



What's Growing On In Virginia?
Virginia Foundation for Agriculture in the Classroom
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The Virginia Foundation for AGRICULTURE IN THE CLASSROOM

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AITC program highlights

Teaching award provides grants for ag-related projects

Applications are being accepted through April 1 for the Virginia Foundation for Agriculture in the Classroom's 2007 Excellence in Teaching Award.

The award recognizes students who are working toward their teaching licenses and have shown a commitment to teaching about agriculture. Recipients will receive a \$300 grant for the purchase of ag-related children's literature; educational posters and displays; technology resources; lesson plans; or materials for hands-on activities.

Applicants must be planning on student-teaching in the current school year and teaching in Virginia upon graduation. For details and an application, visit www.agintheclass.org.

1,300 teachers getting School Garden Project seeds

About 1,300 Virginia teachers will receive free seeds and other materials this month for the 2007 Seeds for Success School Garden Project sponsored by the Virginia Foundation for Agriculture in the Classroom and Southern States Cooperatives.

Free online course seeing use as classroom resource

Originally created as a teacher resource, the Virginia Foundation for Agriculture's Cell Biology Course at

www.agintheclass.org has seen significant use as a middle school classroom resource. Its focus is on cell structure, cell processes and biotechnology.

Free teacher workshops available

The Virginia Foundation for Agriculture in the Classroom offers free workshops for elementary and middle school educators who want to incorporate agriculture into their classroom activities.

Middle school workshops feature selected hands-on activities and resources that support Virginia standards for science and civics, and participants will receive complimentary resource kits.

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

Contact Tammy Maxey at tammy.maxey@vafb.com to plan a workshop for your school today.

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 or call 804-290-1141

Want to teach with a garden? Get growing!

A school garden is a living, changing resource that can be used to teach science, math, language arts, social studies and teamwork—and with a little care you'll end up with fresh produce or flowers.

Studies indicate gardening at school also can help students grow healthy science test scores.

Gardens have used to teach children how plants grow from seeds; how food is produced; what kinds of plants attract birds, butterflies or other wildlife; and what types of foods and herbs American Indians and European colonists planted in the New World. Any seasoned gardener (or pair of gardeners) can confirm that gardening in general can help teach patience, cooperation, careful observation and appreciation for the natural world.

Grand gardens

One engagingly documented school garden success story can be found at the Roots and Shoots School Garden Web site at www.rootsnshoots.info. It profiles a cooperative project of the Blue Ridge Garden Club in Lexington and that city's Harrington Waddell Elementary School that started in 1995. It is a garden in which adult volunteers (roots) and schoolchildren (shoots) grow vegetables and flowers while forging a link between the generations and between the school and its community. Participants in a summer child care program adopt the garden after the school year ends, and when pupils return in the fall they dig potatoes, pick pumpkins and make corn husk dolls.

Other schools in Virginia have since created Roots and Shoots gardens as well.

Another school garden showcased online is that of the Edible Schoolyard, a nonprofit program on the campus of Martin Luther King Jr. Middle School in Berkeley, California. It's a gardening and cooking program in which students grow organic foods and learn to prepare them in a kitchen-turned-classroom.

The Edible Schoolyard site at www.edibleschoolyard.org includes tips, recommended reading and related links for educa-

tors interested in school gardening. It also includes science lesson plans.

'Start small'

Having a school garden is "like owning a house," said David Pippin, a facilitator for the Virginia Foundation for Agriculture in the Classroom. "The more you work with it, the better it gets. But it takes time for people to get their hands on it and figure out what they want to do with it."

Pippin is a garden consultant, floral designer and former high school horticulture teacher. He has worked with teachers, PTAs and students on numerous school garden projects. He said the first and primary advice he'd give educators who are thinking about starting a garden is to start small.

A raised bed or two, he said, is a respectable start. "There's no reason to go out and tackle a whole acre or a whole courtyard if you're not sure you want to do it."

Even a garden project's compost pile can be a teaching tool, he noted, recounting a project at Collegiate School in Richmond for which students and cafeteria staff saved food waste to amend their garden soil.



Schools all over Virginia use gardens to teach a variety of subjects.

>> MORE ONLINE INFORMATION

EXTENSIVE TEACHER AND FAMILY RESOURCES ARE AVAILABLE ON THE WEB SITE OF THE NATIONAL GARDENING ASSOCIATION AT www.kidsgardening.com.

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NATIONAL AG WEEK: March 18-24

American agriculture is responsible for providing the necessities of everyday life: food, fiber, clothing and even fuel.

That's the message of National Ag Day, which is March 21; National Ag Week is March 18-24.

Each year, the National Ag Day program, organized by the Agriculture Council of America, gathers members of the ag industry in an effort to promote American agriculture. The program focuses on how agriculture provides almost everything Americans eat, use and wear on a daily basis.

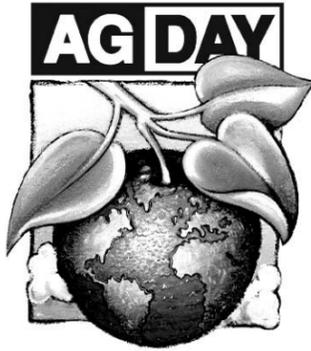
For more information, including free teacher resources, visit www.agday.org.

...and Virginia Ag Month arrives in May

To recognize and honor the state's nearly four centuries of farming, Virginia's governor typically proclaims May to be Virginia Agriculture Month.

Virginia's ag industry annually generates about 12 percent of all sales in the state, contributes approximately \$19.5 billion to the gross state product and creates nearly 10 percent of the total jobs statewide.

Virginia is included in national "top 10" production rankings for 11 agricultural commodities: fresh market tomatoes (third); tobacco (third); turkeys (fifth); apples (sixth); summer potatoes (seventh); peanuts (seventh); fresh market snap beans (eighth); fresh market cucumbers (ninth); sweet potatoes (ninth); broilers (ninth); and grapes (10th).



Get growing!

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After enjoying a treat of watermelon and cantaloupe, they added rinds and seeds to the pile—and soon had melon vines sprouting from the compost. The volunteer plants prompted an unplanned lesson in how new plants are generated.

Not many children, Pippin said, see food grown at home. "Very few people have home gardens anymore. They may have landscapes, but they don't engage the children in those landscapes."

He noted that vegetable gardens present an opportunity for students to try new foods. In gardens where children have planted cherry tomatoes, "the kids loved to pick those and eat them right there in the garden. I have found that more children will try, and eat, and like fruits and vegetables from the garden if they helped grow them."

What makes a school garden grow?

Along with seeds, soil and sunshine, here are some other things educators have found to be vital components of a successful school garden:

- A goal – What specifically do you want your students to learn?
- A plan – What you want to teach will determine what you plant and how you'll prepare your garden beforehand. Consider what care your garden will need when the school year ends in June.
- A sense of scale – Too large a garden can tax your resources, while a successful small plot positions you for future growth.
- A team – A supportive administration, interested parents and community gardeners will likely be key players.
- Funding – Get creative in applying for grants and soliciting donations from parents, local merchants and civic groups. See what kinds of cuttings local gardeners might be willing to share.
- A head gardener – Designate a faculty member to head up the project and recruit other supporters.

Studies indicate school gardens boost science test scores

The January 2006 issue of *NSTA Reports* cites two studies that link students' participation in school garden activities to a boost in their scores on science achievement tests.

NSTA Reports is published by the National Science Teachers Association.

To read the article in its entirety, visit www.nsta.org/main/news/stories/nsta_story.php?news_story_ID=51432.

In Texas, a group of researchers from the

National Gardening Association, Texas State University and Texas A & M University collaborated to examine the effect of participating in school garden activities on the science test scores of more than 600 students in the third, fourth and fifth grades. They found that students "scored significantly higher" on their science achievement tests, with "no statistical difference" in the achievement between genders.

Also studying this issue, with similar results, was Louisiana State University's AgCenter Department of Horticulture.

Both research groups used the gardening curriculum promoted by the Junior Master Gardener program, in which students can participate through schools, homeschools, after-school programs or youth clubs.

For information on the JMG program visit www.jmgkids.us.

LITERARY CORNER

For seeding some reading ...



• *Farmer's Garden Rhymes for Two Voices*, David L. Harrison, Boyds Mill Press, 2000, ISBN 1563977761



• *The Gardener*, Sarah Stewart, Sunburst Books, 1997, ISBN 9780374425180

• *Green Power Leaf and Flower Vegetables*, Meredith Sayles Hughes, Lerner Publications, 2001, ISBN 0822528398



• *In the Garden*, Heliadore, Scholastic, 2001, ISBN 0439336376



• *Jack's Garden*, Henry Cole, Mulberry Books, 1995, ISBN 068815283X



• *Usborne Starting Gardening*, Sue Johnson and Cheryl Evans, Usborne Publishing, 2002, ISBN 0794504450

Garden ABCs

From arbor to zucchini, gardening is a vocabulary-rich activity.

- A** arbor, alfalfa, amaryllis, ant, arugula
B basil, bat, bean, bee, beehive, beets, bird, bug, butterfly
C cabbage, cantaloupe, cardinal, carrot, corn, crops, cucumbers
D daffodil, dill, dragonfly
E eggplant, eucalyptus
F fennel, fish, flowers, foxglove
G garden, gardener, garlic, gourd, greens
H herbs, hollyhock, hummingbird
I insects, iris
J jalapeno, Johnny-jump-up
K kitchen garden, kale
L lavender, lettuce
M melon, morning glory
N nicotiana, nitrogen
O onions, orchard
P peas, peppers, plants, pond, potatoes, pumpkins
Q Queen Anne's lace, quince
R radish, rake, roses,
S scarecrow, seeds, spiders, spinach, squash, strawberries, sun, sunflowers
T tomato, tools, turnip
U underground, ugly fruit
V vegetables, velvet bean, variegated
W water, watermelon, weather, wheat, wheelbarrow
X xylem, xeriscaping
Y yarrow, yield
Z zinnia, zucchini

AITC donates 'Learning Barn' to Goochland school



The Virginia Foundation for Agriculture in the Classroom donated a "Learning Barn" to Byrd Elementary School in Goochland County on Jan. 18. The donation was made in honor of Wayne F. Pryor, a Goochland beef and grain farmer who was elected VFBF president late last year. The barn-shaped shelving unit was stocked with agriculture-themed children's books and other

materials. Similar Learning Barns have been built by county Farm Bureaus in the past year and donated to members' local elementary schools. On hand for the donation were Pryor's wife, Pattie, a longtime volunteer in the Goochland school system; Superintendent Dr. Frank Morgan; and Principal James Hopkins. Woodworking plans for Learning Barns are available through the AITC foundation.

Growing sneakers

This lesson focuses on using the scientific method to gain an understanding of how seeds travel with the aid of ecosystem dynamics and population influences.

Introduction

We know that seeds travel in a variety of ways. Examples are the facts that the wind carries seeds through the air and animals carry seeds on their fur or in their waste. What effect do humans have on the distribution and possible growth of seeds in our ecosystem? Do people threaten or enhance the survival of the vegetation around us? Imagine you are walking on a nature path, or hiking in the woods, or even taking a walk on a farm. When you complete the walk you find all sorts of seeds attached to your clothing and shoes. What happens to these seeds?

Procedure

Ahead of time, lay out an area (preferably outdoors) with loosened soil, birdseed and grass seed. Moisten the mixture to provide a tacky substance that will adhere to the soles of tennis shoes.

1. Divide the class into groups of three or four.
2. Instruct students to bring a pair of tennis shoes on lab day. Have student observe the soles of their tennis shoes. Each group should select the pair that has the greatest potential to trap seeds. Each group should explain the basis or their selection.
3. Discuss as a class the similarities and differences of how each group formed the hypothesis. Explain how hypothesis should be written.
4. To test each group's hypothesis, have the owner of the selected tennis shoes walk through the soil preparation.
5. Immediately upon exiting the test site, the student should remove the shoes and place them in a plastic bag.
6. In a lab setting, remove the seeds and soil from the shoes. Count the number of seeds collected.
7. Conclude whether the group hypothesis was confirmed regarding number of seeds trapped in a tennis shoe compared to other teams in the class.
8. Record the results of the experiment, and draw conclusions.
9. Put the soil and seeds collected into the potting containers. Add additional soil to barely cover seeds. Mist with water.
10. Observe until seeds begin to sprout.
11. Discuss how walking through an environment can spread seeds. What effect does moving through the environment have on seeds? Include positive or harmful effects.

Extension ideas

- Use variables other than tennis shoes, like socks or gloves.
- Discuss where seeds land and travel other than on the ground (on the rug or sidewalk, in the car, in the laundry). Do these seeds survive? How far do they travel?
- Choose a more realistic environment such as a walk through the woods or on a playground.



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Online science resources

The Agriculture in the Classroom Web site maintained at www.agclassroom.org by the U.S. Department of Agriculture offers considerable resources, including a publication and related Web site for middle school science educators and their students.

AgroWorld is a free bimonthly e-zine for secondary educators and their students. Each issue features current events, classroom resources, activities and grant opportunities that enhance standards-based science, applied technology and social studies curricula.

TeenScene is an interactive site that explores agricultural science, issues, careers and edutainment and encourages students to use their knowledge to succeed at online games.

SOL:
Science 6.1, 7.1, LS 12

Materials:

- tennis shoes
- large bag of birdseed
- bag of grass seed
- plot of ground with loose soil
- large bag of soil
- small containers for potting
- gallon-size plastic bags

Why is an herb an herb?

CREATED BY ELLEN ROBINSON, AITC PROGRAM COORDINATOR

The lesson focuses on a variety of interwoven activities to enhance student awareness of how herbs are a part of agricultural history. Students will plant mint and journal their observations. Teachers can choose from a variety of introductions to prepare their classroom in the most effective way.

Introduction

An herb is any plant (or plant part) that is important for its **medicinal, savory or aromatic** qualities. Herbs have been used for more than 5,000 years. Many cultures have used them for cooking, medicine, crafts and cosmetics, and they are fun to grow. Herbs can be used to study science concepts, other cultures and combined subjects across the curriculum.

Procedure

- Students select an herb to investigate. This can be done individually or in cooperative groups.
 - After defining the above terms, students will research an herb to find out if it used for medical, culinary or cosmetic purposes.
 - Students could investigate by interviewing chefs, pharmacists, nurses, teachers or curators of history.
 - Students can use books, magazines (many available) or the Internet (opportunity to teach research/technology skills).
 - Technology: Students could create "infomercials" for their herbs.
 - Students could create a visual and/or incorporate the scientific process.
- Students use their senses to compare potted plants. Then, organize the plants in groups according to similar attributes.
- Students can taste a variety of edible leaves (herbs, lettuce and cabbage). Ask students if they could eat a plate of the items they tasted, or how they might use those items.
- Provide an opportunity to grow a mint plant.
 - Put soil in 3-inch pots, and plant the mint.
 - Water the plants, and place the pots in the sun.
 - Students create a "Mint Journal" as they become more aware of the independent variables such as water (drought), light, soil, temperature, food (if plant food is added) and temperature.
 - When students have enough leaves from their mint plants (about 1 cup), make hot or cold mint tea.
 - Students can make predictions (taste, likes and dislikes) and compare and contrast (hot tea and cold tea), etc.
- Guide the class through the activities using across-the-curriculum experiences to learn about the rich history of herbs in many cultures. Through journaling, students will share the sequence of events involved in planting and tasting an herb. Assessments could include the journal and/or another choice of research options.

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Why is an herb an herb?

cont'd.

Extension ideas

- Study herbs used in early Jamestown history.
- Math: sorting, classifying, charts, graphing, probability, measurement, fractions, proportions and geometric shapes.
- Compare and contrast the spices in the spice rack at home.
- Identify herbs in recipes from other countries.
- Create a recipe book using across the curriculum.
- Create a "sniff test" using aromatic herbs, and ask different students to identify herbs or tell the difference between various herbs.
- Find out about the herbs used for cosmetics, cooking and crafts of people in a time period the class is studying (Pioneer Days, Native Americans, Pilgrims, China, Egypt or Ancient Greece).
- Write to a cosmetic company to find out what herbs are being used in cosmetics today.
- Rubric (optional for language arts expectations: grammar, paragraph content, spelling; or specific research expectations)

Helpful Hints

Small herb plants can be purchased from nurseries and grocery stores, and most herb seeds can be purchased at hardware stores and some grocery stores. Cuttings from a parent's yard (Herbs grow profusely) might be available for free.

If taking cuttings, snip 2 to 4 inches from the end of a strong stem. Remove leaves from the bottom half, and place the cutting in water in a sunny window. Cover the cutting with plastic, which acts as a mini greenhouse, until new growth appears.

In addition to mint, other easy-to-grow herbs include basil, oregano, dill, rosemary, tarragon and sage.

If students choose to start their herbs from seed, they could prepare a dish to share with the class, using one of the chosen herbs.

References

- www.kidsgardening.org
- The Herb Growing Book* by Rosemary Verey