

Successful Gardening through Extension

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Comments or Questions? Please call or email: Shawn Appling, Associate Extension Agent ANR, Horticulture: Culpeper County Office at (540) 727-3435 Ext. 355 or ashawn6@vt.edu Also serving Madison and Orange Counties

Two-Spotted Spider Mites

Four mite species are commonly seen in Virginia; two-spotted spider mites (Figure 1), Southern red mites, boxwood mites, and spruce mites. This article will focus on the two-spotted spider mite.

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The two-spotted spider mite is related to spiders, daddy long legs, and ticks. They have eight legs, only one body part, and two distinctive black spots on their backs. The two-spotted spider mite overwinters as an adult in the soil and emerges as soon as plant growth resumes in the spring.



Figure 1. Two-spotted Spider Mite. Photo by John Obermeyer, Purdue University (Purdue Extension Publication E-258-W)

They are active as long as host plants are actively growing. The two-spotted spider mite feeds by using a pair of needle-like stylets that rupture plant cells. This cell death results in the stippling effect seen on upper leaf surfaces under high population pressures. An over-all bronzing of leaves is another symptom of two-spotted spider mite damage. Eggshells, catskins, and adults can be seen on the undersides of leaves with a 10x hand lens. Another technique for detection involves shaking a suspected leaf over a white piece of paper. Any mites present will fall onto the paper confirming your suspicion.

Over 180 plant species have been found to be hosts of two-spotted spider mites. These include familiar species such as phlox,

hollyhock, primrose, violets, roses, tomatoes, peppers, brambles, and many houseplants. A large population of two-spotted spider mites will result in the appearance of webbing on leaf surfaces. It is best to treat plants before the webbing is seen because the webbing can act as a layer of protection against pesticide sprays.

There are numerous natural predators including lady beetles, thrips, and predator mites. Please consult the 2017 Virginia Cooperative Extension (VCE) Pest Management Guide for

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chemical control options - <u>http://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/456/456-018/456-018-17-home-grounds.pdf</u>.

For more information, please view the following articles or contact your local extension office (<u>http://ext.vt.edu/offices.html</u>):

- Day, E. *Spider Mites*. VCE Publication 444-221 (ENTO-107NP). 2015. <u>https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/444/444-221/444-221_pdf.pdf</u>.
- Foster, R. *Fruit Insects*. Purdue Extension Publication E-258-W. 2017. https://extension.entm.purdue.edu/publications/E-258/E-258.pdf.
- Malinoski, M. et al. Spider Mites. University of Maryland Extension Publication HG 13. 2006.
 https://extension.umd.edu/sites/extension.umd.edu/files/_images/programs/hgic/Pul

https://extension.umd.edu/sites/extension.umd.edu/files/_images/programs/hgic/Public ations/HG13%20Spider%20Mites.pdf.

• Sadof, C. and T. Gibb. *Spider Mites on Ornamentals*. Purdue Extension Publication E-42-W. 2010. <u>https://extension.entm.purdue.edu/publications/E-42.pdf</u>.

Emerald Ash Borer

The emerald ash borer (Figure 2) can attack all species of ash trees, in Virginia. It is a species from China that was first seen in Michigan in 2002 and in Virginia in 2008. The first symptoms seen are small cracks in branches high in the canopy, accompanied by canopy dieback. Woodpeckers also leave distinctive markings on the trees, called blonding or tanning (Figure 3), as they feed on larvae. Damage is not commonly seen for about two to five years after infestation, by which point the tree is beyond saving.

The adult beetles are a ¹/₂ inch long and bright metallic green in color. They begin emerging in May and early June and leave d-shaped exit holes on the outer bark of infested trees. Removing the bark near



Figure 2. Emerald Ash Borer. Photo by Greg Zolnerowich, Kansas State University (Kansas State Cooperative Extension Publication MF3168)

the exit hole will reveal a series of s-shaped tunnels. Larvae of emerald ash borer are creamy-white with a tan head. The adult beetles live for about three to six weeks, feeding on foliage. During this time an adult female can lay 50 to 100 eggs in bark crevices and cracks. The eggs hatch in about a week and immediately begin boring though the bark. They feed under the bark during the summer and early fall, after which point they overwinter as larvae.

Infested trees need to be cut down and either burned or chipped. Do not move logs for firewood, since emerald ash borer has been detected and spread by firewood in other areas of the United States. Non-infested trees can be treated with a systemic insecticide. Please consult the 2017 VCE Pest Management Guide for control options -

http://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/456/456-018/456-018-17-home-grounds.pdf.



www.ext.vt.edu

For more information, please view the following articles or contact your local extension office (http://ext.vt.edu/offices.html):

- Bauernfeind, R. *Emerald Ash Borer.* Kansas State Cooperative Extension Publication MF3168. 2014. <u>https://www.bookstore.ksre.ksu.</u> edu/pubs/MF3168.pdf.
- Day, E. Emerald Ash Borer. VCE Publication 2904-1290 (ENTO-200NP). 2016. <u>https://www.pubs.ext.vt.edu/content/</u> <u>dam/pubs_ext_vt_edu/444/444-221/444-221_pdf.pdf</u>.

Exciting Plants: Hydrangea quercifolia

The oakleaf hydrangea is native to the Southeastern United States, from Georgia to Mississippi. It is cold hardy to USDA hardiness zone 5 and has been planted in the Northeast and Midwest successfully. Oakleaf hydrangea can be grown in shade or full sun. The bushes usually reach four to six feet in height but it is not unheard of for it to reach 12 feet.

Oakleaf hydrangea is a truly beautiful four-season plant. In spring, the leaves unfold to dark green, with a leaf shape reminiscent of a



Figure 3. Blonding damage on ash tree. Photo courtesy of Kenner Love, extension agent VCE - Rappahannock County

red oak. The white cone-shaped flowers (Figure 4) follow profusely in summer. Flower size ranges from four to 12 inches long, three to four inches wide. Fall foliage color is either red, orange-



Figure 4. Oakleaf Hydrangea Flower Spike. Photo by Alex Niemera (VCE Publication HORT-84P)

brown, or purple; with leaves remaining on plants for many weeks during the fall. Cinnamon colored, exfoliating bark is your prize, for planting this shrub, throughout the winter months. Many cultivars are available and include *Hydrangea quercifolia* 'Alice', *H. quercifolia* 'Pee Wee', *H. quercifolia* 'Roanoke', *H. quercifolia* 'Ruby Slipper', and *H. quercifolia* 'Snowflake'.

For more information, please view the following articles or contact your local extension office

(http://ext.vt.edu/offices.html):

• Dirr, M. *Hydrangea quercifolia*. Manual of Woody Landscape Plants.





Champaign, Illinois: Stipes Publishing, 1998. 446-448. Print

 Niemera, A. Selecting Plants for Virginia Landscapes: Showy Flowering Shrubs. VCE Publication HORT-84P. 2015.
<u>https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/HORT/HORT-84/HORT-84/HORT-84-PDF.pdf.</u>

Events of Interest

- **2017 In Orchard Meetings** (All meetings are from 11:00 am to 2:00 pm). **May 10** Jenkins Orchard, Woodville, From Rt. 231, turn right on to R.t 621, go about 2 miles. The orchard is on the left by the packing shed. **June 14** Sunnyside Organic Orchard, Washington, VA, West on Rt. 622 for 1.5 miles, then right onto Rt. 624 for about 1 mile. **July 19** Graves' Mountain Farm, Syria, Rt. 231 to Rt. 670, meet at the picnic shelter on the left just past Syria. For more information, please call the Rappahannock Extension Office at 540-675-3619.
- On-Farm Twilight Vegetable Grower Meetings (All meetings are from 6:00 pm to 8:00 pm unless otherwise noted below). May 16 Messick's Farm Market, 6025 Catlett Rd. Bealeton, VA 22712. June 6 (Meeting runs from 10:00 am to 2:00 pm and will have a \$10.00 fee for lunch) Public House Produce, 357 Liberty Bell Ln. Luray, VA 22835. June 27 Yankey Farms, 14841 Glenkirk Rd. Nokesville, VA 20181. August 1 Woodbine Farm, 510 Barley Ln. Winchester, VA 22602. For more information or to register, please call 540-341-7950 Ext. 1 or email tohlwile@vt.edu.
- Summer Food Preservation Classes (All Classes will be held at the Culpeper Extension Office, 101 South West St. Culpeper, VA 22701). Pickle Class on August 3 from 10:00 am to 2:00 pm.
 Fermentation Class on August 10 from 10:00 am to 1:00 pm. Salsa Class on August 18 from 10:00 am to 2:00 pm. For more information ot to register, please call 540-727-3435 or email rebes13@vt.edu.
- Grow Your Own Vegetable Garden Series (All classes will be from 5:00 pm to 7:00 pm). May 18 Weed Control, Companion Planting, Succession Planting Vegetables Discussed Beans, Cucumbers, Eggplants, Peppers, Tomatillos, Tomatoes. June 15 Trellising/Staking, Moisture Management, and Herbs Vegetables Discussed Melons, Okra, Squash, Sweet Potatoes. July 20 Harvesting and Home Food Preservation (Class will be held at Culpeper Extension Office, 101 South West St. Culpeper, VA 22701). August 17 Transitioning Your Garden Vegetables Discussed Chard, Brussel Sprouts, Greens. September 21 Overwintering, Cover Crops, Storage Vegetables Discussed Broccoli, Cabbage, Cauliflower. October 19 Putting Your Garden to Bed Vegetables Discussed Fall Asparagus, Garlic, Shallots. November 16 Principles of Organic Gardening. All classes will be held at CFC Farm and Home Center (unless otherwise noted above), 15172 Brandy Rd. Culpeper, VA 22701. For more information or to register, please call 540-727-3435 or email ashawn6@vt.edu.
- **On-Farm Christmas Tree Grower Meeting on May 30** (5:00 pm to 8:00 pm). Glengary Tree Farm, 5537 Glengary Lane Amissville, VA 20106. For more information or to register, please call 540-727-3435 or email <u>ashawn6@vt.edu</u>.



Eat Smart, Move More at Farmers Markets

Broccoli

Key Points

- Excellent source of numerous nutrients, including vitamin C, vitamin A, and folate. High in vitamin K and a good source of dietary fiber. Contains carotenoids and flavonoids that may be good for health.
- Kids may be more likely to eat veggies that have catchy names, like Power Punch Broccoli.
- Fruits and vegetables that will be eaten raw should be kept separate from other foods, such as raw meat, poultry, or seafood.

Broccoli Salad

Number of servings: 8

Ingredients:

- 6 cups broccoli, chopped into bite-size pieces
- 1 cup raisins
- 1 medium red onion, finely chopped
- 8 turkey bacon slices, cooked and crumbled
- 6 ounces plain nonfat yogurt

Directions:

- In a bowl, add broccoli, onion, raisins, and bacon. Toss.
- 2. Add yogurt and mix well.
- 3. Chill for 1-2 hours. Serve.

Per serving: 123 calories; 3 g fat (1 g saturated fat); 6 g protein; 21 g carbohydrate; 3 g dietary fiber; 13 mg cholesterol; 218 mg sodium.

Vegetable Frittata

Number of servings: 8

Ingredients:

- Nonstick cooking spray
- 4 cups broccoli florets
- 1 cup mushrooms, chopped
- 1/2 cup green peppers, chopped

8 eggs

- 1/3 cup water
- 1 teaspoon crushed Italian seasoning
- ¼ cup low-fat cheddar cheese, shredded
- 1 tablespoon Parmesan cheese, shredded

Brenda Watkevich Family Nutrition Program Assistant Culpeper Extension Office (540) 727-3435 x348

Directions:

- 1. Set oven to broil.
- Wrap plastic handle of 10-inch skillet with foil to make it ovenproof. Evenly coat skillet with nonstick cooking spray. Heat to medium on stove.
- Add vegetables and cook until tender crisp.
- In a medium bowl, beat together eggs, water, and seasoning until well-blended. Add cheddar cheese.
- Pour over vegetable mixture. Cover, cook in skillet until eggs are almost set, about 10-12 minutes.
- 6. Broil for 1-2 minutes more, to brown eggs.
- Sprinkle with Parmesan cheese and cut into 8 wedges.

Per serving: 99 calories; 6 g fat (2 g saturated fat); 9 g protein; 3 g carbohydrate; 1 g dietary fiber; 213m g cholesterol; 114 mg sodium.

www.eatsmart.ext.vt.edu



VT/0515/HNFE-314-10NP

Quick Tips

- Choose broccoli with dark green, compact clusters and firm stems.
- Store in a perforated plastic bag. Store broccoli in refrigerator for up to seven days.
- Wash thoroughly under running water before eating, cutting, or cooking.
- Steam broccoli by placing in a covered microwavesafe container with a small amount of water, low-sodium seasonings, and minced garlic. Cook on high for about 5 minutes, until tender crisp.
- Grate broccoli and use like you would cabbage.

The U.S. Department of Agriculture (USDA) is an equal opportunity provider and employer. This material is partially funded by USDA's supplemental Nathrition. Assistance to people with low income. It can help you buy nutritious loods for a better diet. To findo ur more, contact your county or city Department of Social Services or to locate your county office call toll-tree 1800-552-3411 (vi-F B15 SOO, except holidays). By calling your local DSS office, you can get other useful information about services. This material was partially funded by the Expanded Food Nutrition Education Program, USDA, NIFA.



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