

Agriculture—It Doesn't Just Happen

The work of the Agricultural Research Service

Skills: Language Arts, Social Studies

Objective: Students learn about agricultural research and build their own research skills by gathering information about agricultural research projects and using the information in a variety of presentations.

Background

The Agricultural Research Service (ARS) is the chief scientific research agency for the US Department of Agriculture (USDA). The USDA established the ARS in 1953.

ARS research develops solutions to problems related to food and agriculture. These problems range from protecting crops and livestock from costly pests and diseases to improving the quality and safety of agricultural commodities and products. ARS researchers work to find the best nutrition sources for humans, from infancy to old age. They also look for ways to sustain natural resources. Ensuring profitability for producers and processors while keeping costs down for consumers is another goal. In addition to serving this broad range of customers, ARS provides research to support federal action and regulatory agencies.

The agency's research is carried out through about 100 locations nationwide and a few key sites overseas. In Oklahoma, ARS sites are located in Lane (South Central Agricultural Research Laboratory), Woodward (Rangeland and Pasture Research), El Reno (Grazinglands Research), and Stillwater (Plant Science and Water Conservation Research). Approximately 2,000 of the 7,000 ARS employees are scientists.

The agency's national programs are divided among three major areas:

1. Animal Production, Product Value, and Safety—improving productivity, value, and safety of meat and dairy products and improving human lives through nutrition.
2. Natural Resources and Sustainable Agricultural Systems —developing new practices and technologies that conserve natural resources and balance agricultural production with environmental quality.
3. Crop Production, Product Value, and Safety—improving productivity, value, and safety of crops that are the economic backbone of US agriculture.

The goal of ARS is to lead America toward a better future through agricultural research and information. It is one of four agencies in USDA's Research, Education and Economics mission area. The others are Cooperative State Research, Education and Extension Service, Economics

P.A.S.S.

GRADE 6

Reading—1.1a; 3.1a,3c;
5.1a

Writing—2.2a,7,3.1

Oral Language—1.2; 2.2

Social Studies—1.3; 2.3

GRADE 7

Reading—1.1; 3.1a,3a;
5.1a

Writing—1.2;

2.2b,3a,7a,8; 3.1

Oral Language—1.1;
2.2

Social Studies—1.1

GRADE 8

Reading—1.1; 3.1a,3a;
5.1a

Writing—1.2;

2.2d,3b,7a,8; 3.1

Oral Language—1.1; 2.2

Social Studies—1.1

Resources Needed

computer and/or library
access

miscellaneous materials
for presentations (poster
boards, desks, microphones
for interviews/news reports

samples of products for
research

Vocabulary

acronym—a word formed from the first letter of several words.

ARS—Agricultural Research Service

commodity—a product of agriculture or mining

CSREES—Cooperative State Research, Education and Extension Service

ERS—Economic Research Service

NASS—National Agricultural Statistics Service

natural resources—materials and capacities supplied by nature

livestock—animals raised for use and profit

product—something produced

profitability—the ability to produce an excess of returns over expenditures

research—careful study and investigation for the purpose of discovering and explaining new knowledge

sustain—to give support or relief to

USDA—United States Department of Agriculture

Research Service, and National Agricultural Statistics Service.

Source: Agricultural Research Service, US Department of Agriculture,

<http://www.ars.usda.gov/main/main.htm>

Activity

1. Students read background independently.
 - Lead class discussion based on background and vocabulary.
2. Students will locate the four ARS sites in Oklahoma on an Oklahoma map. (An Oklahoma map is included in the “Resources” section.)
 - Students will label the maps with sites and specialty areas (listed in the background).
3. Use the acronyms in the vocabulary list as an introduction to acronyms.
 - Students list other familiar acronyms.
4. Students use an online search engine or other resources to find the website for the US Department of Agriculture’s Agricultural Research Service.
 - Each student will select one agricultural research project from one of the three areas listed in the background.
 - Each student will write a thesis statement, with supporting details, about the project selected.
5. Write the three ARS program areas on the chalkboard, an overhead projector or chart paper.
 - List projects students have researched under correct headings.
 - Discuss projects and how they affect our daily lives.
6. Students will work individually or in pairs to gather information to complete one of the presentations listed in the “Presentation Prompts” page included with this lesson. More than one group may select the same presentation topic.
 - Presentations should be concise and follow the prompt.
 - Students must use correct grammar and good speaking skills.
 - Students should use their creativity to sell their presentations. Preparation of costumes, visuals, and necessary props is a must.

Extra Reading

Gilpin, Daniel, *Food and Clothing* (History of Invention Set), Facts on File, 2004.

Jones, Carol, *Cheese (From Farm to You)*, Chelsea, 2002.

Myers, Jack, *What Makes Popcorn Pop?* Boyds Mills, 1994.

Nelson, Marilyn, *Carver: A Life in Poems*, HB, 2001.

Name _____

Presentation Prompts

1. Each year dozens of improved products and new varieties of fruits, nuts, and vegetables emerge from the laboratories and greenhouses of USDA's Agricultural Research Service and make their way into the marketplace. Write a commercial to sell one of these products.
2. CNN has just asked you for an interview on how agricultural research contributes to everyday products. Take it away.
3. If you were an ARS research scientist, what types of food or nonfood products would you like to develop? Convince the USDA to give you grant money for this project.
4. On the Radio: Pretend you are being interviewed about your soybean research by your local radio station. Tell how soybeans contribute to daily life.
5. You have been selected to plan a classroom program on grains at your local elementary school. Suggest/discuss/demonstrate a hands-on activity you could feature.
6. Some of the most successful research is sponsored through multidisciplinary partnerships. (Example: horticulturists and nutritionists working together with the food industry.) As an ARS scientist, explain how you could develop a type of healthy product through a partnership.
7. Be creative. Design your own presentation using information from the USDA and/or Agricultural Research Service.