



What's Growing On In Virginia?  
Virginia Foundation for Agriculture in the Classroom  
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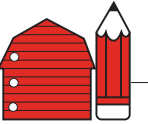
# What's Growing On In Virginia?

The Virginia Foundation for AGRICULTURE IN THE CLASSROOM

FALL 2006 / VOLUME 17 NO. 2

## THIS ISSUE

- 2 Ag tag
- 5 Reading Roundup
- 6 Program highlights



## Jamestown settlers found New World called for a new approach to farming

**C**ommercial tobacco production is recognized as the enterprise that made the Jamestown settlement a financial success. But farming was important on a more basic level when English settlers first arrived in Virginia in the spring of 1607.

In the months and years ahead, they would need to eat. And while they might have expected to trade for much of their food, it became apparent they would need to grow at least some of it themselves.

The Jamestown settlers are believed to have brought seeds with them from England and to have begun planting gardens immediately. The records of John Smith indicate that the first attempt at a grain crop was somewhat unsuccessful. A letter written by a settler in 1608 documents the sovereign of the Powhatan Indians sending people to teach the settlers native planting techniques.

Traditional practices for growing "corn"—wheat and other small grains, actually—in England included scattering seed across land that had been cleared and plowed. The Powhatans cleared land using a slash-and-burn method. Their technique of planting pre-counted maize seeds in mounds, and then using the same mounds to grow beans that sent runners up the cornstalks, and squash that shaded plant roots, was better suited for the terrain. At the time, Virginia was mostly forestland. In addition to stands of grain, settlers also planted small kitchen and medicinal gardens for vegetables and herbs.

Primary sources—people who were present in Jamestown at the time in question—indicate settlers began to grow and trade for native crops, including certain types of corn, beans, squash, melons and gourds. William Strachey, who arrived in Jamestown in 1610, wrote of planting " ... many of our english garden-seedes ..." and cited parsnips,



Tobacco is the crop credited with making the Jamestown settlement a financial success, but settlers began trying to grow some of their food almost immediately after they arrived in 1607.

carrots, cucumbers, melons, turnips, pumpkins, parsley, endive, potatoes, tobacco and grapes.

Previous attempts at growing cash crops of wine grapes and citrus fruits, for which there was an export market, and mulberry bushes (for leaves to feed silkworms) proved unsuccessful. But John Rolfe's experimentation with tobacco seeds from the Spanish colonies paid off. The first commercial shipment of tobacco to England was made by 1614, and by 1619 Jamestown had exported more than 10 tons of tobacco.

Throughout the rest of the 17th century, laws were enacted to force tobacco planters to grow some corn and wheat, in the interest of ensuring an adequate food supply. England prohibited the direct sale of Virginia tobacco to other countries; any such exports were handled through London and subject to excise taxes. That regulation was among factors that eventually led to the American Revolution.

*continued on page 2*

## AITC program highlights

### School Garden Project registration open



Hurry! Registration is now open for the 2007 Seeds for Success School Garden Project. Participants will receive free vegetable seeds and seed catalogs, delivered to schools in March, and complementary online activity guidelines. To register, visit [www.agintheclass.org](http://www.agintheclass.org), choose "Garden" from the top menu, and then "Registration" from the menu on the left.

Registration is limited to the first 1,500 teachers, so don't delay.

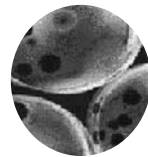
### Sign up now for teacher workshops

Middle school workshops feature selected hands-on activities and resources that support science and civics Virginia standards. Resource kits are provided to each participant.

Elementary workshop participants will each receive the new AITC Curriculum CD, along with personalized resource kits.

These workshops are offered at no cost to participants. Contact Tammy Maxey (middle school) at [tammy.maxey@vafb.com](mailto:tammy.maxey@vafb.com) or Ellen Robinson (elementary school) at [ellen.robinson@vafb.com](mailto:ellen.robinson@vafb.com) to plan a workshop for your school today.

### Online course available



Check out the Cell Biology Course at [www.agintheclass.org](http://www.agintheclass.org). Originally created as a teacher resource, this course has seen significant use as a middle school classroom resource. Its focus is on cell structure, cell processes and biotechnology.

### Attention college seniors and student teachers:

Applications are being accepted for the annual AITC Excellence in Teaching Award. Win \$300 for creating and implementing three lessons relating to Virginia agriculture.

Download details and an application at [www.agintheclass.org/TeacherAward/TeacherAward.asp](http://www.agintheclass.org/TeacherAward/TeacherAward.asp).

### About the Newsletter

What's Growing On In Virginia? is a semiannual publication for Virginia elementary and middle school teachers, published by the Virginia Foundation for Agriculture in the Classroom

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For additional information and activities, visit our Web site at [www.agintheclass.org](http://www.agintheclass.org) or call 804-290-1141



Visitors to Jamestown Settlement in James City County during the warmer months can see re-creations of settlers' fields and gardens.

# Jamestown settlers found New World

continued from page 1

## Jamestown Today

Visitors to Jamestown Settlement during the warmer months can see re-creations of settlers' gardens, fields and storage buildings. Located at state Route 31 and Colonial Parkway in James City County, Jamestown Settlement is about a mile from the original settlement site, which is administered as Historic Jamestowne by the National Park Service and the Association for the Preservation of Virginia Antiquities.

Jamestown Settlement and the Yorktown Victory Center are administered by the Jamestown-Yorktown Foundation, a state agency accredited by the American Association of Museums.

Many thanks to the Jamestown-Yorktown Foundation curatorial and media relations staff for assistance with this issue of What's Growing On?



Jamestown settlers adopted the Powhatan Indians' technique of planting maize seeds in mounds and then using the same mounds to grow beans and squash.

## 'in November We Cleare mor Wood land'

In 1646, Richard Collett recorded year-round agricultural practices in Virginia:

"... in March We Cleare our ground for corne in aprill We Make our hiles for tobaco in May we plante our tobaco in June and July and Augst We Weede our corne and tobaco and Worme our tobaco and aboute the last of Augst and September We garrer [gather] our tobaco and in October our Corne in November We Cleare mor Wood land ground December Wee Cleare ground and in January We Cleare and in Febary We mend our fences ..."

## 'AG TAG' COMMEMORATES FIRST COMMERCIAL FARMING VENTURE

More than 1,100 drivers have purchased a state license plate introduced in 2004 to honor Virginia's first industry.

The "Farming Since 1614" slogan recognizes the year by which Jamestown settlers made their first commercial shipment of tobacco to England. The plate's illustration is based on photographs of a farm in Orange County.

For each plate purchased, the Virginia Department of Motor Vehicles donates \$15 to the Virginia Agricultural Vitality Program Fund, which supports the state Office of Farmland Preservation.



## READING ROUNDUP

# Books focus on gaining a foothold in the New World



• *Corn is Maize* by Aliki, HarperTrophy (Jan. 10, 1986)

• *The Jamestown Colony* by Gail Sakurai, Children's Press (CT) (September 1997)

• *Let Freedom Ring: The Jamestown Colony* by Gayle Worland and Julie Richter, Capstone Press (December 2003)

• *A Lion to Guard Us* by Clyde Robert Bulla, HarperTrophy; reissue edition (Oct. 20, 1989)



• *Science in Colonial America* by Brendan January, Franklin Watts (September 1999)

• *The Serpent Never Sleeps* by Scott O'Dell, Fawcett; reprint edition (Nov. 27, 1988)



• *Surviving Jamestown: The Adventures of Young Sam Collier* by Gail Karwoski, Peachtree Publishers (January 2001)

## ADDITIONAL JAMESTOWN RESOURCES

The Jamestown-Yorktown Foundation makes available online teacher materials that correlate with curriculum-based programs taught at Jamestown Settlement and Yorktown Victory Center and through the foundation's statewide outreach program. They can be used as pre- or post-visit lessons for classes that will be going to Jamestown or Yorktown, or separately to enhance studies of Jamestown or the Revolutionary War.

Visit [www.historyisfun.org/visitus/material.cfm](http://www.historyisfun.org/visitus/material.cfm).

1607-2007

## Four join foundation staff



**Tammy Maxey** joined the Virginia Foundation for Agriculture in the Classroom staff as middle school education program coordinator in June. Her educational experience includes tenure as a teacher and administrator working with grades K-12.



In August, **Ellen Robinson** joined the foundation as elementary school coordinator. The seasoned elementary teacher has incorporated elements of AITC into her classroom over the past several years.

Robinson and Maxey bring a combined 35 years of education experience to the AITC program.



**Kelly Pious** joined the AITC staff as director of development in March 2005 and is responsible for raising funds to be used for AITC programs and materials. She is a Virginia Tech graduate who grew up on a beef cattle farm in Craig County.



Welcome also to **Angela Adkins**, the foundation's new administrative assistant. She comes to AITC from the YMCA as a financial developer with 15 years' experience.

# Reading trees



This lesson focuses on how environmental conditions affect tree growth.

### Introduction

Research at Jamestown has shown that early settlers struggled with environmental challenges beyond their control. The study of tree rings has shown that settlers and Indians survived one of the worst droughts in history. Archaeologist Dennis Blanton of the College of William and Mary has shared his research on tree rings with the archaeologists at Jamestown Rediscovery. His

research shows that limited fresh water resources caused great hardship for the people of Jamestown. Many settlers died from starvation and disease caused by a lack of useable water. Discuss how lack of water caused stress on the settlers. How might this affect the relationships and trade systems between the Powhatans and the English? *Dendrochronology* is "tree-ring dating." Climate changes create patterns in tree rings, which grow annually.

### Procedure

1. Divide class into groups of five or six students.
2. Instruct students to draw a circle in the center of the paper between 1 inch and 4 inches in diameter. Use a brown crayon to make thin bands of color to represent the tree rings.
3. Have each group spin the rainfall spinner to determine the next diameter ring to be added. Color each band with a brown line. Repeat until you are instructed to cut your tree.
4. As students "cut the trees," discuss patterns, the significance of drought years, and the effect of rainfall on the development of forestry.
5. Have each student cut a 1-inch-wide sample through the center of the tree rings. Collect and mix samples. Randomly redistribute them, and have the class arrange the samples in chronological order.
6. Discuss the reasoning used to arrange samples.

### Extension

1. Create graphs for rainfall based on 1-inch ring = 10 inches of rainfall.
2. Discuss what environmental factors contribute to growth rates of lumber.

### Source

This lesson can be found in its entirety online at Historic Jamestowne: America's Birthplace, [www.historicjamestowne.org/learn/pdf/elementary\\_school/4-5\\_reading\\_trees.pdf](http://www.historicjamestowne.org/learn/pdf/elementary_school/4-5_reading_trees.pdf)

### SOL:

Science 5.1; 6.5; LS4; LS12; LS14

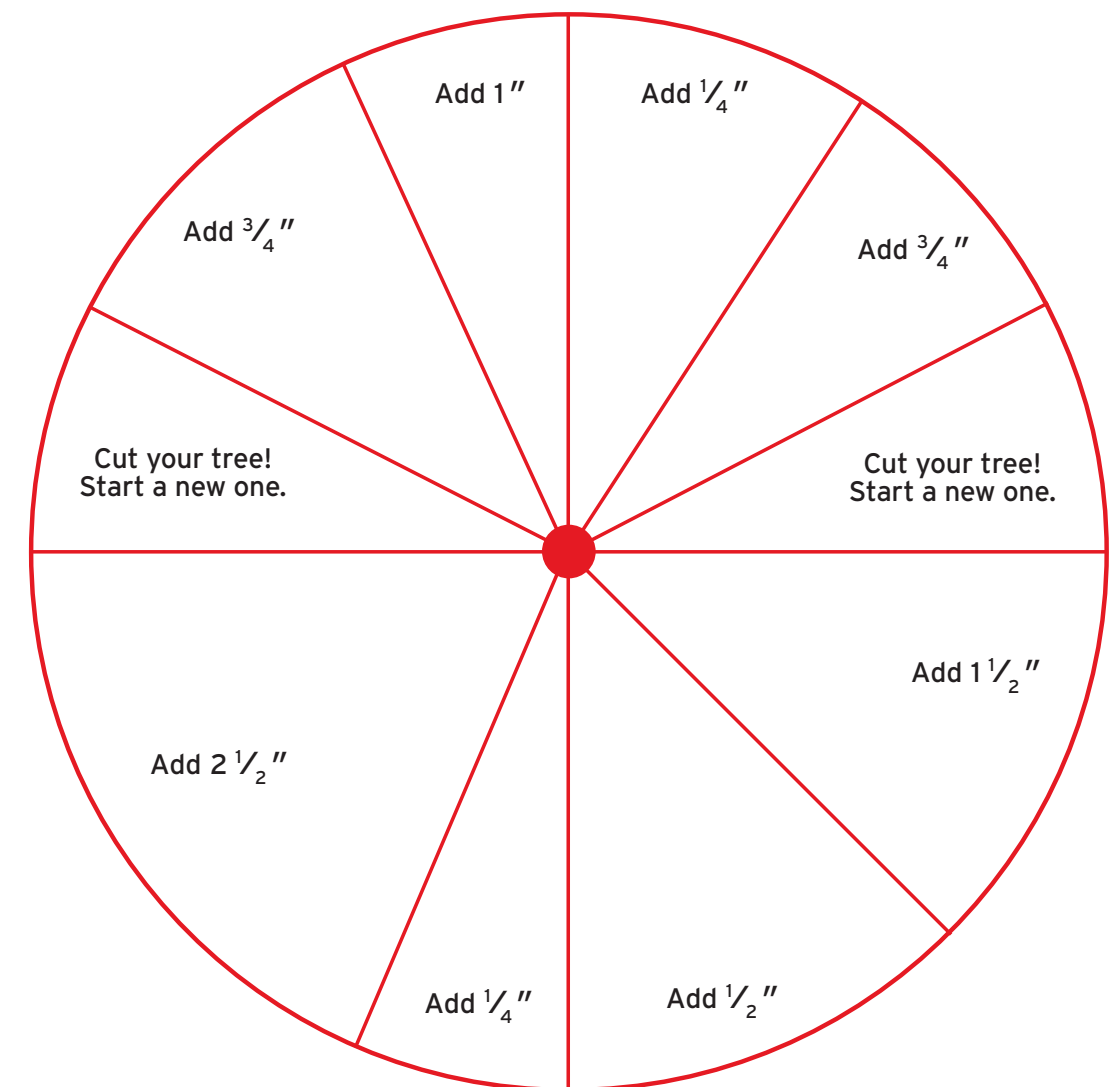
Mathematics 6.4; 6.5; 6.7; 6.9

### Materials:

- yellow construction paper
- brown crayons/markers
- compass
- scissors
- rainfall spinner (See next page for template)

# Rainfall Spinner

Copy on heavy stock



Attach arrow to the circle with a fastener that will allow it to spin.



# Bartering in Jamestown



The objective of this lesson is to teach students about the settlers' occupations and the use of bartering in Jamestown. Students will be assigned occupations, create an advertisement for their goods or services, and barter with classmates to obtain identified supplies.

This lesson also can be easily adapted to teach about trade in Mali (SOL 3.2) and the difference between money and bartering (SOL 2.8).

**SOL:**  
History VS.3, VS.4  
English 4.1, 4.3, 4.7

**Materials:**

- job descriptions
- paper
- chart paper
- markers or crayons

**Introduction**

Discuss and review with the class what they have learned about Jamestown. Remind the class that settling Jamestown was like moving to a "new world." Brainstorm with the class what you (or the settlers) would need to bring to Jamestown to be successful, focusing on what occupations and skills would be needed (wants versus needs). Discuss money, barter and trade with your class, and write the definitions on the board. Discuss how most settlers did not have money, so they would barter to get everything they needed. Using divided chart paper, compare and contrast time periods.

**Procedure**

1. Hand out the list of occupations, and review it as a class. Discuss what each occupation could contribute to the colony (goods or services). You might want to have occupations and definitions written on construction paper prior to the lesson to save time. Students could hang these around their necks (laminated and tied with yarn), so that the words are a continued visual.
2. Assign each student an occupation. Have the students brainstorm goods or services they could use to barter and trade in the colony.
3. Have each student make an advertisement with a picture and paragraph describing his or her goods or services.
4. Develop a list of supplies each student would need for his or her home in Jamestown (furniture, haircut, clothes, bread, vegetables, firewood, medicine, spices, etc).
5. Allow the class 10 to 15 minutes to barter and trade with each other to obtain these items. Have the students record their purchases and sales to see what they have or still need.

**Conclusion**

After the bartering exercise, discuss the trading process as a class. What occupations had an easy time trading? What occupations had a difficult time trading? Did everyone get everything they need? Why or why not? What would have made it easier to get all of the things they needed? How would this activity have been different if you were using money?

Have students compare their records of sales and purchases in small groups. **Idea:** When the students are in groups, assign one of the questions in the previous paragraph to each group and designate a spokesperson to report the group's response to the class.



**Job Descriptions**

- Councilor** – Person chosen by the king to advise and assist in governing the colony
- Preacher** – Person responsible for the spiritual health of the colony. This person conducted services and performed religious rites for settlers
- Carpenter** – Craftsman who made supplies out of wood, including furniture, tools, farm implements, wagons and houses. The carpenter also took care of the wooden hulls of ships and repaired damage
- Blacksmith** – Craftsman who made iron tools for farming and building
- Barber** – Trimmed beards and cut hair; also assisted with surgeries and dental operations
- Bricklayer** – Craftsman who made and arranged bricks for buildings
- Mason** – A builder and worker in stone; cut stone to fit buildings
- Tailor** – Made garments from cloth and leather
- Laborers** – Worked to grow whatever their gentleman masters wanted, generally corn or tobacco; built houses and performed other essential tasks
- Fueller** – Supplied wood for fires, the major source of heat, light, cooking, etc

**Extension**

1. What would happen if there was a drought or some other natural disaster? Would everyone get what he or she needed?
2. What other jobs would Jamestown need to survive?
3. Compare different forms of money used throughout American history (tobacco notes, U.S. dollars, wampum).
4. Why is it important to have a uniform national currency? Discuss debt, credit and savings in the colonies.

**References**

"Money in North American History: From Wampum to Electronic Funds Transfer"  
[www.exeter.ac.uk/~RDavies/arian/northamerica.html](http://www.exeter.ac.uk/~RDavies/arian/northamerica.html)

Jamestown-Yorktown Foundation, Outreach Education/VSSSE 05  
[www.historyisfun.org](http://www.historyisfun.org)

Virtual Jamestown: Daily life and events in the Jamestown colony  
[www.vcdh.virginia.edu/teaching/jamestown/jobs.html](http://www.vcdh.virginia.edu/teaching/jamestown/jobs.html)