

George Washington on the Farm

Objective

Students will read about George Washington's efforts to strengthen agriculture in the US and become familiar with words associated with agriculture. Students will research to find examples of Washington's contributions to agriculture. Students will make their own gardening journals. Students will conduct scientific experiments with different kinds of fertilizer and keep journals of their observations.

Background

George Washington is known as the father of our country, but he could also be called the Father of American Agriculture. His great love was agriculture, and he was happiest when conducting agricultural experiments on his farm at Mt. Vernon.

Washington was influenced by an agricultural revolution taking place in England at the time. This revolution brought an entire new system of cultivation pioneered by Jethro Tull. Tull invented "horse-hoeing," or deep plowing, with crops planted in rows so that the cultivating implements could pass between them. This was the beginning of mechanization in agriculture. Washington adopted Tull's horse-hoeing husbandry, but by the time of his death in 1799 he was devoted to the more sophisticated experiments. He was influenced by the English agriculturist Arthur Young and carried on an active correspondence with him for many years. Young had great respect for Washington's abilities as a farmer and thought he was a better farmer than he was a general.

Crops

After Washington returned from his years as commanding general in the Revolutionary War, he turned his attention to intensive scientific agriculture. After years of neglect, his farm was in need of rebuilding. One-crop agriculture had exhausted his soil.

Like his father before him, Washington was a tobacco farmer, but he had come to realize that tobacco was ruining the fertility of his soil. Tobacco had been the dominant crop for farmers in Virginia since the time of the English colonists at Jamestown. In 1611, those colonists had first tried planting wheat. They did not have much luck with wheat, so they changed to other crops such as corn, tobacco, and cotton.

Since tobacco was exhausting his soil, Washington decided to abandon it and try wheat. He could grow wheat as an income crop (a moneymaking crop). It could be sold in England, West Indies, Virginia, and Maryland. A major advantage in growing wheat was that if the market was bad, Washington could always use the wheat to feed his family, slaves and livestock. Washington even built a gristmill on his estate to process the Mount Vernon wheat into flour.

Oklahoma Academic Standards

GRADE 3

Social Studies PALS—
1.A.1,2,3,B.4,5,7;
2.A.2,C.7,D.10;
3.A.1,2,3,B.4

Social Studies Content—1.4
English Language Arts—
1.R.1,2,3; 3.R.1; 4.R.1,3,5;
6.R.1,2,3,4; 7.R.1; 1.W.1,2;
3.W.1; 6.W.1,2,3 2.F.1,2
Science—LS4.3,4

GRADE 4

Social Studies PALS—
1.A.1,2,3,B.4,5;
2.A.2,B.4,7,9,C.10;
3.A.1,2,B.4

Social Studies
Content—1.3,4,5
English Language Arts—
1.R.1,2,3; 3.R.1; 4.R.1,3,5;
7.R.1; 1.W.1,2; 3.W.1;
2.F.1,2; 6.W.1,2,3
Science—LS1.1

GRADE 5

Social Studies PALS—
1.A.1,2,,B.4,C.7,9;
2.A.2,B.4,C.7,D.10;
3.A.1,2,B.4

Social Studies Content—5.1
Science—5.LS2.1;
5.ESS3.1
English Language
Arts—1.R.1,2,3; 3.R.1,2;
4.R.1,3,5; 7.R.1; 1.W.1,2;
3.W.1; 6.W.1,2,3,4
Science —LS1.1; 2.1,2

Wheat took less human labor to produce and allowed the slaves to be employed elsewhere on the plantation.

In addition to wheat, Washington raised, attempted to raise, or at least experimented with barley, clover, corn, carrots, cabbage, flax, millet, oats, orchard grass, peas, potatoes, pumpkins, rye, spelt, turnips, and timothy. He also figured out a method of crop rotation designed to improve the long-term productivity of his land. Crop rotation revolved around the idea of planting a different crop each year so as not to wear out the nutrients and minerals in the soil. Washington used his seven-year crop rotation plan in addition to fertilizers and new planting methods to increase his wheat yield.

First Composter

Washington was eloquent when speaking of the virtues of compost and what we call fertilizer today. He hoped to be “a knowing farmer, who, Midas like, can convert everything he touches into manure, as the first transmutation towards gold.” He used animal waste and by-products and recorded an experiment in his diary on April 14, 1760, when he “mixed my compost in box” with different types in the various apartments. He planted the same number of seeds in each compartment and systematically recorded the results. After many trials, Washington applied manure, river and creek mud, fish heads and plaster of paris to his fields with some success. He built a very unusual building whose sole purpose was to compost manure and to facilitate its curing into usable fertilizer.

Because land was plentiful in the early days of our nation, farmers were accustomed to farming on one piece of land and then moving to another one when the soil on the first was exhausted. Washington encouraged American farmers to settle down and enrich their soil instead of wearing it out. In other words, he encouraged permanent settlement rather than continuous migration.

Livestock

Washington knew that careful breeding was required for livestock to prosper. He worried that American farmers had a lot to learn about improving their stock. His own failures in husbandry were mostly due to his long absences from home. Washington regularly culled his flock of unthrifty lambs, wethers, and ewes and took care to save from market the ram lambs with the best shape and the most wool.

Cattle were raised at Mt. Vernon both to help with the work and to provide meat. At a time when most Virginians kept cattle in open pens all year, Washington housed his in sheds from November until May, instructing his managers that they were to be well fed and carefully watered. The ice was regularly broken in cold weather to give the cattle access to clean water.

His swine ran loose in fenced woodlands until it was time to select the best for fattening in pens. They rooted and shoved their way through his hedges and eluded any attempt to count them. In listing his livestock on the various farms he could only say, “plus an uncertain number of hogs.”

The weekly reports from Washington’s manager included the number of chickens, ducks, and geese on each farm, but the flocks were not large. At a time when wildfowl was abundant, no extensive work with domestic fowls was necessary.

Like any farmer, Washington continuously tried to improve his farming, but when he did so, he did it as much for America as for himself. He believed that agriculture was the first and most important occupation of the new nation and a way for America to establish itself in the world. He wanted to make America the granary of the world. When Washington made improvements on his farm, he hoped that they would benefit all of his countrymen. In 1788, he wrote to Samuel Chamberline that “in the present state of America, our welfare and prosperity depend upon the cultivation of our lands and turning the produce of them to the best advantage.” Sources: Virginia Dept. of Agriculture and Consumer Services: <http://www.vdacs.virginia.gov/news/releases-a/021012presidents.shtml> ; “Introduction to the Diaries of George Washington,” <http://memory.loc.gov/ammem/gwhtml/4gwintro.html> ; “George Washington, The Revolutionary Farmer, America’s First Composter:” <http://www.cityfarmer.org/washington.html>

English Language Arts/Social Studies

1. Read and discuss background and vocabulary.
 - Students will take turns reading.
 - Students will circle unfamiliar words and discuss their meaning as a class.
 - Students will pause between sections to ask questions and discuss what they have read
2. Students will use online or library resources to find some of the contributions George Washington made to agriculture through his experiments.
 - Students will write reports on their research and share them with the class.
3. A legend is a story that comes down from the past whose truth is popularly accepted but cannot be checked. As with many other well-loved historical figures, there are plenty of stories, or legends, that have been passed down about George Washington that may or may not be true. One example is the Parson Weems story of George Washington chopping down his father’s cherry tree. Biographers tell us this story was probably not true, but most legends probably have at least a grain of truth to them, even if they are not entirely accurate. Lead a discussion based on the following questions:
 - What truth do you think can be found in the story of the cherry tree?
 - What does the legend tell us about George Washington’s character?
 - Students will write your own stories, beginning with this sentence: “George Washington did not chop down that cherry tree.” Be creative and make up a story to replace the cherry tree story that tells us something about George Washington’s abilities as a farmer.
4. Read “Garden Bed,” another story by Parson Weems, included as a reading page with this lesson. Do you think this is a true story? Why or why not? What does this story tell you about the young George Washington?
5. George Washington once said, “I had rather be on my farm than be emperor of the world.” Students will finish this sentence and draw a picture to illustrate: “I had rather be on a farm than be....”

Science/Visual Art

1. Keeping records about his farming efforts was very important for George Washington, as it is for farmers today. Farmers need to keep track of what works—different seed varieties, fertilizer, the time when pests appear and what works to control them and what doesn’t. Students will make their own journals, as follows, using paper bags with handles, garden twine and notebook paper.
 - Cut the bag down the side until you reach the bottom.
 - Continue cutting around the bottom of the bag and discard the bottom.
 - Cut 2 pieces 18 x 10 inches, with handles attached.
 - Fold up each piece 7 inches and staple on each side to form a pocket.
 - Punch 3 holes in the side of each piece using the hole punch.
 - Place blank notebook pages within the two cover pieces.
 - Tie the booklet together with raffia or garden twine.
 - Decorate the front with markers.
2. Students will conduct planting experiments by planting beans in various kinds of soil, using different kinds of fertilizer, as Washington did—fish fertilizer, compost, manure, chemical fertilizer, etc.
 - Students will use their journals to record their methods and observations of plant growth.

Extra Reading

Adler, David A, *George Washington: An Illustrated Biography*, Holiday House, 2005.

Bial, Raymond, *Where Washington Walked*, Walker & Co., 2005.

Miller, Brandon Marie, *Growing Up in Revolution and the New Nation 1775 to 1800*, Lerner, 2003.

Robb, Don, and Christine Joy Pratt, *This is America: The American Spirit in Places and People*, Charlesbridge, 2006.

Thomas, Peggy, and Layne Johnson, *Farmer George Plants a Nation*, Boyds Mill, 2008.

Vocabulary

agriculture—the science or occupation of cultivating the soil, producing crops, and raising livestock

agriculturist—one who practices agriculture

breeding—producing (plants or animals) by sexual reproduction

broadcasting—scattering in all directions

by-product—a product or result produced in addition to the main product or result

climate—the average weather conditions of a particular place or region over a period of years

compost—a mixture largely of decayed matter of once living things (as grass) or their products (as coffee grinds) and used for fertilizing and conditioning land

crop—a plant or animal or plant or animal product that can be grown and harvested

crop rotation—the practice of growing first one and then another crop on the same land especially to preserve the ability of the soil to produce crops

culled—reduced or controlled the size of (as a herd) by removal of usually weaker animals

cultivation—the act of preparing land for the raising of crops

domestic—of one's own country drill

culture—the planting of a crop by sowing with or as if with a drill

eloquent—having or showing clear and forceful expression

enrich—to make (soil) more fertile

ewe—a female of the sheep or a related animal especially when mature

exhausted—used up completely

facilitate—make easier

fallow—land for crops allowed to lie idle during the growing season

fertility—able to produce vegetation or crops plentifully

fertilizer—a substance (as manure or a chemical) used to make soil produce larger or more plant life

fowl—any of several domesticated or wild birds related to the common domestic chicken

hoeing—using or working with a farm or garden tool with a thin flat blade at nearly a right angle to a long handle that is used especially for weeding and loosening the earth

husbandry—wise management of resources

implement—an article intended for use in work

intensive—marked by special effort livestock—animals kept or raised; especially : farm animals kept for use and profit

manure—material that fertilizes land; especially bodily waste from birds and animals in stables and barnyards with or without litter

market—a meeting together of people to buy and sell

mechanization—to equip with machinery especially to replace human or animal labor

migration—the act of moving from one place to another

occupation—one's business or profession one-crop

agriculture—the agricultural practice of producing or growing a single crop or plant species over a wide area and for a large number of consecutive years. Also called "monoculture"

plaster of paris—a white powder made from gypsum that mixes with water to form a paste that hardens quickly and is used chiefly for casts and molds

plowing—opening, breaking up, or working with a plow

prosper—to succeed in something one is doing

ram—a male sheep

root—to turn up or dig in the soil with the snout

transmutation—the changing of one element into another

unthrifty—not growing strongly

variety—the quality or state of having different forms or types

wether—a castrated male sheep

yield—the amount or quantity produced

Garden Bed

by M.L. (Parson) Weems

One day Mr. Washington went into the garden and dug a little bed of earth and prepared it for seed. He then took a stick and traced on the bed George's name in full. After this he strewed the tracing thickly with seeds, and smoothed all over nicely with his roller.

This garden-bed he purposely prepared close to a gooseberry-walk. The bushes were hung with the ripe fruit, and he knew that George would visit them every morning.

Not many days had passed away when one morning George came running into the house, breathless with excitement, and his eyes shining with happiness.

"Come here! Father, come here!" he cried.

"What's the matter, my son?" asked his father.

"O come, father," answered George, "and I'll show you such a sight as you have never seen in all your lifetime."

Mr. Washington gave the boy his hand, which he seized with great eagerness. He led his father straight to the garden-bed, whereon in large letters, in lines of soft green, was written:

GEORGE WASHINGTON

