



North Carolina Sweetpotatoes' Historical Journey Grades 6-8

Purpose: Students will understand the economical and historical impact of sweetpotatoes on North Carolina.

Subject Area(s): Social Studies

Common Core/Essential Standards

Social Studies

6th Grade

- 6.H.1.1** Construct charts, graphs and historical narratives to explain particular events or issues over time.
- 6.H.2.2** Compare historical and contemporary events and issues to understand continuity and change.
- 6.H.2.3** Explain how innovation and/or technology transformed civilizations, societies and regions over time (e.g., agricultural technology, weaponry, transportation and communication).
- 6.H.2.4** Explain the role that key historical figures and cultural groups had in transforming society (e.g., Mansa Musa, Confucius, Charlemagne and Qin Shi Huangdi).
- 6.G.1.4** Explain how and why civilizations, societies and regions have used, modified and adapted to their environments (e.g., invention of tools, domestication of plants and animals, farming techniques and creation of dwellings).

7th Grade

- 7.H.1.1** Construct charts, graphs, and historical narratives to explain particular events or issues over time.
- 7.H.1.3** Use primary and secondary sources to interpret various historical perspectives.
- 7.G.1.1** Explain how environmental conditions and human response to those conditions influence modern societies and regions (e.g. natural barriers, scarcity of resources and factors that influence settlement).
- 7.G.1.2** Explain how demographic trends (e.g. population growth and decline, push/pull factors and urbanization) lead to conflict, negotiation, and compromise in modern societies and regions.
- 7.G.2.2** Use maps, charts, graphs, geographic data and available technology tools (i.e. GPS and GIS software) to interpret and draw conclusions about social, economic, and environmental issues in modern societies and regions.
- 7.C.1.1** Explain how culture unites and divides modern societies and regions (e.g. enslavement of various peoples, caste system, religious conflict and Social Darwinism).

8th Grade

- 8.H.3.2** Explain how changes brought about by technology and other innovations affected individuals and groups in North Carolina and the United States (e.g., advancements in transportation, communication networks and business practices).

8.H.3.3 Explain how individuals and groups have influenced economic, political and social change in North Carolina and the United States.

8.H.3.4 Compare historical and contemporary issues to understand continuity and change in the development of North Carolina and the United States.

8.G.1.1 Explain how location and place have presented opportunities and challenges for the movement of people, goods, and ideas in North Carolina and the United States.

8.G.1.2 Understand the human and physical characteristics of regions in North Carolina and the United States (e.g., physical features, culture, political organization and ethnic make-up).

8.C.1.2 Summarize the origin of beliefs, practices, and traditions that represent various groups within North Carolina and the United States.

8.C.1.3 Summarize the contributions of particular groups to the development of North Carolina and the United States.

National Agricultural Literacy Outcomes

Agriculture and the Environment

(f) Explain and discuss why people migrate and change environments to meet their basic needs

(g) Recognize how climate and natural resources determine the types of crops and livestock that can be grown and raised for consumption

(h) Recognize the factors of an agricultural system which determine its sustainability

Plant, Animals, Food, Fiber, and Energy

(c) Identify farm practices for plant protection (e.g., using a pesticide, integrated pest management, cultural practices) and the harvest of safe products for consumers

Science, Technology, Engineering & Mathematics

(d) Discuss how technology has changed over time to help farmers/ranchers provide more food to more people

(e) Explain how and why agricultural innovation influenced modern economic systems

(f) Explain the harmful and beneficial impacts of various organisms related to agricultural production and processing (e.g., harmful bacteria/beneficial bacteria, harmful/beneficial insects) and the technology developed to influence these organisms

(h) Identify specific technologies that have reduced labor in agriculture

Culture, Society, Economy & Geography

(a) Consider the economic value of agriculture in America

Essential Questions

- How many sweetpotatoes does North Carolina produce?
- What is the state vegetable of North Carolina?
- How have agricultural innovations improved the harvest and production of sweetpotatoes?
- What are the regions of North Carolina? How are they unique?
- How has technology impacted agriculture?

Materials

- [*From Farm to School – Crops of North Carolina: Digging for Sweetpotatoes*](#) by Heather Barnes and Karen Baltimore (book)
Printed by North Carolina Department of Agriculture and Consumer Services
Publication supported by U.S. Department of Agriculture's (USDA) Agriculture Marketing Service North Carolina
- Chart paper
- Markers
- Cereal box
- Computer
- iPad
- SmartBoard
- Printer/copier
- Paper/ink
- Costumes created at home for Wax Museum Project
- Presentation materials
- Bucket
- Soil
- Sweetpotatoes

Essential Files/Links

- History of North Carolina Note Pages
- History of Sweetpotato Note Pages
- North Carolina Map of Counties
- Regions of North Carolina Map
- [*From Farm to School – Crops of North Carolina: Digging for Sweetpotatoes*](#) (book)
- <https://www.ncpedia.org>
- <https://www.ncpedia.org/symbols/vegetable>
- <https://northcarolinahistory.org/encyclopedia/north-carolina-state-vegetable-sweet-potato/>
- <https://www.ourstate.com/history-of-the-sweet-potato/>
- <https://science.howstuffworks.com/environmental/green-science/5-farming-technologies-changed-world1.htm>
- *The Teacher Next Door* Wax Museum <https://the-teacher-next-door.com/my-blog/classroom-ideas/wax-museum-biography-research-report-and-event>
- <https://nifa.usda.gov/topic/agriculture-technology>
- <https://www.timetoast.com/timelines/john-deere>
- <https://www.agweb.com/mobile/article/farmers-reveal-their-10-favorite-apps/>
- History of John Deere
https://jdauthc.deere.com/wps/myjd/en_US/corporate/our_company/about_us/history/john_deere

[_plow/john_deere_plow.page?%0A%09%09%20%09](#)

- Timeline: <https://www.timetoast.com/timelines/john-deere>
- *John Deere, That's Who!* Read Aloud link: <https://www.youtube.com/watch?v=aMh2mcR6I9c> (read aloud)
- <https://www.youtube.com/watch?v=NXS9Bg3uM9c>

Vocabulary

Agriculture: the science or practice of farming, including cultivation of the soil for the growing of crops and raising animals to provide food, wool, and other products.

Agricultural commodity: a raw material or agricultural product that can be bought and sold such as a sweetpotato.

North Carolina Department of Agriculture and Consumer Services (NCDA&CS): a state agency of North Carolina headed by the Commissioner of Agriculture. Responsibilities include regulatory and service areas covering agronomy, animal health, weights and measures, gas and oil inspection, crop and livestock statistics, USDA commodity distribution, state farm operations; food, drug and cosmetic testing for purity; agricultural marketing and promotion; agricultural marketing grading; international agricultural crop and livestock marketing; operation of the North Carolina State Fair and North Carolina Mountain State Fair; operation of state farmers markets; research station operations; seed and fertilizer inspection; nursery and plant pest eradication activities; regulation of the structural pest control and pesticide industries; agricultural environmental issues; soil and water conservation; forest management and protection; state and federal agricultural legislation; and agricultural economic analysis.

Pheromone trap: a type of trap used to lure insects by using pheromones, which is a chemical produced by mammals and insects released into the environment to attract their species.

Plow: a large farming implement with one or more blades fixed in a frame, usually pulled by a tractor and used for cutting furrows in the soil and turning it over.

Tractor: a large machine with rear wheels that is usually used on a farm, most are fitted with a cab.

NC Ag Facts

- North Carolina grows nearly 60% of all United States sweetpotatoes (more than any other state in the United States).¹
- The sweetpotato is North Carolina's state vegetable.¹ The single-word term helps differentiate the sweetpotato from the white or Irish potato, which is a tuber, not a root, and possess a different nutrient profile. Sweetpotato, *Ipomoea batatas*, a storage root is part of the morning glory family.¹¹
- North Carolina sweetpotatoes are available every month of the year.¹
- Most sweetpotatoes are grown in the piedmont and coastal plain regions of North Carolina because of the well-drained, sandy soil.¹
- There are hundreds of varieties of sweetpotatoes and many are grown across North Carolina. Some you may see most often in grocery stores include the Japanese sweetpotato, the White sweetpotato, and the orange flesh Covington sweetpotato.¹
- In 2017, nearly 89,500 acres of sweetpotatoes were harvested; 30,000 more acres than

California, Louisiana and Mississippi combined.⁹

- North Carolina has produced more than one billion pounds of sweetpotatoes for the last seven years; this is the only state to exceed one billion pounds.⁹
- In dollars, North Carolina had the largest increase in 2017 at just over \$37 million.⁹

Background Knowledge

Did you know that a sweetpotato is actually part of the morning glory family? It is a perennial (perennials regrow every spring); though it is cultivated as an annual (annuals live for one growing season, but often cannot be overwintered). The creeping stems of this amazing plant can grow up to 20 feet long and frequently send out roots at the nodes which, in favorable seasons, bear small potatoes. There are three main types of leaves: round, shouldered, and lobed or split. The color of the stems and leaves varies from dark green to light purple. No flowers are produced except in southern latitudes.²

The skin color of a sweetpotato can range from white to yellow, red, purple, or brown. The flesh also ranges in color from white to yellow, orange, or orange-red.³

So, is it a yam, a sweetpotato, or are they the same thing? The truth: yams and sweetpotatoes are not the same thing at all. There are thousands of sweetpotato varieties. Sweetpotato varieties are classified as either ‘firm’ or ‘soft’ – firm varieties were produced before soft varieties. When the soft varieties were grown there was a need to differentiate between the two (firm or soft). Africans actually named the ‘soft’ sweetpotatoes ‘yams’ because they resembled the yams in Africa. Their native word was ‘nyami’ and if the n & i are removed the term ‘yam’ remains. Despite this identification, this is not true. In fact, while the ‘soft’ varieties look like yams, they are not yams at all; it is just a variety of sweetpotato.

Yams are often imported from the Caribbean; they are rough and scaly—very different from our smooth, orange flesh variety sold in the United States. In the United States, people often use the word sweetpotatoes and yams interchangeably; however, this is not correct and often adds confusion for the consumer. When a consumer goes to the store and purchases ‘yams,’ they are more than likely purchasing a different variety of sweetpotato. Today, the U.S. Department of Agriculture requires labels with the term ‘yam’ to be accompanied by the term ‘sweetpotato.’³

According to the North Carolina SweetPotato Commission, North Carolina has ranked number one in sweetpotato production in the United States since 1971 (2018). North Carolina’s hot, moist climate and rich, fertile soil are ideal for cultivating sweetpotatoes. Sweetpotato production in North Carolina averages nearly 60% of the U.S. supply.⁴

Climate

Sweetpotatoes can be grown where there is a long frost-free period with warm temperatures in the growing season.⁴ Most cultivars require a minimum frost-free period of 90-120 days, with a minimum average daily temperature of 77 degrees Fahrenheit. Sweetpotatoes also require an inch of water per week uniformly distributed throughout the growing season for highest yields.⁴

Uses for Sweetpotatoes

Sweetpotatoes have many uses. They can be prepared in a number of dishes, canned, pureed, preserved and dehydrated. For drying, clean washed potatoes are placed in a suitable basket and immersed in boiling water for a short time; when taken out of the basket, they are cut into thin slices and spread over mats and exposed to the sun for two or three days. In order to make a superior quality, the skin of the potato is peeled off before slicing. Instances were reported wherein the dried product was successfully ground into flour.² In North Carolina, a company named Glean produces a sweetpotato flour.⁵ Sweetpotatoes can also be used as food stock for animals. They have been successfully fed to hogs, cattle, horses and poultry.²

Student Motivator:

Pass around a sweetpotato for all students to examine. Tell the students that they are holding an important piece of North Carolina history; in fact they are holding the state vegetable of North Carolina. In 1995, state legislatures identified the sweetpotato as the state vegetable. Have students describe the uniqueness of a sweetpotato. Describe the dishes often prepared with sweetpotatoes. Discuss where and how sweetpotatoes are grown. Consider how the sweetpotato has contributed to the economic value of North Carolina's agriculture and in America. This is a great time to front load information and determine students' knowledge regarding sweetpotatoes. In addition, the following video can be shared with students for a deeper understanding: **Triple J Produce, Sims NC Sweet Potatoes**
<https://www.youtube.com/watch?v=NXS9Bg3uM9c>

Next, you can expand upon the fact that the sweetpotato is the state vegetable of North Carolina. Share the following link with students: <https://www.ncpedia.org/symbols/vegetable>. Allow student or teacher to read through the information on the website and have students talk and discuss more about the sweetpotato. As students are talking create a What I Know chart about sweetpotatoes. Ask a student to document comments on the chart while students are discussing the topic.

Go Deeper with sweetpotato fun facts:

- North Carolina is the largest producer of sweetpotatoes in the United States.¹⁰
- In 2009, North Carolina harvested almost one million pounds of potatoes.⁴
- North Carolina leads all other states in sweetpotato production.⁹
- North Carolina has at least 46,000 acres of farmland devoted to growing sweetpotatoes.¹⁰

Activity 1: North Carolina History

Objectives Covered: 7.H.1.1, 7.H.1.3, 8.G.1.1, 8.G.1.2, 8.C.1.2



1. This is a map of our state, North Carolina. This *Regions of North Carolina Map* (see **Essential Files**) clearly identifies its counties and regions. Use a document camera to display on the board.
2. Have a student come up to the board and show the county they live in. Ask students if they have visited any other counties or lived in any other counties in North Carolina. If so, discuss the similarities and differences or reasons why people migrate to meet their needs. Include locality, opportunities, challenges, cultures, agriculture, and the ethnic make-up. Teacher can mark individual counties with a star, etc.
3. Tell the students, “We have all come here from ancestors who made North Carolina their home. Research your heritage and find out anything you can about your ancestors.”
4. **Project: Who am I?** Ask students to create a representation of themselves using their heritage and culture to signify who they are and where they come from. An example could be a memory board, a timeline, a photo album, an interview with a family member with knowledge of the family tree, a diagram of a family tree, etc. This activity allows you to get to know your students, as well as connect them to one another. (If time permits have students present these projects during class or simply have them submit to the teacher).
5. **Project: We are Carolina!** Share with students this website <https://www.ncpedia.org> as an introduction to the history of North Carolina and conduct research on our state drawing close attention to the agriculture of North Carolina. Have them include the climate and natural resources in determining types of crops grown and livestock raised in each region. Students may utilize *History of North Carolina Note Pages* (see **Essential Files**) to organize information and knowledge gained.

Activity 2: North Carolina Sweetpotatoes

Objectives Covered: 7.G.1.1, 7.G.1.2, 7.G.2.2, 7.C.1.1, 8.G.1.1, 8.G.1.2, 8.C.1.2

1. Tell the students, “Today we are going to focus on one specific agricultural contribution our state

makes to the world and that is the production of sweetpotatoes. Did you know the sweetpotato is the state vegetable for North Carolina?”

2. Show students images from the book *Farm to School – Crops of North Carolina: Digging for Sweetpotatoes*.

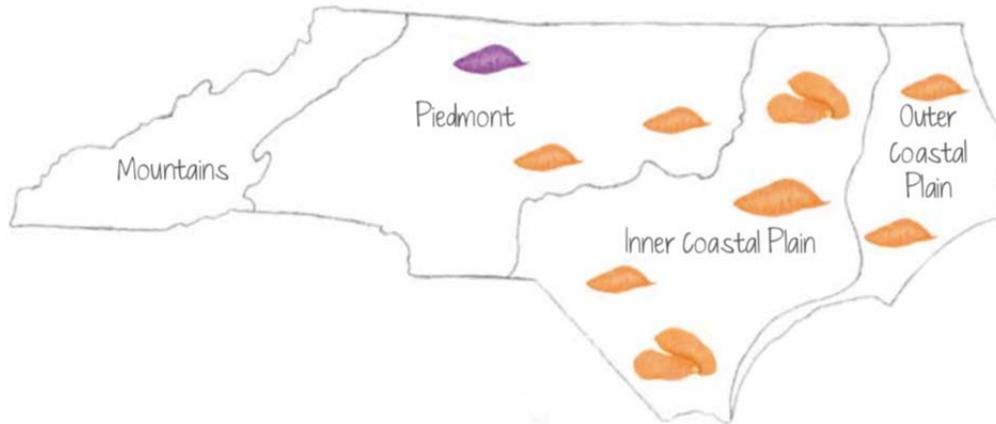


Photo credit Farm to School - Crops of North Carolina: Digging for Sweetpotatoes

3. Say, “We have talked previously about the regions specific to North Carolina. Today, we are going to look at the specific regions and the production of sweetpotatoes in these areas.”
4. The history of sweetpotatoes began long ago. Say, “History says that in 1492 Christopher Columbus brought sweetpotatoes back home to Europe from his voyage to Central America. Scientists believe that the sweetpotato was domesticated thousands of years ago in Central America. So why is North Carolina a leading producer of sweetpotatoes?” Bring students’ attention back to the map of North Carolina in relation to sweetpotato production; identify the regions prominent in sweetpotato production.
5. Provide each student or group with iPads/computers/magazines—resources that will help students with the research process. Students will begin researching the different regions of North Carolina and what uniquely helps farmers grow sweetpotatoes in these areas, i.e. what is the climate like in this certain region and how does this help sweetpotatoes grow? Explain the different climates in each region of North Carolina. Students can use the *History of Sweetpotato Note Pages* (see **Essential Files**) to document their information.
6. Divide students into groups of 3: Piedmont, Inner Coastal Plain, and Outer Coastal Plain. Make note that even though they are not conducting research about the Mountain region of North Carolina there are many **agricultural commodities** grown and raised in this region such as Christmas trees, greenhouse and nursery crops, turf grass, and beef cattle.
7. With adult supervision, allow students to conduct research using technology resources, such as the internet, with technology devices. Possible research topics: What varieties of sweetpotatoes are grown in specific regions of North Carolina? What is unique about the region you are researching? Explain the cultural values between individuals and groups. How does climate influence your region? What are the non-living conditions needed to grow sweetpotatoes in your

region? Have students create pamphlets, booklets or presentations about their region and the information they learned about growing sweetpotatoes in that region. These two websites will provide information for their research: <https://northcarolinahistory.org/encyclopedia/north-carolina-state-vegetable-sweet-potato/> and <https://www.ourstate.com/history-of-the-sweet-potato/>

8. **Extension/Higher Order Thinking:** Compare/Contrast the different regions from the completed projects. Have students write a one-page paper detailing the difference between regions and the similarities/differences of sweetpotatoes grown in each region.

Activity 3: Sweetpotato Harvest

Objectives Covered: 6.H.1.1, 6.H.2.2, 6.G.1.4, 7.H.1.1, 8.H.3.2

1. For this activity, prepare a tub or bucket with soil/dirt and pack tightly or have students go outside and experience digging in the ground with their bare hands, gloved hands, or spade/shovel. Explain that years ago people harvested sweetpotatoes in this way, digging with their bare hands, and then eventually transitioned to using spades and/or shovels. Imagine how long it would be to harvest an entire field of sweetpotatoes in this way? How did this method dictate the size of the fields or number of acres planted in sweetpotatoes?



Discussion: Allow students to talk and discuss how farmers from many years ago actually harvested sweetpotatoes.

2. **Pose a question:** How are sweetpotatoes harvested today?



3. Show students examples of sweetpotato harvesting from the photos above. What pieces of equipment do you see in these photos? Explain to students the pieces of equipment shown in the photos. Definitions are listed in the **Vocabulary** section.
 - **Tractor**
 - **Plow**
4. Ask students, “How do you think the evolution of equipment has helped farmers?”
5. Ask, “How and where these pieces of equipment were created?” Allow the students to read through the information from History of John Deere (see link below), and use it as a source for creating a timeline or chart to depict the change in equipment for sweetpotato harvesting.

Remind them to make notes as to how sweetpotato harvesting has changed over time and what advantages occurred for the farmer.

https://jdauthc.deere.com/wps/myjd/en_US/corporate/our_company/about_us/history/john_deere_plow/john_deere_plow.page?%0A%09%09%20%09

6. Clarify that timelines, charts and other important information can later be transformed into a literary work that is easier to read but still remains informative.
Example of a timeline: <https://www.timetoast.com/timelines/john-deere>
7. **Extension:** Introduce students to the book *John Deere, That's Who!* Use the read aloud link: <https://www.youtube.com/watch?v=aMh2mcR6I9c>
8. Have students use their creativity to create something to describe the change in time of harvest equipment and how it has helped farmers in growing sweetpotatoes. Encourage students to share this story with younger students to promote student leadership.

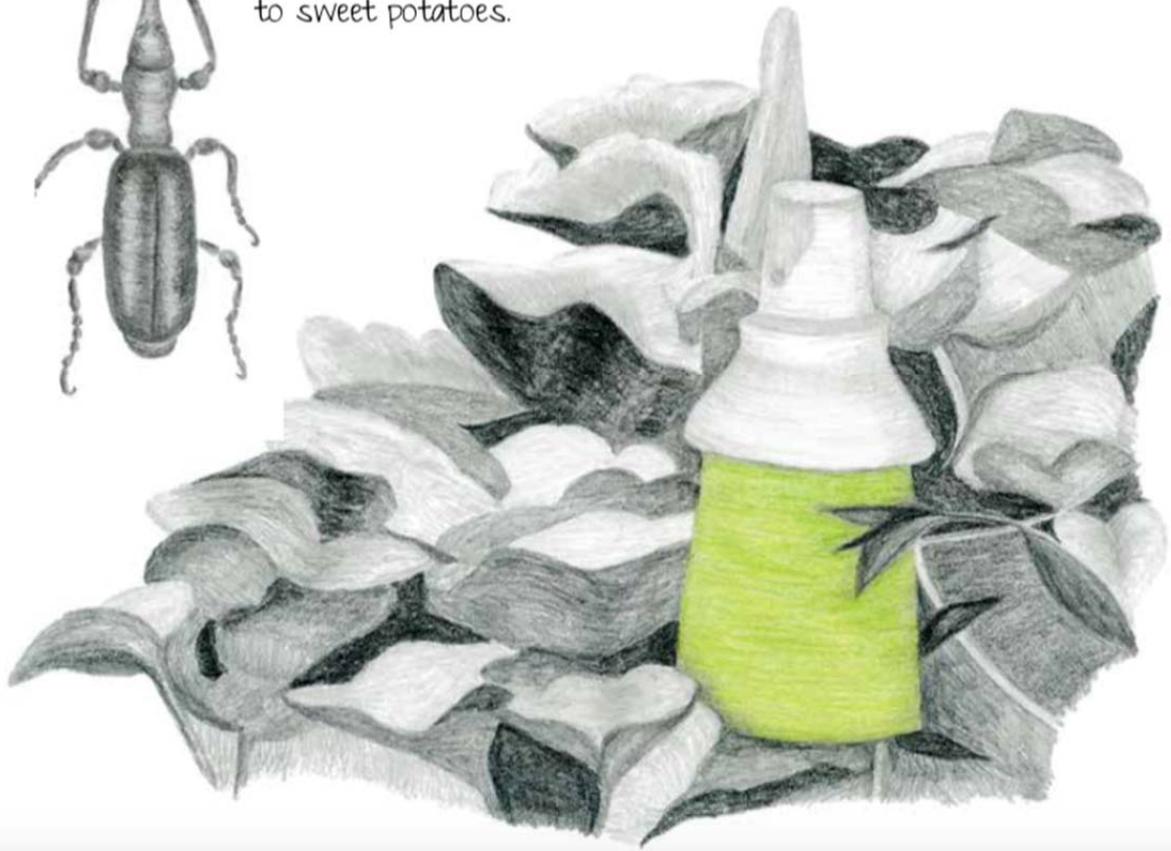
Activity 4: Sweetpotato Technology

Objectives Covered: 6.H.2.3, 8.H.3.2

1. Say, “How is technology used in farming? In the 21st century, much of what we do is touched by technology. But mostly when we think of technology what comes to mind?” Begin a group discussion and as students are talking have a recorder, mediator, time keeper, and other assigned student roles to conduct the conversation. The teacher should act only as an observer to oversee student involvement. Most students will highlight the obvious things brought about through technology, such as computers, devices, and the internet.
2. Document a list of terms and phrases you hear the students using in their discussion.
3. Share with students the acronym STEM.: Science, Technology, Engineering, and Math. Explain that over time, individuals improved items they used every day; therefore, today we know the use of STEM has caused these improvements.
4. Share with students the following websites:
USDA NIFA <https://nifa.usda.gov/topic/agriculture-technology>
John Deere Timeline <https://www.timetoast.com/timelines/john-deere>
Farm Journal (AgWeb) <https://www.agweb.com/mobile/article/farmers-reveal-their-10-favorite-apps/>
After sharing these websites ask students to identify the benefit of improved technology in agriculture. Why is it important? Did you know that simple things like the wheel and the hammer are actually examples of early technology?
5. Say, “STEM: Science, Technology, Engineering, and Math is a growing profession, and advances in these areas have helped farmers to meet the needs of our growing population. Think about ways technology has changed. Why is math important? Why are science and engineering important?” Allow time for a group discussion. Say, “Now, let’s take it a step further. Look at the two images below. How has this technology helped sweetpotato farmers?”



The sweet potato weevil is the most serious pest to sweet potatoes.



6. What do you see when you look at this picture? Explain to students that the average person would simply see this image and wonder, “Why is a green plastic cup in that field?” But in reality, that “green plastic cup” has a very important job. This is actually a **pheromone trap** in a field to help growers and researchers monitor sweetpotato weevil activity. The **North Carolina Department of Agriculture and Consumer Services (NCDA&CS)** issued these traps in the Sweetpotato Weevil Program to implement effective plant pest protection to keep NC free of sweetpotato weevils.
7. Explain to students this is an example of technology. Allow students to work with a partner (turn and talk) or small group and create a synopsis of why this piece of technology is beneficial. Estimate how much this technology costs. How much could it potentially save? Does this have an economic impact? Can you think of another piece of technology used as an agricultural innovation that influenced modern economic systems?
8. **Extension:** If you were a sweetpotato farmer or any farmer at all, what technology would you use? If you could design a piece of technology what would it be and what would it help or prevent?

Activity 5: Historical Figures

Objective covered 6.H.2.4, 8.H.3.3, 8.C.1.3

1. Students will be researching historical figures in agriculture. Explain to students that modern agriculture has become what it is today because of the demands of our ever-growing population.
2. Using an internet search engine, such as Google, students can search historical figures in agriculture. **Ensure students do not rely on Wikipedia for research purposes.**

Specific names that may come up will be:

- Norman Ernest Borlaug or Dr. Norman Borlaug
 - John Deere
 - Eli Whitney
 - Henry A. Wallace
 - George Harrison Shull
 - George Washington Carver
 - Fritz Haber
3. Have students research one person directly related to agriculture and explain their contribution. Students will create a cereal box biography project or wax museum project where they will share the story of the famous person connected to agriculture and the impact on modern agriculture. Please see *The Teacher Next Door* link to get a walkthrough of the Wax Museum: <https://the-teacher-next-door.com/my-blog/classroom-ideas/wax-museum-biography-research-report-and-event>
 4. Now let's think about the North Carolina farmer. As a group, research the role of the North Carolina farmer and their impact to the state and in the United States of America.
 5. As a group, create a cereal box biography of the NC Farmer. Have students focus specifically on the role of an NC Farmer and their contribution to the economy, both to North Carolina and the United States of America. *Note:* Ensure students are utilizing reliable resources to conduct their research. Do not let biased and unreliable news media offset the truth of agriculture.
 6. **Extension:** As students continue to conduct research on **agriculture**, they will begin to see there is misleading information or bias comments made about the profession. The importance of this project is that students research the truth and understand the benefit of producing our food and fiber. Pose higher order thinking questions: How have individuals or news media influenced economic, political, and social change in North Carolina? How do consumers affect the production of agriculture? Allow time for group discussion to talk through any misconceptions.

Activity 6: Industry in North Carolina

Objectives Covered: 8.H.3.4

1. Introduce the industry in North Carolina by sharing this information with students:
Since 1971, North Carolina has ranked as the No. 1 sweetpotato producing state in the U.S. It's hot, moist climate and rich, fertile soil are ideal for cultivating sweetpotatoes, averaging nearly 60% of the U.S. supply. According to the USDA, in 2017, nearly 89,500 acres of sweetpotatoes were harvested in North Carolina; 30,000 more acres than California, Louisiana, and Mississippi

combined—also top producing states.⁹ The graphic shows the top sweetpotato producing North Carolina counties, with Sampson, Johnston, Wilson and Nash accounting for about half of the state’s supply.



2. Show students this image taken from ncsweetpotatoes.com, and have students identify the 10 counties in North Carolina that are the largest producers of NC sweetpotatoes.
3. Next pass out a copy of the *North Carolina Map of Counties* (see **Essential Files**) to each student and have them complete the chart.
4. Ask students what is unique about these areas, and what do we specifically know about the climate and soil conditions in these counties. Provide a *Regions of North Carolina Map* (see **Essential Files**) to each student to determine if their chart is filled in correctly on the *North Carolina Map of Counties*.
5. Students can use a map of North Carolina on an iPad or the provided paper copy to research climate areas in North Carolina, specifically the areas that are most prominent in production of sweetpotatoes in the top 10 counties. Example of map below (see **Essential Files**)



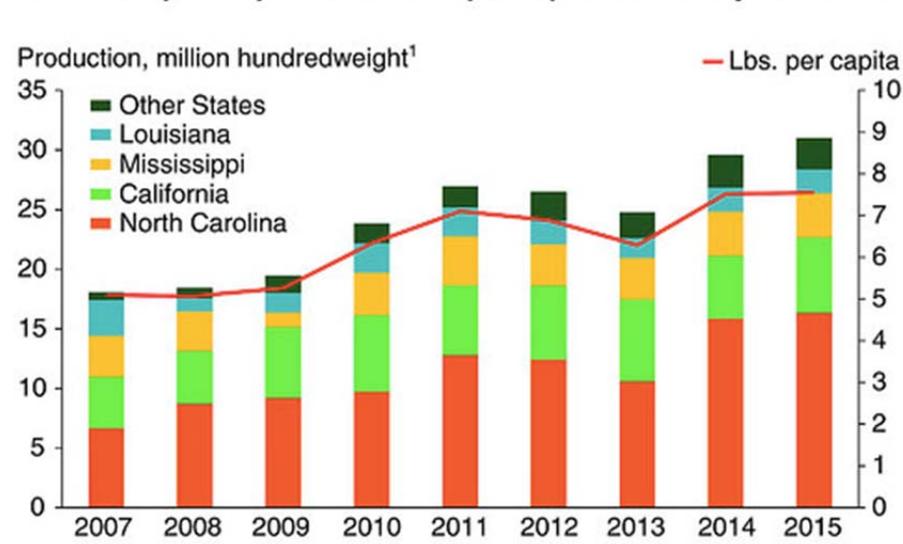
6. Pose question: “What has encouraged the changes made over time that has made sweetpotatoes in NC #1 in the USA?” Share this website: [5 Farming Technologies that Changed the World](http://5FarmingTechnologies.com)

<https://science.howstuffworks.com/environmental/green-science/5-farming-technologies-changed-world1.htm>

Say, “This provides information we have learned about technology and the changes made over time to improve situations. Farmers are constantly working to improve and make adjustments to produce more food with less acreage and more conservation practices to preserve the nutrients in the soil. Farmers work overtime to ensure the land is cared for and appropriately maintained so it can produce the best crop it is capable of doing.”

7. Share this image:

U.S. sweet potato production and per capita availability on the rise



¹Hundredweight is equal to 100 pounds.

Sources: USDA, National Agricultural Statistics Service QuickStats database and USDA, Economic Research Service calculations.

8. Have students read the graph and have a group discussion about why North Carolina is the leading sweetpotato producer. Pose question: “Why do you think North Carolina is a leading sweetpotato producer?”
9. As an assessment, have students use information from previous lessons/activities to create an infomercial explaining the impact North Carolina sweetpotatoes have had in our state and for the world.

Concept Elaboration and Evaluation

- **How many sweetpotatoes does North Carolina produce?**
North Carolina grows over half of all United States sweetpotatoes (more than any other state in the United States). In 2017, nearly 89,500 acres of sweetpotatoes were harvested; 30,000 more acres than California, Louisiana, and Mississippi combined.⁹
- **What is the state vegetable of North Carolina?**

The sweetpotato is North Carolina's state vegetable. In 1995, State Legislatures identified the sweetpotato as the state vegetable. There are hundreds of varieties of sweetpotatoes and many are grown across North Carolina. Some you may see most often in grocery stores include the Japanese sweetpotato, the White sweetpotato, and the Covington sweetpotato.

- **How have agricultural innovations improved the harvest and production of sweetpotatoes?**
Innovation needs change and change needs someone willing to try something new or test a theory. Innovations in agriculture came about in that way; someone willing to make the efforts of farmers more effective. Take, for instance, John Deere. When we first think of John Deere, often times our attention is drawn to the tractor which is understandable. However, it may be surprising to find that John Deere did not get his start with a tractor. John Deere was the innovator of the plow, and the plow has become one of the most vital tools utilized in farming today. This has impacted North Carolina sweetpotatoes while using a side angle disk plow to expose the roots during harvest. This is just one example of the innovations and adaptations that have made the harvest and production of sweetpotatoes more effective and efficient.
- **What are the regions of North Carolina? How are they unique?**
Most sweetpotatoes are grown in the piedmont and coastal plain regions of North Carolina because of the well-drained, sandy soil. Piedmont actually means "at the foot of the mountain," and it is a high and mostly flat land area with rich soils from deposits coming from mountainous rivers and streams. The coastal plain is the plain region approaching the coast of the Atlantic Ocean. It is a low, flat land divided into two parts: the inner coastal plains and the outer coastal plains. The soil in the inner coastal plain is said to be the state's best farmland, as it is a rich, sandy soil, perfect for the production of sweetpotatoes.
- **How has technology impacted agriculture?**
Farmers today utilize tools quite different than those used on the farm 10 to 20 years ago. In fact, farmers are utilizing technology more and more on the farm to improve crop productivity, more accurate usage and application of fertilizers, water, and pesticides; in addition, increased work efficiency, greater marketability, and reduced ecological impact. Farmers today can potentially check all levels of water outputs on a crop using irrigations systems without even leaving his or her home. This technology did not exist a few years ago. These new technology tools reduce the number of times a farmer travels over his or her fields which also conserves the soil.

Suggested Companion Resources

- *From Farm to School – Crops of North Carolina: Digging for Sweetpotatoes* (Activity Book)
<https://ncsweetpotatoes.com/wp-content/uploads/2013/03/Digging-for-Sweet-Potatoes-Activity-Book.pdf> [ncsweetpotatoes.com]
- A Sweetpotato Tale (video)
<http://www.pbs.org/video/a-sweet-potato-tale-warnvs/>
- The NC Sweetpotato Goes Abroad
<http://www.pbs.org/video/nc-sweet-potato-goes-abroad-jzu0ks/>

Sources and Credits

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This publication was supported by the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service through grant 17-182-2001. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA.

