaching and Learning Strategies in Appendix 2 can be applied to nearly all the embedded resources in addition to students answering the embedded resource questions.

Activity 2: Should this Product be Banned?

Relate the following to the class: A high school freshman doing a science project asked 50 people if they would sign a petition demanding strict control or total elimination of the chemical "dihydrogen monoxide" because it:

- can cause excessive sweating and vomiting,
- is a major component of acid rain,
- can cause severe burns in its gaseous state,
- can kill if aspirated,
- contributes to erosion,
- decreases effectiveness of automobile brakes, and
- has been found in tumors of terminal cancer patients.

Forty-three of the people surveyed said they would sign the petition, six were undecided, and one said "no." Yet, if the student had called dihydrogen monoxide by its common name (water), the results would have been a unanimous "no." Perception and context are critical to good judgment. Most issues require an examination of validity, context, and trade-offs. Review with students the following:



Validity: Was the research conducted properly and are the conclusions easy to understand? Is the disclosed information true? Has the research been replicated? Has the research been published and peer-reviewed?

Context: How is this data used? Is the whole picture being provided? What other factors or variables were left out of the research?

Trade-offs: Are the solutions worse than the problem? We get in our cars knowing there is a risk that we might be involved in an accident. We ingest tons of chemicals in the form of prescription drugs. Society often looks for a safety guarantee when, in fact, nothing we do is risk-free. We can do certain things to minimize risks. We can wear seat belts and drive defensively. We can take medicine only when we absolutely need it. But, even with these measures, we realize that nothing is 100% safe. Risk is the chance of injury, damage, or loss; the degree or probability of loss; the act of exposing oneself to a risk or taking a chance. Scientists and government officials usually address risk in terms of probability for populations, not individuals. The scientific classification for risk may range from low to high to absolute. However, individuals often associate the word “risk” with “danger” instead of “probability”.

As in other sectors, the science-based processes of risk assessment and management help determine reasonable agricultural and environmental risk levels. These processes measure and characterize risk, estimate the probability of occurrence, and predict the nature and magnitude of potential adverse effects. For example, scientists may assess various risk factors from pesticide residues in or on the foods people buy and develop management strategies to control residues. Risk managers integrate social, economic, and political factors into risk assessment results.

Ask students to work in small groups to identify the product in question and to do a risk/benefit analysis to reach a reasonable conclusion about whether the product should be banned. The product:

- contains a chemical that causes cancer in laboratory animals.
- causes serious injury to millions of people.
- kills 40,000 people a year.
- kills millions of animals a year.
- causes fires when ignited.
- requires tremendous resources for production.
- causes major air pollution problems.
- produces toxic gases.
- causes billions of dollars in property damage every year.
- destroys millions of acres of land for roads to facilitate it.

Ask each group to discuss its analytical process and conclusion with the entire class.

The product referred to is an automobile, and its risks are an acceptable part of American life because individuals believe they have control over the risks and because there often is not an acceptable alternative to the automobile.

This is the type of critical thinking that needs to be used when looking at all kinds of issues.

Source: Masalski, E. & Maston McMurray, L. (2004). *Agricultural & environmental issues*. In E. A. Wolanyk & L. Wink (Eds.), *Agriculture & the environment* (pp. 2-4). Washington, D.C.: American Farm Bureau Foundation.

Activity 3: International Trade, Interdependence, & Sovereignty

Ask the students if they or their families have ever purchased a product made in a different country. Encourage discussion by mentioning the brand names of various products such as Volkswagen (Germany), Sony (Japan), Toyota (Japan), Nintendo (Japan), Panasonic (Japan), Hyundai (South Korea), Adidas (Taiwan), Nokia (Finland), Barilla (pasta, Italy), Nestlé (Switzerland). Ask students to name American brand names; examples include: Levi's, Microsoft, Google, McDonald's, Heinz, Coca-Cola, Starbucks, Ford, and many more. Although these companies and their associated brand names are owned or operated in a particular country, each has substantial interest in the economy of one another. The products they produce may also require raw ingredients or inputs from each other or other countries around the globe. This is what is meant by the "global market" or "globalization." As a homework assignment, ask each student to complete the "Household Survey Worksheet."

When the class has completed the survey, make a chart on the whiteboard or overhead giving names of the countries and names of the brands. Ask the students to think about the results of the survey. Were they surprised by the number of products they found in their homes from other countries? Share the overheads "Where Your Food Dollar Goes," "American Agriculture's Share of World Production," "What We Sell to the World. . . What We Buy from Other Nations," and "Our Top Foreign Markets."

Use the World Map transparency and colored markers to indicate from what countries or states their families have products. Connect the dots from the countries or states to the state where the students reside. Do the students see any trends? Electronics, automobiles, food? Discuss with students that some countries specialize in producing goods at a price Americans are willing to pay. The U.S. government has trade agreements with many countries, but not with all. The World Trade Organization (WTO) is an international, multilateral organization which sets the rules for the global

trading system and resolves disputes between its member states, all of whom are signatories to its approximately 30 agreements.

As closure for this activity, ask students to create a concept map selecting one household item on their survey and then make the connections that product has to other resources, businesses, and careers. Can the student trace the product back to the farm or another natural resource such as oil (plastic)? Does the product's principle ingredient come from another country? You may want students to identify the location where the connections on their concept webs occur. Finally, as a class, discuss the Essential Questions noted on the first page of this lesson.

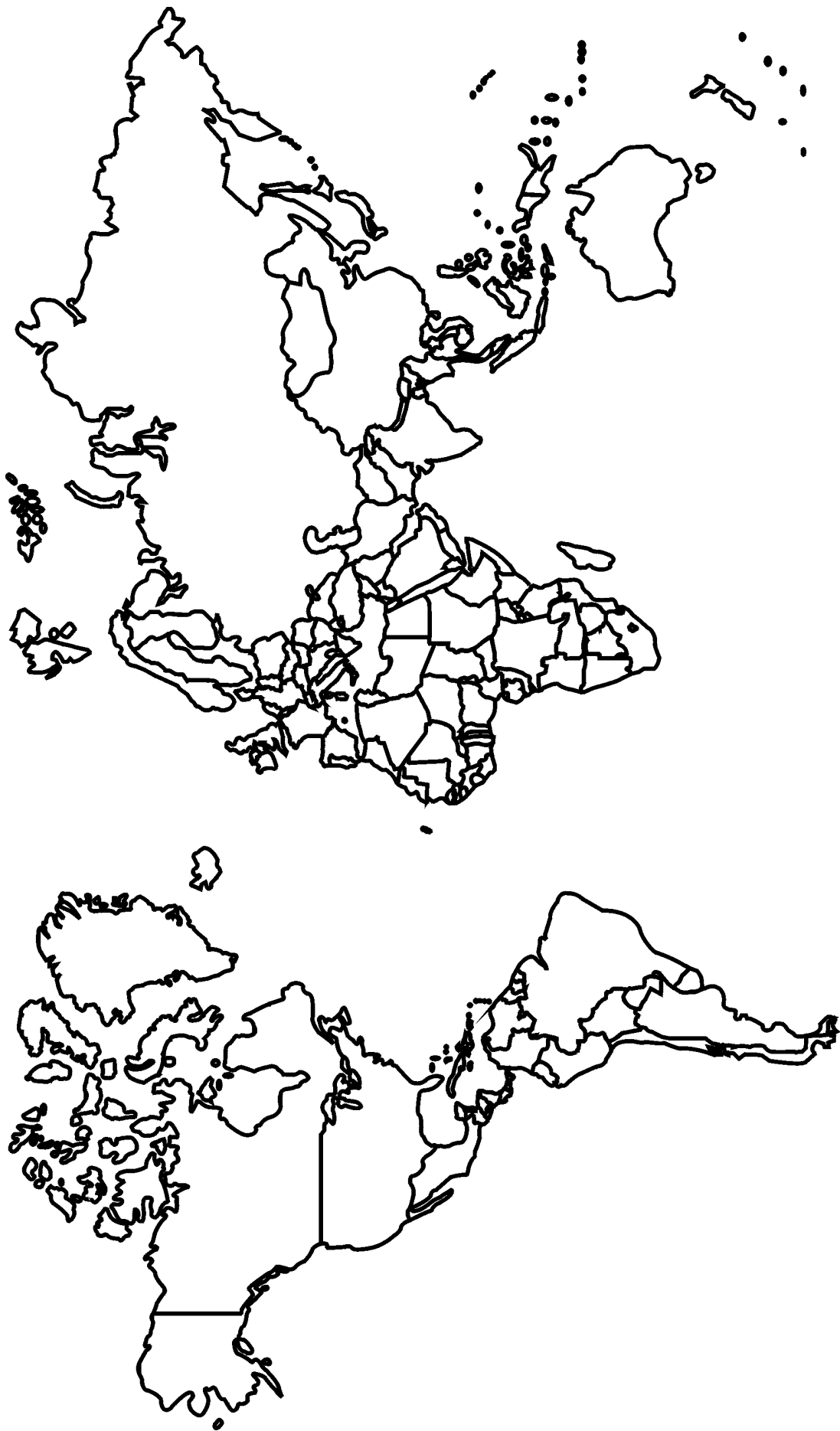
Transparency Graphic Source:

American Farm Bureau Federation. (2004). *Farm Facts*. (Publication No. AFB060470MFF01). Washington, D.C.: Author.

Household Survey

Directions: Use this chart as you search for products in your home. In the columns provided, write the brand name of the product and the country it came from. Identify the item you surveyed in the blanks.

Electronics/Appliances	Brand Name	Country
1. Television		
2. Radio		
3. CD Player		
4. Toaster		
5. Microwave		
6.		
7.		
8.		
Clothing		
1. Shoes, athletic		
2. Shirt		
3.		
4.		
5.		
Transportation		
1. Car		
2. Bicycle		
3.		
4.		
Food		
1. Milk		
2. Cereal		
3. Cheese		
4. Canned item 1:		
5. Canned item 2:		
6. Bread		
7. Fruit item:		



Where Your Food Dollar Goes

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

38.5¢ Off-Farm Labor →

8¢ Packaging →

4¢ Transportation →

3.5¢ Energy →

4.5¢ Profits →

4¢ Advertising →

3.5¢ Depreciation →

4.5¢ Rent →

2.5¢ Interest →

1.5¢ Repairs →

3.5¢ Business Taxes →

3¢ Other Costs* →

Farm →

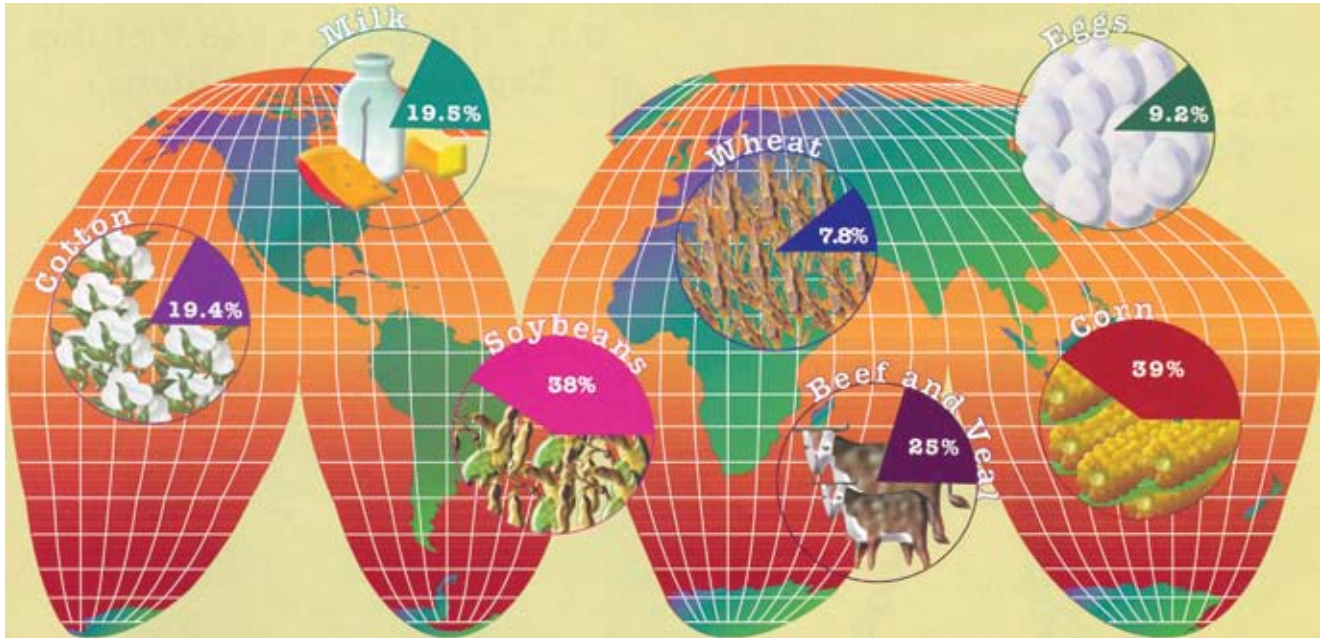
19¢



Farmers and Ranchers receive about **19 cents** out of every dollar. In 1980 farmers received **31 cents** out of every dollar spent on food in America.

***Other Costs** include property taxes and insurance, accounting and professional services, promotion, bad debts and many miscellaneous items.

American Agriculture's Share of World Production



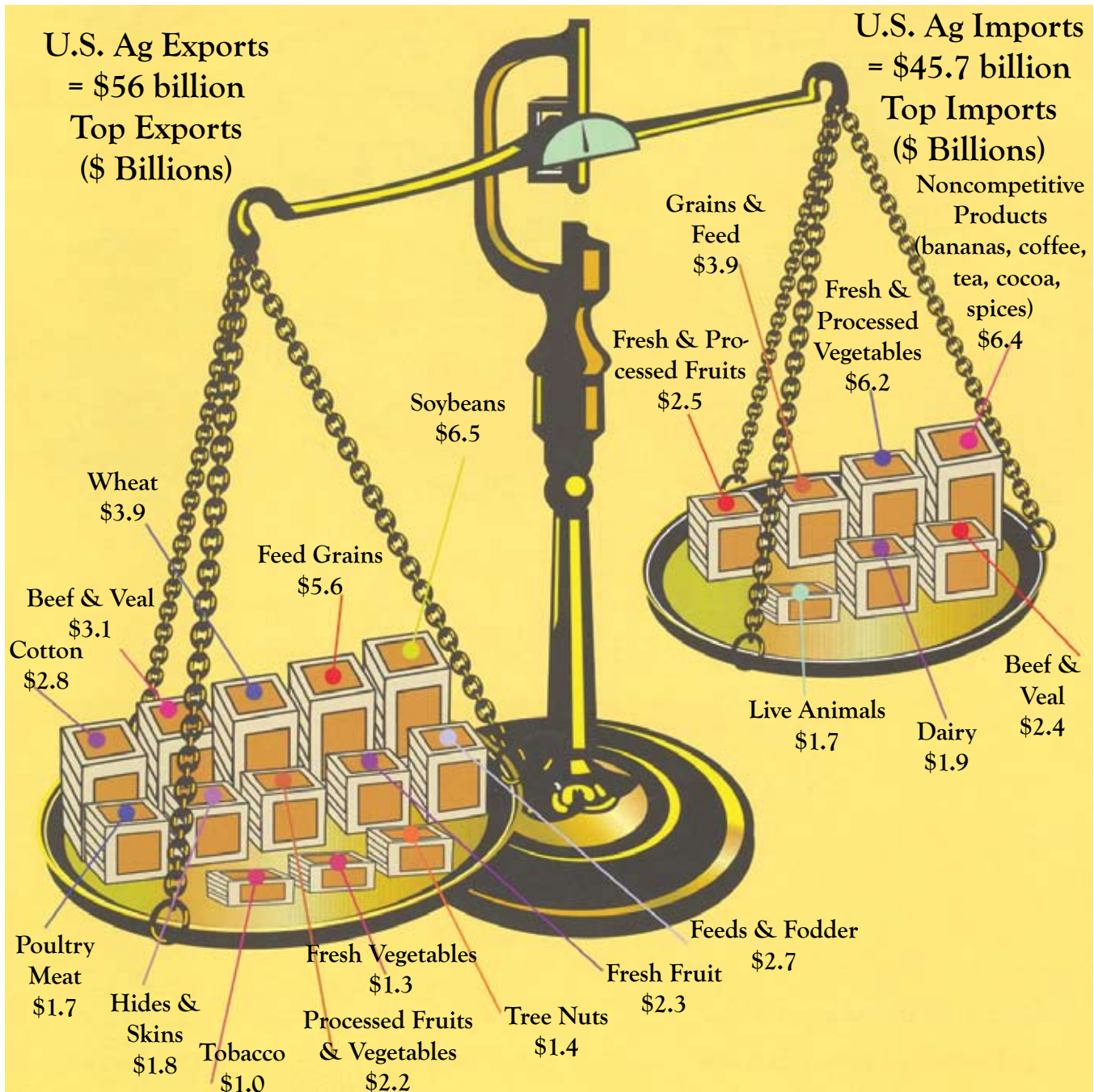
Agricultural Exports Contribute to the U.S. Economy

Tapping the world market. . .

About 17% of all U.S. agricultural products are exported yearly, including:

- 99 million tons of grains and feed
- 2.4 million tons of poultry meats
- 2 million tons of fresh vegetables

What We Sell to the World. . . What We Buy from Other Nations



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

Our Top Foreign Markets

During the 2002/2003 fiscal year, \$56 billion worth of American agricultural products were exported around the globe. The “Top 15” countries that imported U.S. ag products accounted for \$46 billion of the sales.

Country / Sales in Billions

Canada \$9.1

Japan \$8.8

Mexico \$7.7

European Union \$6.1

China \$3.5

South Korea
\$2.7

Taiwan \$2.0

Hong Kong
\$1.1

Indonesia \$0.9

Egypt \$0.9

Turkey \$0.9

Philippines \$0.7

Thailand \$0.6

Australia \$0.6

Colombia \$0.5

