

UT Extension Sequatchie Co.

Horticulture and Gardening Monthly News & Notes

June 2023



What is it?

I have had a call already this spring with apple leaves having rust spots. To the left is a picture of the rust on an apple leaf. Any guesses? See page 6 for more information.

Tomato Brown Rugose Fruit Virus (ToBRFV)

Attached is an update from the Tennessee Department of Agriculture Plant Pathologist, Katy Kilbourne, with a timely update on a tomato, pepper, and eggplant virus to be on the lookout for. The following link provides additional information for frequently asked questions on

ToBRFV: <https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/federal-import-orders/tobrfv/faqs/general/general>

Plant a garden and help our pollinators!

Tennessee Environmental Council, a statewide non-profit organization, is inviting Tennessee residents to **carve out a small piece of their property to establish a pollinator garden that attracts, feeds, and nurtures pollinating wildlife!** We've made it easy for you to do this by providing access to native wildflower seeds and education on how to start a garden through our [Generate Some Buzz](#) program.

Why is this important?

1. Because one of every three bites of our food is produced thanks to butterflies, bees, and other pollinators.
2. Our native pollinator species are declining due to the following:
 - habitat loss caused by urbanization and lawns,
 - the use of insecticides, pesticides, herbicides, & fertilizers,
 - & monoculture agriculture.

How can you help?

1. Watch this [short video](#).
2. Register for seeds at this link: [Generate Some Buzz](#).
3. Prepare your garden while you wait for your seeds to arrive.
4. Post pictures of your garden in the [Generate Some Buzz facebook group](#).
5. Enjoy the growth of your garden all summer long!

Sheldon D. Barker • 423.949.2611 • sdbarker@utk.edu • Sequatchie County

[Facebook](#) • [YouTube](#) • [Instagram](#) • [website](#)

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.
UT Extension provides equal opportunities in programs and employment.

Fruits of the Backyard Field Day Scheduled for June 13

Blackberry and Blueberry Care Among the Topics at 16th Annual Event



The 16th annual Fruits of the Backyard Field Day will be held on June 13. Photo by K. Thompson, courtesy UTIA.

Homegrown blackberries and blueberries pair perfectly for summertime in Tennessee, and the University of Tennessee Institute of Agriculture would like to help bring them to your backyard. This year marks the 16th annual Fruits of the Backyard Field Day where attendees can receive valuable information, products, and techniques that will help backyard fruits and other plants flourish.

“This is a great opportunity for anyone interested in growing food, in particular fruits, at home,” said Kevin Thompson, director at the UT Middle Tennessee AgResearch and Education Center. “Not only will we have educational presentations and breakout sessions, but an

opportunity to taste some of the blackberry varieties grown here at the research center.”

Natalie Bumgarner, UT Extension consumer horticulture specialist, and David Lockwood, UT Extension fruit and nut specialist, will be presenting in special sessions focused on blackberry and blueberry care during the half-day event. Following the day’s presentations, a wagon ride will be provided to tour the berry research and demonstration trials.

Fruit production won’t be the only focus of the field day, which also offers insight into vegetable production, lawn maintenance, and pest control.

“The field day program has been developed to help you make your backyard a more productive and enjoyable place to spend time with family and friends,” said Thompson. “We look forward to hosting neighbors and friends alike.”

Fruits of the Backyard is June 13, 2023, from 8 a.m. to 12 p.m. CDT. Anyone, from home growers to commercial producers, is welcome to attend the free event, which will take place at the Middle Tennessee AgResearch and Education Center located at 1000 Main Entrance Drive in Spring Hill.

For more information on the field day, including directions, visit middletn.tennessee.edu or call 931-486-2129. For a full calendar of the 2023 Field Days, visit agresearch.tennessee.edu.

Through its land-grant mission of research, teaching, and extension, the University of Tennessee Institute of Agriculture touches lives and provides Real. Life. Solutions. utia.tennessee.edu.



Blackberry care is among the topics at 16th annual event. Photo by K. Thompson, courtesy UTIA.

Publications

New and Revised

- [Home Garden Variety Trial Report 2022](#)
- [Revised PB 724 Canning Foods](#)
- [W 1153 Therapeutic Benefits of Gardening](#)
- [W 1151 Honey Bee Inspections and Recordkeeping](#)
- [W 1152 Honey Bee Nutrition Fact Sheet](#)



UT Gardens Plant of the Month

June Plant of the Month

Want a Big and Bodacious Plant for the Garden? Add a Cardoon

Submitted by James Newburn, Interim Director of the UT Gardens



With spiky blue-green or silvery (and edible) foliage, cardoon makes a statement, whether in a vegetable garden or in garden landscapes. Photo courtesy of James Newburn.

Sue Hamilton, retired director of the University of Tennessee Gardens, used to give a presentation on big, bold, and bodacious plants. Our featured plant this month would certainly warrant inclusion in this category. Cardoon (*Cynara cardunculus*) is a perennial plant in USDA zones 7 and 8 and has very structural, deeply incised, spiky blue-green or silvery foliage that makes a statement in the landscape.

Related to the artichoke and thistle, the flowers of cardoon are very similar, with large purple blooms produced on a sturdy stalk in summer. The plant itself can reach three to five feet tall, with the flower stalk growing up to six feet.

Cardoon is native to southern Europe and North Africa, and it is there where it originally became cultivated as a vegetable. Unlike its artichoke cousin, culinarily speaking, it is the leaves and more specifically the leaf stalks that are valued.

They are featured in many Moroccan, Italian, and Portuguese recipes. The lower stalks are often blanched by covering them with soil, so they don't get sunlight. This keeps the leaves tender and less bitter. They are said to add a slightly mild artichoke or celery flavor to soups, salads, or served alone as a side dish.

Because of its large size, striking foliage texture, and grayish color, cardoon makes an ideal specimen plant. It also can be planted in groups to form a giant thistle-like planting. They are suitable for the rock garden, a mixed perennial bed, dry bed, herb or vegetable garden, and alone. They require full sun, in well-drained rich soil for the best performance.

Cardoon can be grown from seed, which sometimes won't bloom the first season, or by division of off shoots from a mother plant. In winter, some of the foliage may survive above ground but most will die back and need to be cleaned up so as not to hold moisture and cause the crown to rot.



Gardening Tips

"Gardening requires lots of water - most of it in the form of perspiration."
Lou Erickson

July

Vegetables

- Keep blueberries and blackberries picked frequently for best quality and to reduce pest issues.
- Continue cover sprays for fruit trees.
- Pick tomatoes, beans, corn, and other warm-season crops
- Provide irrigation as needed but try to minimize leaf wetness and overhead watering.
- Manage vegetable nutrition through proper side dressing and in-season fertilizer applications. See [UT Extension publication W804-A Getting The Most Out Of Your Home Vegetable Garden Soil Test.](#)
- Manage weeds. See [UT Extension publication W 346-D Plant Management Practices.](#)
- Scout frequently for insect or disease issues and spray as needed. See June and see [UT Extension publication W316 Home Vegetable Garden Disease Control.](#)
- Select cool-season crops and cultivars for fall and make seed order. Some cool-season crop transplants may need to be started in July.
- Pumpkins should be seeded according to maturity. A 100-day pumpkin seeded on July 1 would be estimated to mature October 11.

Lawn

All Grass Types

- Mow according to the one-third rule.
- Irrigate only when signs of drought stress such as rolled leaves and lingering footprints are present.
- Treat nutsedge and other weeds with POST herbicide if needed. See the following for more information:
 - tiny.utk.edu/W260
 - tiny.utk.edu/W146
 - tiny.utk.edu/W267
 - tiny.utk.edu/W147
 - mobileweedmanual.com

Tall Fescue

- Treat preventatively for brown patch on a 28-day interval using a strobilurin fungicide.

Bermudagrass/Zoysiagrass

- Apply fertilizer according to the soil test.

Flowers

- *Hedera helix* 'Buttercup' is an ivy with colorful foliage. It is an excellent ground cover, growing 6 to 8 inches tall, or can be trained to climb. New leaves are bright, yellow-green, and later turn to a butter- yellow color. Older leaves are dark green with light veins. Buttercup tolerates a variety of soil conditions in full sun or heavy shade.
- Edible flowers taste best when picked and eaten the same day. Harvest flowers in the morning, after the dew has dried, or right before sundown. Excess moisture can cause discoloration and loss of flavor. Leave stems intact when picking and storing; remove them just before serving. Loosely pack flowers in an airtight container with a moist, paper towel folded in the bottom. Add them to the dish as the last step in preparation.
- Snapdragons should be pinched back after blooming to promote a second flush of bloom.

- To produce the largest flowers, the main stems of dahlias should be kept free of side shoots, allowing only the terminal bud to develop. In larger varieties, a single stalk is the best. Adequate support must be provided to prevent wind damage. Water well.
- The dwarf sunflower variety, 'Sunspot,' grows only to two feet, but flower heads are full sized and have edible seeds. It is unusual in ornamental plantings and space saving in the garden.
- Cut back and fertilize delphinium and phlox to encourage a second show of bloom.
- Many plants are easily increased by layering. Verbenas, euonymus, pachysandra, ivy, daphne, and climbing roses are some of plants that will root if stems are fastened down on soft earth with a wire and covered with some soil.
- Cutting flowers is best done with sharp shears or a knife to avoid injury to the growing plant. A slanting cut will expose a larger absorbing surface to water and will prevent the base of the stem from being sealed by resting upon the bottom of the vase. It is best to carry a bucket of water to the garden for collecting blooms, rather than the familiar cutting basket.
- Sow seeds of hollyhocks, English daisies, foxgloves, violas, Canterbury bells, and Sweet William now for next year's bloom.
- Divide and transplant bearded iris using the vigorous ends of the rhizomes. Discard the old center portion. Cut the leaves back to about 8 inches.
- Propagate bleeding heart and Oriental poppy when growth has stopped and foliage has disappeared, indicating a dormant condition. Dig up a root and cut it into 1- to 2-inch pieces. Plant root pieces in a mixture of sand and rich loam. Keep the soil fairly moist, and soon tiny leaves will shoot up. The new plants will be ready for permanent quarters in the spring.
- Gerbera flowers (African daisy) can last up to two weeks in a vase if the water is kept clean. Since gerbera stems are hairy and easily dirty the water, do not immerse them more than a few inches. Change the water every two days.
- If you have been pinching back your mums this summer, then it is time to stop so they will be able to develop flower buds for the fall.

Fire Ant Control

Below is a link to three publications to help manage fire ants around the home and garden, pay close attention to the products you select there are only a few recommended for fruit tree plantings and vegetable gardens – **Read the label and make sure your intended use is listed.**

- [Managing Fire Ants in Urban Areas](#)
- [The Two-Step Method: Managing Fire Ants around Homes and in Neighborhoods](#)
- [Disease and Insect Control in Home Fruit Plantings](#) fire ants are noted toward the end of the publication.

UT Field Days 2023 Dates

- June 27, 2023, 8 a.m. EDT, - Green Industry Day –UT Gardens and Brehm Animal Science Building, UTIA Campus, Knoxville
- July 13, 2023, 8 a.m. CDT - Summer Celebration –West Tennessee AgResearch and Education Center at Jackson
- July 29, 2023, 9:00 AM, Quarterly Meeting and Tomato Tasting, Bledsoe County office, Pikeville, TN
- August 24, 2023, 8 a.m. CDT - Steak and Potatoes –, Plateau AgResearch and Education Center at Crossville
- August 29, 2023, 8 a.m. CDT - Fall Gardener's Festival, Plateau AgResearch and Education Center at Crossville
- September 9, 2023, 10 a.m. EDT - UT Arboretum Butterfly Festival – Forest Resources AgResearch and Education Center at UT Arboretum in Oak Ridge
- October 5, 2023, 9 a.m. to 9 p.m. CDT - Fall in the Gardens: Plant Sale and Garden Talks –and October 6, 10 a.m. to 2 p.m. CDT, West Tennessee AgResearch and Education Center at Jackson
- October 19, 2023, 7 a.m. EDT - Woods and Wildlife – Forest Resources AgResearch and Education Center at UT Arboretum in Oak Ridge



Figure 1 Cedar-apple rust gall from Eastern red cedar tree

What is it answered: Cedar-apple rust

Cedar-apple rust is a common disease of apple and crabapple, caused by the fungus, *Gymnosporangium juniperi-virginianae*. This unique fungus must spend a phase of its life cycle as a parasite on *Juniperus* species, such as red cedar or ornamental junipers.

Cedar-apple rust can be severe on apples. Infections of apple fruit result in lower fruit quality and early fruit drop. Leaf spots may cause early defoliation, especially during dry summers. If trees are defoliated several years in a row, they become weakened and unthrifty. Fruit bud formation may be reduced after one year. The disease is not as harmful to juniper, causing galls but not severely affecting plant vigor.

CONTROL

- Grow resistant apple or crabapple varieties.
 - [Disease Susceptibility of Common Apple Cultivars](#)
 - [Selecting Apples and Pears for Residential Production in Tennessee](#)
 - [Disease Resistant Apple Trees](#) great video about selecting the right cultivar.
- Destroy nearby wild, abandoned, or worthless apples, crabapples, cedars, or junipers.
- Follow a recommended fungicide spray schedule, beginning at the pink-bud stage and continuing through the second cover spray. The cedar-apples have usually exhausted their spores by this time. Immunox® is a fungicide available to homeowners (see Extension PB1622, "Disease and Insect Control in Home Fruit Plantings," for timing and rates). Captan®, the fungicide component of many pre-mixed home fruit sprays, is not effective against cedar-apple rust.
 - [Disease and Insect Control in Home Fruit Plantings](#)

Strategies for Preventing the Introduction and Spread of Tomato Brown Rugose Fruit Virus

Overview

Tomato brown rugose fruit virus (ToBRFV) is a virus of tomatoes and peppers. The virus is easily spread when healthy plants come in contact with contaminated equipment, hands, clothing, or infected plants or plant parts. Because the virus is difficult to control or eradicate, prevention is critical. This document details strategies to reduce your operation's likelihood of exposure to ToBRFV. It also offers strategies for responding to ToBRFV detections, reducing spread in facilities, and preventing reinfection.



Left: Symptomatic tomato leaves
(*Neta Luria*)

Right: Symptomatic tomato fruit
(*EPPO.int, Prof. Salvatore Davino*)

Preventing the Introduction of ToBRFV

To reduce the risk of introducing ToBRFV into your operation, use the following sanitation and preventive practices:

- Use seed, seedling, and graft material that are certified virus-free.
- Minimize crop handling and other procedures that may wound the plants, especially early in the growing season. Early infections may result in the most severe yield losses.
- Treat each greenhouse as a separate unit, and follow the sanitation measures listed on page 3.
- Report any signs or symptoms of this disease to your State Plant Regulatory Official or to your local USDA Plant Protection and Quarantine Office.

Response Strategies if ToBRFV is Detected

Treatment Measures

At this time there are no chemical controls available to treat ToBRFV infected plants. Remove all infected plant material from the greenhouse—including cull piles and other plant debris—and use the following APHIS-approved disposal method:

- Apply a heat treatment (steam/autoclave) with an internal temperature of 100 °C (212 °F) for a minimum of 30 minutes to all plant material (i.e. plant parts, soil) that may contain ToBRFV. After completing the heat treatment, the material can be buried in a landfill. Use the same treatment for compost piles or incinerate.

OR

- Double bag all Infected plants, associated growth media, associated containers including pots and trays, all leaf debris in and around the area where plants were stored using plastic bags of 2 mil thickness or greater. Bury to a depth of no less than 6 feet (1.83m). The material must be buried onsite, at a USDA-approved site, or municipal landfill, which is expected to remain undisturbed. Make every effort to prevent plant debris or soil from being dislodged from the plants.

Disinfection Measures

- Pressure wash (with detergent) large machinery or equipment (scissor lifts, etc.), that may have come in contact with infected plant material. Follow the two-step process below:
 1. Power wash or steam clean equipment to remove all soil and debris before it leaves infected areas; AND
 2. Disinfect all equipment (see below).
- Use one of the following disinfectants, with an exposure period of at least 15 minutes, on anything that may have come into contact with infected plants and plant material:
 - 10% bleach solution: 1 part bleach (any commercial bleach) to 9 parts water
 - Use 20.4% potassium peroxymonosulfate, 1.5% sodium chloride applied at 2.0% (20 g/L or 0.17 lb/gal)

Sanitation Measures

- Limit facility access to authorized personnel.
- Wear only clean clothing, and wash all clothing in hot water with soap prior to wearing again.
- If possible, use disposable protective clothing and gloves.
- Do not move protective clothing and tools from one area to another.
- Pull off gloves from the wrist upwards so that the glove turns inside out.
- Put all clothing into a hermetically sealed bag prior to exiting the area for washing or disposal.
- Put disposable clothing in the appropriate bin for immediate destruction.
- Use disinfectant mats at entrances for footwear and wheeled equipment and disinfect before entering and leaving areas.
- Disinfect tools before use on each plant (refer to the disinfection measures on page 2).
- Wash hands with soap or disinfectant before and after handling plants and putting on gloves.

Measures for Reducing Spread from Infected Areas

- Restrict movement:
 - Treat each infected area as a separate unit, and follow the sanitation measures listed on page 3.
 - Minimize movement between sites and move from a non-infected area to an infected area.
- Follow treatment measures on page 2:
 - Turn off irrigation water one day before plant removal to decrease the risk of sap transfer.
 - When removing plants and plant material, do not touch other plants or surfaces in greenhouses.
- Clean and disinfect susceptible materials and surfaces.
 - Follow disinfection measures on page 2 for anything that may have come into contact with infected plants and plant material including:
 - Tools,
 - Plant trays, which can also be treated by soaking in hot water at 90 °C (194 °F) for 5 minutes, or destroyed,
 - Drains, water storage areas, and irrigation system as the virus can survive in water; and
 - All agricultural machinery and equipment before moving between greenhouses.
 - Do not bring anything into an infected or suspected infected area that is not needed (jewelry, watches, phones, etc.) as everything will need to be disinfected before exiting the site.
 - Clean eye glasses with alcohol tissues after leaving infected areas.
 - Limit visitor access to a secure place with cleaning and disinfection facilities near the entrance to the greenhouse.

- Follow cultural practices that reduce risk of ToBRFV spread:
 - Use naïve (young) bee hives for pollination. Avoid the use of bee hives in greenhouses if infection is found prior to flowering.
 - Keep records of seed and transplant sources for 3 years so they can be traced if necessary.
 - Eliminate potential ToBRFV reservoirs such as weeds. Follow treatment and disinfection measures on page 2 for any potential host material.
 - Scout plants for ToBRFV symptoms; take tissue samples and have diagnostic testing done on suspect plants.
- Inform workers:
 - Institute hygiene and worker training programs that include sanitation of boots, clothing, hands, and tools in production areas.
 - Post informative materials on ToBRFV in production areas.

Issued June 2020

USDA is an equal opportunity provider, employer, and lender.