



Green and Yellow Shoulders on Tomato

Tomatoes are one of the most popular vegetables grown in home gardens. The taste of fresh, local tomatoes is something to look forward to as we enter summer. Tomatoes can also be a challenge, as there are a number of problems that can impact their growth and the quality of the fruit. Two common issues we see in southern



Mississippi is that as the fruit begins to ripen, the top of the fruit refuses to change color, remaining green or yellow as the rest of the fruit turns red. These conditions are called green or yellow shoulders, respectively.

As tomatoes ripen, the green pigment in plants, chlorophyll, begins to break down at the blossom end and continues toward where the stem is attached to the fruit. Green shoulders occur when the chlorophyll does not break down. Both high temperatures and direct sunlight can be responsible for this problem. Yellow shoulders is very similar, but rather than a failure of chlorophyll to break down, this problem is due to the tomato fruit not properly developing the red pigment lycopene. Production of lycopene in tomatoes slows down at higher temperatures. While green and yellow shoulders are slightly different issues in the physiology of the plant, they are both caused by the same environmental conditions and can be managed in a similar way.

Once a tomato fruit has developed either green or yellow shoulders, the problem cannot be corrected. However, there are some practices that can help prevent these problems from developing. Some tomato varieties are less susceptible to developing this issue. In particular, hybrid tomato varieties tend to develop these problems less than many of the popular heirloom types. Another means to help prevent green or yellow shoulders is ensuring that the foliage of the tomato plant provides some shade to the fruit. This is especially important as temperatures continue to rise into the summer. Finally, picking fruit a little early can help avoid development of green or yellow shoulders. Tomato fruit can be picked once they are at a mature size and will continue to ripen off the plant.



Christian Stephenson, Ph.D., C.A., Co. Coordinator & Extension Agent

MSU-ES Hancock County

Phone: 228-467-5456

E-mail: c.stephenson@msstate.edu

INSIDE THIS ISSUE:

Splitting and Cracking on Tomato	2
Garden Calendar	3
Lawn Care	4
Citrus Leafminers	5
Controlling Small Flies in the Home	6
Diseases of Tomatoes	7
Private Applicator Training & Pollinator Garden Workshop	8

CONTACT INFORMATION

Forrest County
Phone: (601) 545-6083
Email: mtt52@msstate.edu

George County
Phone: (601) 947-4223
Email: h.steede@msstate.edu

Hancock County
Phone: (228) 467-5456
Email: C.Stephenson@msstate.edu

Harrison County
Phone: (228) 865-4227
Email: tim.ray@msstate.edu


Jackson County
Phone: (228) 769-3047
Email: ext-jackson@lists.msstate.edu

Lamar County
Phone : (601) 794-3910
Email: rosso@msstate.edu

Perry County
Phone: (601) 964-3668
Email: b.odum@msstate.edu

Pearl River County
Phone: (601) 403-2280
Email: eddie.smith@msstate.edu

Stone County
Phone: (601) 928-5286
Email: hbj4@msstate.edu



Christian Stephenson, Ph.D., C.P.H., C.A., Co. Coordinator & Extension Agent
MSU-ES Hancock County
Phone: 228-467-5456 E-mail: c.stephenson@msstate.edu

Splitting and Cracking on Tomato

Another common issue on ripening tomatoes is that the fruit crack or split. This is seen more often on red tomatoes but can also occur on green fruit. Cracking and splitting are both a response to a rapid change in soil moisture, so it is seen especially frequently following heavy rain preceded by dry weather. This rapid change in water causes the inside of the fruit to expand faster than the epidermis leading to the breaking of the skin.

There are two patterns of cracks seen in tomato. The most serious is vertical splits along the side of the fruit. This is called radial splitting. Concentric splitting is when the cracks are found on the top of the fruit ringing the stem end. When cracking or splitting occurs in green fruit, it is very likely that the fruit will rot if they are left on the vine. The best option is to harvest the fruit and allow them to continue to ripen indoors. Discard any fruit that develop a sour smell or begin to ooze.

As with green or yellow shoulders, some varieties are much more tolerant of changes in soil moisture and will be less prone to cracking. Temperature can also influence cracking, so maintaining foliage over the developing fruit can also be helpful. Mulching will also help reduce fluctuation in soil moisture and will help reduce this problem.



Beaumont Horticultural Unit Annual Field Day

June 2, 2022
 Registration 8:00 am
 Program 8:30-Noon



478 Hwy. 15N, Beaumont, MS 39423

Pre-registration is not required.



Garden Calendar: June

Planting

- Plant Crape Myrtles in bloom to be sure of color.
- Replace turf in deep shade with ground cover: Liriope, Ajuga, or Jasmine. Set out Caladiums in shady areas.
- Plant summer annuals: Ageratum, Cockscomb, Impatiens, Marigolds, Sunflowers, Four-o'clocks, and Periwinkle.
- Plant Tomatoes late this month to insure harvest late into fall. Cherry Tomatoes are a choice that are heat tolerant.
- Choose Daylilies now that they are in bloom for planting in your garden.
- Divide and replant Iris, cut leaves back to 6 inches after transplant.
- Plant Zinnias and Marigolds now for a second crop of flowers.
- Plant Snapbeans, Lima beans, Cucumbers, Eggplants, Peppers, Squash, and Tomato plants.
- Gladiolus planted now will give lovely fall blooms.



Fertilizing

- Fertilize Camellias with Azalea-Camellia fertilizer if not done earlier in the year.
- Fertilize Bermuda and Zosia grass. Fertilize Tomatoes, Cucumbers, and Zuccinis monthly with 5-10-10.
- Fertilize annuals and perennials.

Pest Control

- Mow lawn in the morning to reduce the chance of starting Brown Spot (fungus).
- Remove Zinnias with powdery mildew and replant.



Pruning

- Prune Oleander after blooming ends. Pinch Dahlias and Mums to assure a compact growth habit.
- Remove blackberry fruiting canes after harvest. Prune new canes to encourage side branching.
- Faded flowers should be removed from Daisy, Daylily, and other summer flowers.
- Prune out dead and damaged wood from trees and shrubs.

In Bloom

- Ageratum, Althea, Balloon Flower, Bee Balm, Begonia, Blackberry, Butterfly Weed, Coreopsis, Cornflower, Feverfew, Funkia, Gladiolus, Hollyhock, Japanese Iris, Lily, Nicotiana, Petunia, Phlox, Rose Scabiosa, Shasta Daisy, Sweet Pea, Verbena, Butterfly Bush, Golden-rain Tree, Hypericum, Mimosa, Stewartia, Sourwood, Vitex, Yucca, Jasmine, Crape Myrtle, Daylily, Geranium, Hibiscus, Hydrangea, Impatiens, Lantana, Morning Glory, Oleander, Plumbago, Portulaca, Purslane, Salvia, Veronica, Dusty Miller, Four O'clock, and Zinnia



Eddie Smith, Ph.D., C.A., Co. Coordinator & Extension Agent
MSU-ES Pearl River County
Phone: (601) 403-2280 E-mail: eddie.smith@msstate.edu

Good Cultural Practices Help Reduce Lawn Diseases

Spring flowers, showers, and temperatures encourage us to get busy working on our lawns and landscapes. As the turf begins breaking dormancy, we have the tendency to push things along a little faster than necessary with many of our cultural practices of fertilizing, watering and mowing.

The cool nights and warm days, along with spring showers, provide the ideal environment for many turf pathogens that can wreck havoc on a lawn during this period. Being a little cautious with the cultural practices, we can work on the lawn now to reduce the severity of these diseases.

Leaf wetness and excess nitrogen fertilization are the two major factors ideally suited for disease proliferation.

Therefore, do not be too quick to apply heavy rates of fertilizer to lawns, particularly highly water soluble sources of nitrogen that provide quick flushes of growth.

If the lawn does need water, applying irrigation early in the day allows the leaves to dry before nightfall, and watering thoroughly once or twice a week rather than a little daily will help reduce the time the foliage remains wet.

Avoid mowing when the lawn is wet to help reduce the spread of pathogens and compaction of the soil. Mowing at the optimum mowing height for each specific turf species also keeps the turf in a much healthier state. Use fungicides when necessary to suppress active pathogen proliferation.



Renovating Your Lawn

If your current lawn is not all you want it to be, you may need to renovate—to make it new again. The first step in renovation is to determine if you have enough of the desired turfgrass present to make renovation more feasible than just starting over from scratch.

Shade is the problem we face most often in Mississippi. When we start our lawn, we put out sapling oaks, maples, and pines, and we plant bermudagrass. The lawn does well for several years, but then we notice the grass is thinning out and weeds are invading. The problem is the trees have grown enough to shade the bermudagrass. The option is to cut the trees to allow light to penetrate or to shift to a more shade-tolerant grass.

The second major reason turf does not thrive is soil compaction. As we walk on, drive our vehicles across, mow with our riding lawn mowers, and have our children play games on our lawn, the large pores in the soil are destroyed. This slows the rate at which water and air move through the soil and acts as a barrier to root growth. You can solve this problem through aeration or by physically disrupting the compacted layer with a plow. To check for a compacted layer, insert a knife or screwdriver blade six inches into the soil. If significant resistance is felt, you probably have a compacted layer.

Lawns thin out for several other reasons. Drought stress thins out the desirable species, and disease pressure causes the lawn to thin. Insects will kill the turf. After the turfgrass is gone, weeds move in. The presence of a great number of weeds is a sign the turfgrass is not thriving. Before you can make the lawn succeed, you need to find the cause for its decline. Weed growth is a result, not a cause. Killing the weeds will not cause the grass to grow. You must discover if the turf needs nutrients, water, protection from pests, better drained soil, or whatever it lacks to grow a successful lawn.



Tim Ray, C.A., Co. Coordinator & Extension Agent

MSU-ES Harrison County

Phone: (228) 865-4227

E-mail: tim.ray@msstate.edu

Citrus Leafminers

I'm often asked about leaves curling up on citrus trees and, most often, this is caused by leafminers. Citrus leafminers are a relatively new pest of citrus trees, which are often grown as landscape trees in the southern portion of the state. Originating in Asia, the citrus leafminer was first discovered in Florida in 1993. These small moths rapidly became a significant pest, with infestation rates of up to 90% in some areas in Florida being observed within the year of introduction. By 1995, the citrus leafminer was discovered in Texas, Central America, western Mexico, Caribbean islands and by 2000, it arrived in southern California.

Citrus leafminers are the larvae of small moths. They cause long, winding mines or trails in the leaves of many types of citrus trees. Because this insect is newly introduced, it has few natural enemies, and infestations are often heavy. Leafminers are one-fourth inch long or less. The term *leafminer* describes any insect that completes at least a portion of its life by living and feeding inside plant leaves.

Damage is caused by the larvae. In most cases, the larvae feed on the leaf tissue between the upper and lower epidermis of the leaf. It destroys leaf tissue by mining in the leaf, reducing leaf area and interfering with nutrient translocation. Extremely heavy infestations can result in enough loss of leaf area to adversely affect plant vigor and health. Fortunately, this is not common, and most leafminer infestations do not seriously affect plant health and may not require treatment. However, even light leafminer infestations can cause plants to be unsightly, and damage may persist. This aesthetic injury is the primary damage leafminers cause.

Because the larvae live in a protected location inside the leaves, leafminers can be difficult to control. Systemic insecticides work best to control leafminers. Products containing the active ingredient spinosad are especially useful against citrus leafminers, as well as other larval-type insects. Some formulations of spinosad are specifically labeled for use on home-grown citrus and approved for organic use. Insecticide products containing acephate or imidacloprid are normally most effective on leafminers in the landscape and more specifically on boxwoods, hollies, and azaleas, although many spinosad products carry this label as well. Because citrus trees are grown both as landscape plants and food crops, it is important to be sure any insecticides are specifically labeled for that use. Please read and follow all label directions.



Severe citrus leafminer damage causes leaves to curl.



Distinct trails in the leaf caused by the citrus leafminer.



Adult citrus leafminer moth, *Phyllocnistis citrella*



Tim Ray, C.A., Co. Coordinator & Extension Agent

MSU-ES Harrison County

Phone: (228) 865-4227

E-mail: tim.ray@msstate.edu

Controlling Small Flies in the Home

Many people may have been dealing with small flies lately. There are several species of small, gnat-sized flies that may occur in homes or offices and become a real nuisance. They include fruit flies, phorid flies, moth flies, and fungus gnats and most often occur briefly in our homes.

Fruit flies often breed in decaying fruit or vegetables as well as in other types of decaying organic matter. They are often seen flying about overripe bananas, tomatoes, empty juice or wine bottles, or similar items. These small flies can reproduce quite successfully in the few drops of liquid in the bottom of an empty container.

Phorid flies breed in a wide range of decaying organic matter, including decaying vegetable matter or meat, animal feces, and many other sources. They are sometimes referred to as drain flies because the larvae of some species feed on the organic scum that accumulates inside drainpipes and garbage disposals. Phorids can also breed in the residue inside garbage cans that are not cleaned frequently and in moist food residues that accumulate under and around appliances.

Moth flies are also called drain flies or sewage gnats and may be seen resting on bathroom or kitchen walls near the drain from which they probably emerged. The larvae breed in sewage and other organic accumulations in drainpipes from which adults emerge.

Fungus gnats occur indoors where houseplants are kept. The larvae breed in the potting media, feeding on fungi growing on the roots of the plants, as well as on the roots themselves. These small flies do not bite, but when numerous, can become a nuisance by hovering around the TV, computer monitor, or other light sources in darkened rooms.

The key to controlling these pests is to identify their breeding source, which can be any type of organic matter. Routine sanitation helps prevent infestations, which includes: take out garbage regularly; clean up any spilled food or garbage; dispose of any fruits or vegetables that are overripe or rotten; repair leaks and regularly empty and clean drain pans under appliances; use properly labeled algacides to prevent accumulations of algae in drain pans; avoid overwatering houseplants and empty and clean drain saucers regularly; clean drains regularly with an appropriately labeled microbial drain cleaner such as Drain Gel, InVade Bio Drain, DF 5000 Drain Cleaner, Vector Bio-5, all of which may be purchased online if not found locally. When infestations of small flies occur, the best way to control them is to find and eliminate their breeding source, and it helps to be able to identify the kind of flies involved.



Moth fly



Phorid fly



Fruit fly



Fungus gnat



Eddie Smith, Ph.D., C.A., Co. Coordinator & Extension Agent
MSU-ES Pearl River County
Phone: (601) 403-2280 E-mail: eddie.smith@msstate.edu

Diseases of Tomatoes

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> • Fungal - Fusarium and Verticillium Wilts - Early Blight - Fruit Anthracnose | <ul style="list-style-type: none"> • Bacterial - Bacterial Spot and Speck | <ul style="list-style-type: none"> • Viral - Tobacco mosaic - Spotted wilt - Tomato yellow leaf curl |
|--|---|--|

Wilt Diseases

- Soil borne pathogens
- Plants generally affected through roots
- Rotation (at least 2-3 years)
- Plant VF or VFN resistant varieties



Early Blight

- Survives in infected plant debris
- Spores are wind dispersed
- Infections occur first on oldest leaves
- Rotation (at least 2-3 years)
- Sanitation
- Apply Fungicides



Fruit Anthracnose



Buckeye Rot



Bacterial Spot and Speck



Blossom End Rot

- Caused by insufficient calcium when fruit are forming
- Results from excessive nitrogen fertilization
- Rapid plant growth
- Drastic fluctuations in soil moisture



Growth Cracks



Tobacco Mosaic

Tomato Yellow Leaf Curl



Glyphosate damage (Roundup)



Tomato Spotted Wilt



Soil Rot





Junior Master Gardener®



growing good kidsSM



4-H Pollinator Garden and Butterfly Waystation Workshop

Saturday, June 18, 2022

10:00 a.m.-12:00 noon

Pearl River County Extension Service Auditorium
204 Julia Street, Poplarville, MS 39470

Come and learn how to build a pollinator garden and butterfly waystation and about the life cycle of the butterfly, common Mississippi butterflies and their host plants

Call Roxann Gort at 504-234-3579 for more details. To register, call the Pearl River County Extension Service Office at 601-403-2280.



Online Private Applicator Certification Program

A private applicator is a certified applicator who uses or supervises the use of restricted-use pesticides to produce an agricultural commodity on his or her own land, leased land, or rented land or on the lands of his or her employer. Private applicators must be at least 18 years old.

In response to limited face-to-face training during the COVID-19 situation, the Mississippi Department of Agriculture–Bureau of Plant Industry has approved an online private applicator certification program developed by the MSU Extension Service. Persons needing to obtain or renew their private applicator certification can complete the online training (two video training modules and a competency exam) by using the following link: <http://extension.msstate.edu/content/online-private-applicator-certification-program>. The fee for training and testing is \$20, payable online by credit card, debit card, or eCheck.



MISSISSIPPI STATE UNIVERSITY™
EXTENSION

Private Applicator

TRAINING AND TESTING ONLINE

Watch the training modules, pass the exam, and receive your private applicator certification from MDAC Bureau of Plant Industry.

\$20 COST

Visit <http://msuext.ms/agmes>
or contact your local MSU Extension office for info on how to register.