Agriculture in a Global World

How has agriculture in the American Midwest evolved over time?

For thousands of years, Iowa's rich soil has supported many different people who have called “the land between two rivers” home. Native American women planted corn, beans and squash in carefully cultivated gardens along Iowa's rivers. When the sweet corn ripened in early August, the tribe celebrated. For the Meskwaki in Tama County, it was called the “the Green Corn Dance” and later became the starting point for the tribe's famous pow wow.

Iowa’s First Settlers Profit from Farmland

The eastern United States is mostly covered in forests. Pioneers moving westward knew how to carve out farms among the trees but did not have experience on the treeless Iowa prairies which covered 85 percent of central and western Iowa. They needed to learn how to plow up for the first time the tough roots that held the soil in place. The first settlers often planted wheat as their primary cash crop but discovered that corn was more profitable. While it was hard to market bulky wagon loads of grain, corn could be fed to hogs which could be driven to markets or butchered in the winter and transported frozen on sleds. Meat brought a better price than the grain itself.

In the second half of the 19th century, 1850 to 1900, Iowa farmers experience the rural side of the Industrial Revolution. John Deere, an Illinois blacksmith, invented a steel plow that would clean off the sticky prairie soil, unlike earlier iron plows that clogged and had to be scraped frequently. Horses replaced oxen as a source of power with the invention of new machinery. Hay rakes, mowers, corn planters and multi-row plows allowed one farmer to cultivate more acres than ever before. Production skyrocketed. When barbed wire allowed farmers to keep their animals contained, they began to import purebred livestock from Europe. They held fairs to compare their efforts in quality seed and animals. Refrigerated railroad cars permitted beef and pork to be slaughtered in Iowa and shipped to the growing cities of the east.

Science Propels Agricultural Practices Forward

After WWI (1917-1918), the gasoline engine began to make its way onto the farm to replace horses as the primary source of power. Tractors did not need to be fed when they were not working nor did farms have to devote fields to the cultivation of oats. Tractors came in larger and larger sizes and could plow and harvest fields much faster than horses could. At the same time, scientists began to promote the advantages of hybrid seed to produce bigger and better crops. Iowa-born Henry Wallace, later to become secretary of agriculture and vice president, was a co-founder of Pioneer Hybrid Seed that helped boost corn production across the Midwest. Iowa State University was a leader in the development of herbicides, pesticides and fertilizers and teaching farmers how to use them that also contributed to a major boost in Iowa farm production. The ISU Extension Service placed a farm specialist and home economist in every Iowa county to make the entire state a classroom and to improve farm life.

Beginning in the 1960s, science jumped to a new level with new discoveries in genetics. Until then, farming had always been about improving the surroundings in which a plant grew — insuring adequate sunlight and water, eliminating weeds and improving the quality of the soil. Genetic engineering was something new. It went into the plant itself and gave it new directions on how to grow and to resist disease. Iowa's Norman Borlaug took the new agriculture improvements to impoverished nations around the world. He was a leader of what has been called “the Green Revolution” to increase the world's food supply. His work is estimated to have saved the lives of one billion people from starvation. In 1970, he was awarded the Nobel Peace Prize.

Farm Families Decline in the Late 20th, Early 21st Century

Agriculture has faced many problems with these new developments. In the 20th century, 1900 to 1999, farmers could often produce more than the market could sell at a satisfactory price, and surpluses developed. When prices plunged as a result, farmers planted even more to maintain their incomes, creating even bigger surpluses.
The federal government in the 1930s instituted programs to try to keep up prices for those farmers that would agree to reduce their production. In both WWI and WWII, farmers were encouraged to produce as much as they could to support the U.S. and its allies. Adjusting to peacetime created problems both times in the post-war world. Demand for farm products was strong in the 1970s, and once again, farmers geared up for top production. They borrowed money to buy larger equipment and paid more money to buy more land. In 1980, farm and farmland prices collapsed suddenly and many farmers could not meet their financial obligations. Many of them lost their farms. The small-town banks around the state that had lent them money also felt hard times. Many of them filed for bankruptcy. Merchants in small towns saw their sales drop, and many were forced to close their doors. The early years of the 1980s were called the “Farm Crisis,” the worst times Iowa had experienced since the Great Depression of the 1930s.

Since the first wave of new machinery in the late 1800s, farms have grown in size and the number of farms has decreased. Many rural Iowa counties had their highest population figures in the early 20th century, and have witnessed a gradual decline ever since. Losing students, rural schools were forced to consolidate into larger districts. Farm representation in the Iowa Legislature, once dominating everything else, was forced to yield seats to the growing urban cities.

On the other hand, the growth in numbers of families living in the country who are not farmers has grown. With good roads, cities now attract daily commuters from surrounding counties and beyond, blurring the lines between urban and rural. By any measure, however, Iowa agriculture is a power force in the economy and in the source of food for a hungry world.

**Supporting Questions**

**How has farming in the American Midwest changed over time?**

- Letter from Giles S. Thomas to His Family, July 23, 1876
- “The Crop Outlook” Newspaper Article, June 30, 1906
- “1913 Farm Crops and their Value” Newspaper Article, May 14, 1914
- Farm Family in the United States, between 1915 and 1923
- Stacks of Sugarcane in Emmet County, Iowa, December 1936
- USDA Crop Production 2015 Summary, January 2016
- Lush Soybean Field on Dean and Julie Folkman’s Hog Farm in Newhall, Iowa, August 8, 2016
- Rolling Country Road and Crops in Benton County, Iowa, August 8, 2016

**In what ways has Iowa played a leading role in agriculture on a global scale?**

- Soviet Premier Nikita Khrushchev Visits Farms, Research Center in Iowa, 1959
- Soviet Premier Nikita Khrushchev Visits Iowa, September 23, 1959
- Iowa Hog Lift to Japan, 1959
- “Food for Freedom” Church Women United Letter, 1966
- S.2250: Congressional Tribute to Dr. Norman E. Borlaug Act of 2006, December 14, 2006
- “Vilsack Commemorates 50th Anniversary of the Iowa ‘Hog Lift’ in Yamanashi” Article, April 8, 2010

*Printable Image and Document Guide*

**Additional Resources**

**Living History Farms Learning Fields:** This web exhibit offers lesson plans about Iowa agriculture and additional resources to use in the classroom about the harvesting of crops and livestock in the state.
Letter from Giles S. Thomas to His Family, July 23, 1876

Description
The letter is from Giles S. Thomas to the Thomas family on July 23, 1876. Giles Thomas describes the condition of a large number of different crops he is growing on his farm in Nebraska. He also discusses the condition of several different types of livestock.

Full Transcript of Giles S. Thomas’ Letter to His Family

Transcribed Excerpts from Giles S. Thomas’ Letter to His Family

Text-Dependent Questions
- Using the letter, make a list of all the crops and animals grown and raised on the Thomas farm.
- Do typical large-scale farms have this many different varieties of crops and livestock being grown today? Why or why not?
- Thinking about modern advancements in transportation technology, why do you think this farm in Nebraska in 1876 grew so many different varieties of crops?
- Why might modern farms specialize in only one or two types of crops and livestock today, instead of having a larger variety?

Citation Information
Journal from the U.S. Senate, between 1850 and 1864. Courtesy of Library of Congress
Description
This article is from the Ottumwa Tri-Weekly Courier and was published June 30, 1906. It is about a report filed by the director of Agriculture in Iowa, J.R. Sage. The report speaks of the welcomed rain all of Iowa received the previous week, and gives an update on the condition of crops across the state.

Full Transcript of “The Crop Outlook” Newspaper Article

Transcribed Excerpts from “The Crop Outlook” Newspaper Article

Printable Image of “The Crop Outlook” Article

Text-Dependent Questions
- When was this article written?
- According to Director J.R. Sage, what weather event happened the previous week and was it good or bad for Iowa farmers? Cite evidence from the source to support you answer.
- What are the different crops that are mentioned in the article?
- When thinking about what crops are grown in abundance in Iowa today, how has farming in the American Midwest changed over time?

Citation Information
“1913 Farm Crops and their Value” Newspaper Article, May 14, 1914

Description
This 1914 newspaper article is from the Evening Times-Republican in Marshalltown, Iowa. The article has a table that shows many varieties of crops that are grown in Iowa, and it also discusses the yield and values of each of these common farm commodities.

Transcript of the “1913 Farm Crops and their Value” Newspaper Article

Text-Dependent Questions
- How much more was the 1913 crop worth than the 1912 crop?
- Which crop had a higher yield - 1913 or 1912?
- Why was the year with the smaller yield worth more than the year with the larger yield of crop?
- How many different crops are listed in the article, and what types of crops are they?
- What are some crops listed on the chart in the paper that are not discussed in the article?
- When thinking about what crops are grown in abundance in Iowa today, how has farming in the American Midwest changed over time?

Citation Information
Farm Family in the United States, between 1915 and 1923

Description
The image shows a farm family that is tending to their crops on their farm sometime around 1915. There are several different crops being grown that can be seen in the photograph.

Text-Dependent Questions
• Analyze the way this image represents farming and farm life in 1915, and describe what you see.
• How many people are in the picture, and how are they alike/different?
• How many different types of crops are being grown in this image?
• How does this image differ from how crops on most large farms are grown today?

Citation Information
Stacks of Sugarcane in Emmet County, Iowa, December 1936

Description
The photograph shows several stacks of sugarcane that are being grown in Emmet County, Iowa, in 1936. The sugarcane stacks are wide at the base and get narrow at the top. They dominate the picture. There is a partial image of a house on the far-left side of the picture, and another building far away on the horizon.

Text-Dependent Questions
• The image shows sugarcane being grown in Iowa. How does this differ with the types of crops being grown in the American Midwest today?
• How has farming in the American Midwest changed over time?

Citation Information
Description
The U.S. Department of Agriculture report is an annual assessment put out by the federal government. This 2016 edition lists the amount of land planted and harvested for a variety of crops in individual states and across the entire country. The crops included in this report excerpt includes corn, soybean, sugarcane, wheat, oat and potatoes.

Transcribed Excerpts of the USDA Crop Production 2015 Summary
- Excerpt about Corn in the USDA Report
- Excerpt about Oat in the USDA Report
- Excerpt about Wheat in the USDA Report
- Excerpt about Soybeans in the USDA Report
- Excerpt about Sugarcane in the USDA Report
- Excerpt about Potatoes in the USDA Report

Click [HERE](#) for access to the full USDA report on crop production in 2015

Text-Dependent Questions
- On [page 8](#) of the report, how many acres of corn was harvested in 2015?
- On [page 16](#) of the report, how many acres of oats were harvested in 2015?
- Using [page 20](#) of the report, how many acres of wheat were harvested in 2015?
- Using [page 46](#), how many acres of soybeans were harvested in 2015?
- In the image of sugarcane from 1936, it shows sugarcane being grown in Iowa. Using [page 57](#) of the report, how much sugarcane is being grown in Iowa in 2015?
- In many of the previous documents, it mentions potatoes being grown in Iowa and Nebraska. On [page 58](#) of the report, how land was used to grow potatoes in Iowa in 2015?
- In the early part of the 20th century, the typical Iowa farm seemed to grow multiple crops including many fruits, vegetables and grains. Today, however, this 2015 USDA crop report shows that corn and soybeans are the main two crops grown in Iowa today. What advancements in transportation and farming technology has led Iowa to specialize in only two crops?
- How has farming in Iowa evolved over the last 100+ years?

Citation Information
“USDA Crop Production 2015 Summary,” United States Department of Agriculture National Agricultural Statistics Service, January 2016. [Courtesy of the United States Department of Agriculture](#)
Lush Soybean Field on Dean and Julie Folkmann’s Hog Farm in Newhall, Iowa, August 8, 2016

Description
The image shows the farmstead of Folkmann family in Benton County, Iowa. As of 2016, the Folkmann hog farm has been in the family for 162 years. At any time, approximately 50 million hogs are being raised in the state with just over 3 million people. That's about one-third of all the pigs raised in the United States. The soybean fields, which are shown in the foreground, are used to create hog food for the farm.

Text-Dependent Questions
- Analyze the way this image represents farming and farm life and explain what you see.
- What does the absence of people in this photo indicate about farming?
- How many people do you see in the picture?
- How many different types of crops can you count in the image?
- According to the source description text, what are the crops in this image most likely going to be used for?
- How is this image similar/different from the previous image titled “Farm” and the letter from Giles S. Thomas to the Thomas family?

Citation Information
Highsmith, Carol M., “Lush soybean field on Dean and Julie Folkmann's hog farm in Benton County, near Newhall, Iowa,” 8 August 2016. Courtesy of Library of Congress
Rolling Country Road and Crops in Benton County, Iowa, August 8, 2016

Description
The photograph is of a country road through Benton County, Iowa, in August of 2016. On both sides of the road are fields of corn, which appears to be the only crop being grown for miles. Benton County is on the eastern side of the state, near towns and cities such as Vinton and Cedar Rapids.

Text-Dependent Questions
• Analyze the way this image represents farming and farm life, and explain what you see.
• How many people do you see in the picture?
• How many different types of crops can you count in the image?
• How is this image similar/different from the previous image titled “Farm” and the letter from Giles S. Thomas to the Thomas family?

Citation Information
Soviet Premier Nikita Khrushchev Visits Farms, Research Center in Iowa, 1959

Description
This film shows the news footage of Soviet Premier Nikita Khrushchev's visit to Iowa in 1959. Film five focuses on Khrushchev at the Iowa State University Swine Nutrition Farm. It shows him seeing how hogs were raised from birth to market.

Transcript of Interviews from Nikita Khrushchev Video

Text-Dependent Questions
• Based on what you heard in the interviews, how would you characterize the relationship between the United States and Russia?
• How did it appear that Nikita Khrushchev was greeted by Iowans during his visit? What images can you describe from the video as evidence for your answer?
• How does this document show that Iowa has played a large role in international or global agriculture?

Citation Information
Khrushchev's Visit to Iowa. 1959. WOI-TV Film Collection, Special Collections and University Archives, Iowa State University Library.
Soviet Premier Nikita Khrushchev Visits Iowa, September 23, 1959

Description
Soviet Premier Nikita Khrushchev is seen in this photo in a motorcade traveling down Keosauqua Way en route to a reception at Hotel Ft. Des Moines. Khrushchev also was in Coon Rapids, Iowa, earlier on September 23, 1959, as he visited Garst farms and was hosted by Bob Garst, an international agriculturalist.

Text-Dependent Questions
- Describe the image above - what appears to be happening?
- What does the police escort tell you about the importance of the person in the car?
- Who is in the car, and where is he going?
- This image was taken during the Cold War with the Soviet Union. What does this image suggest about the importance of Iowa agriculture in the global community?
Iowa Hog Lift to Japan, 1959

Description
The image shows hogs from Iowa being taken off a plane in Yamanashi Prefecture in Japan. The hogs were sent as a goodwill offering the province in Japan in January of 1960. In 1959, this area of Japan experienced two destructive and catastrophic typhoons. There were 36 hogs sent from Iowa farms, with 35 arriving alive in Japan.

Text-Dependent Questions
• According to the source description, what happened in Yamanashi Prefecture, Japan, in 1959?
• When were these hogs delivered to Japan, and where did they come from?
• How many hogs were sent, and how many made it alive?
• What does this image suggest about the role Iowa has played in global agriculture?

Citation Information
Goeppinger, Walter, Iowa State University, 1959. Courtesy of Iowa State University Special Collections
“Food for Freedom” Church Women United Letter, 1966

FOOD FOR FREEDOM

RECOGNIZING the relationship between the great increase in world hunger and the growth of the world population;

RECALLING the resolution of the Board of Managers of United Church Women of April 1964 regarding the renewal of Public Law 480;

WITNESSING of the mandate of the General Board of the National Council of churches’ resolution on world hunger of June 1965; and THE NATIONAL EXECUTIVE BOARD OF UNITED CHURCH WOMEN, in session March 29, 1966, having appended the following endorsement:

UNION support for legislation which will change emphasis from surplus foods’ disposal to production of agricultural products for world need;

CALL for a separation of humanitarian use of food, as distinct from the political and cold war considerations of American foreign policy;

REQUEST that adequate funds be appropriated to help meet immediate nutritional needs in famine areas;

ENCOURAGE United Church Women to communicate these views at once to their Congressmen and Senators, particularly to members of the Senate and House Committees on Agriculture.

Description
This typed letter from the Church Women United in Des Moines encourages support of legislation to produce agricultural products for world relief. The resolution supports legislation to “change emphasis from surplus foods’ disposal to production of agricultural products for world need,” and was a handwritten endorsement by Church Women United in 1966.

Transcript of “Food for Freedom” Church Women United Letter

Text-Dependent Questions
• What do the Church Women United of Des Moines recognize as a significant problem facing the world?
• What can be implied about the purpose of Public Law 480?
• How does this organization want to see Iowa agriculture products used around the world?

Description
This paper was written by Gary G. Gerlach and was presented at a meeting of the Prairie Club of Greater Des Moines. In this letter, Gerlach described the success of agriculture and advancements in Iowa. He outlined the monetary value of Iowa’s two main cash crops, corn and soybeans, as well as the value of the livestock industry in Iowa. In addition, Gerlach points out that Iowa has led the world in new farming methods and technologies, and praises the work at Iowa State University in Ames, Iowa. Finally, the writer asked questions and made predictions about the future role of agriculture in the world and Iowa’s role in it.

Full Transcript of “An Essay on the 80’s Des Moines: A World Food Center for the Nation”

Transcribed Excerpts from “An Essay on the 80’s Des Moines: A World Food Center for the Nation”

Text-Dependent Questions
- At the bottom of page two and three, what two crops are mentioned that are grown in Iowa in large quantities?
- Where did Iowa rank in livestock production, and what are the two major livestock animals produced?
- On page five, what Iowa agriculture products are sold around the world? Where are they sold?
- On page six, Gerlach outlined four key points. What is the underlying theme of these points. What seems to be his view of the future of agriculture?
- On page seven, Gerlach asked a series of questions. What do the questions suggest Gerlach is thinking about for the future role of agriculture and Iowa’s role?
S.2250: Congressional Tribute to Dr. Norman E. Borlaug Act of 2006, December 14, 2006

Description

The United States Congress, based on a resolution by Sen. Charles Grassley, recognized the achievements of Iowan Norman Borlaug for his efforts to feed the world with his breakthroughs on crops that are drought and disease resistant. The U.S. Congress issued the highest award, the U.S. Congressional Gold Medal, to Borlaug and also authorized the use of funds to create gold and bronze medals that would then be sold and proceeds returned to the United States Mint.

Transcript of the S.2250: Congressional Tribute to Dr. Norman Borlaug Act of 2006

Text-Dependent Questions

- Where was Norman Borlaug born, and where did he study in college?
- After WWII, where did Borlaug spend 20 years of his life, and what breakthrough did he discover?
- According to the bill, how many people did Borlaug save in India and Pakistan with the “Green Revolution?”
- What award did Norman Borlaug receive in 1970, and what other awards did he receive shortly after?
- The bill claims that Borlaug has saved more lives than any other person who has ever lived? Explain why this bill makes that claim?
- What award is Senator Charles Grassley asking Congress to present to Borlaug?
- Using the document as evidence, explain how Iowa has played a leading role in agriculture on a global scale.

Citation Information

“Vilsack Commemorates 50th Anniversary of the Iowa ‘Hog Lift’ in Yamanashi” Article, April 8, 2010

Description
The article released by the U.S. Department of Agriculture highlights events of the 50th anniversary of the Iowa “hog lift” in Japan. Then-U.S. Secretary of Agriculture, Tom Vilsack, visited Japan in honor of the famous hog lift of 1960, which was a rescue effort by the agriculture sector in Iowa following significant damage resulting from typhoons in Yamanashi Prefecture. It is widely believed that the hog lift was largely responsible for the development of the sister-state relationship between Iowa and Yamanashi, and marked the beginning of a strong agricultural relationship between Japan and the United States.

Transcript of the “Vilsack Comments 50th Anniversary…” Article

Text-Dependent Questions
- How many hogs did the Iowa send to Japan in 1959?
- Why did Iowa farmers send hogs to Japan?
- How many hogs did Kofu have after three years?
- Why did the Yamanashi Prefectural Museum of Art have Secretary of Agriculture Tom Vilsack help them plant an oak tree?
- Describe the symbolism of the oak tree planting. What was it supposed to represent?
- How can this document be used to describe the importance of Iowa agriculture on a global scale?

Citation Information

Description
From The Annals of Iowa, this source describes the process for selecting a unique delegation of men to travel to the Soviet Union from America, with a large number of delegates coming from Iowa. They describe the sites they saw and offered advice and concerns about the farming methods and crop choices they witnessed.

Full Transcript of “Diplomatic Farmers: Iowans and the 1955 Agricultural Delegation to the Soviet Union”

Transcribed Excerpts from “Diplomatic Farmers: Iowans and the 1955 Agricultural Delegation to the Soviet Union”

Text-Dependent Questions
- When Whiting farmer Herb Pike described his visit to the Soviet Union, what common fears about the Soviet Union did he claim he never saw?
- What was Communist Party Chairman Nikita Khrushchev's view regarding Americans visiting the Soviet Union?
- What concerns did the delegation have for the leadership in the Soviet Union?
- What compliments did they offer the Soviet Union?
- What was promised to the delegation by Soviet leadership if they were to return in two years?
- Explain how this article help answer the supporting question: In what ways has Iowa played a leading role in agriculture on a global scale?

Citation Information