Master Gardener Thymes

WWW.LAKELANDSMASTERGARDENER.ORG

August 2011

Membership News

By Patti Larson

Beginning this year the Board approved collecting the **membership dues** for 2012 from **September 1- October 15th**. Because of the work that must be done with every dues drive, the Board decided to move the collection up to achieve a smoother transition from one year to the next. It also alleviates the problem of the collection being held during the holidays. In the last few years we have published the MEMBERSHIP DIRECTORY in late April. Because we are changing the membership drive, the 2012 Membership Directory will be ready by January 1st.

We are also asking ***Lifetime members*** to update their information by completing a form and sending it to the address on the form by October 15th, 2011.

The Board also approved that MG interns graduating from the 2011 Master Gardener class will not have to pay 2012 membership dues. This will eliminate much of the confusion that exists with every class. This policy will apply to every class thereafter. Any questions concerning this can be directed to Patti Larson, greenwood_patti@yahoo.com or calling at 864-554-1600

The new form is included in this newsletter.

Time for our 2011 Master Gardener Class

By James Hodges

I plan to hold an informational meeting Tuesday, August 2nd from 6- 7:30PM at the extension office for potential new students. I need help recruiting new Master Gardeners, so please spread the word among interested friends and co-workers. I hope to start the new class August 16th at our usual 6-9PM time if we get enough people to enroll. Thanks to your MG sponsorship there will be some partial scholarships available. Let me know if you have names of interested people. (223-3264 X 116 or email) I will be taking enrollment until August 15th.

Thanks!

Versatile Fungi

By Sandy Orr

I recently bought an expensive fertilizer containing "mycorrhizae", having heard about these miracle workers from many TV pundits and gardening magazines. I skeptically forked them into the soil around some prized perennials that had underperformed their reputations. On cue, my plants perked up and grew bigger than ever, with healthy leaf color more flowers than before. I began to research these little fungi. Mycorrhizae are soil dwelling fungi that live in and around plant roots and help roots take up phosphorous, zinc, and copper. Some crops kill off these fungi, such as beets and cabbage, while others host them, such as alliums and grasses. Some farming practices inhibit their growth, such as tilling, pesticide application, lack of plant diversity, or lack of plant rotation. Rodale Institute has been studying mycorrhizae and running trials on their effectiveness and how to grow them inexpensively. Rodale Institute is a fascinating experimental organic farm founded in 1947 in rural Pennsylvania by one of the pioneers of the organic movement. For the past eight years, they have been testing various methods of growing mycorrhizae in a mix of vermiculite, compost, and local field soil. They use Bahia grass as a plant host. (I have plenty of this). After the Bahia grass is grown for a season, the plants are pulled up after the grass goes dormant, and the dirt containing the fungi is shaken from the roots.

The specific instructions for mycorrhizae propagation are on Rodale's website at:

http://www.rodaleinstitute.org/20101206_quick-and-easy-guide-to-on-farm-mycorrhizae-inoculum-production

Rodale has found that yields on various crops have increased by from 20% to 50% with the addition of these mycorrhizae. In addition, the plants have improved disease resistance, better drought tolerance, and soil structure improves. With the results I've had, I'll definitely be adding them to every planting hole.

Dates to Remember:

- Tuesday, August 2nd, **Informational meeting** for new MG class
- Thursday, August 11th, 6 pm **Board meeting**
- **Tuesday, August 16th, MG class starts 6-9 pm**
- Thursday, Sept. 8th, 6:30 pm **General meeting with speaker** see details p.2
- Thursday, Oct. 13th, 6 pm **Board Meeting**
- Thursday, Nov. 10th, 6 pm **Board Meeting– Budget Meeting**
- Thursday, Dec. 8th, 6:30 pm **Christmas Party**

The Lakelands Master Gardeners Association is a volunteer organization made up of Master Gardeners from Abbeville and Greenwood Counties in SC.

September 8th General Meeting---6:30 PM at GMD

Ferns are one of our oldest, but yet, most overlooked perennial garden plants. Having survived since the age of the dinosaur, today we have over 12,000 species of ferns ranging from moss-like to 40 foot trees, growing from the Arctic to the tropics, yes, even in the desert. With these qualities for survival, ferns can live in your garden, giving you years of interest and beauty.

Ferns are not as finicky as most people think and once established, prove to be one of the easiest and most carefree plants in the garden.

Photo by Janet Ledebuhr

Fern Ridge Farm has over 20 years of experience in landscaping, lawn maintenance and the nursery industry and has evolved into a greenhouse business specializing in hardy garden ferns. Although they grow other plant materials; select annuals, tropical ferns, perennials, natives, and many fern companion plants; their passion and continuing area of expansion, is their *perennial fern program*. They are presently growing over 75 varieties.

Eleanor ---- from *Fern Ridge Farms* is a very interesting, entertaining and vivacious individual. Her companies' web site is fernridgefarms.com.

Please plan on attending our next General Meeting on September 8th at 6:30PM at GMD to listen to a very educational presentation on *FERNS.*

Look for our new directional signs---
kudos to Catherine Swindell and her husband!

Crape Myrtle: A Delight or a Lifetime Chore

By James Hodges

A wonderful addition to the southern landscape when placed appropriately in the landscape, the crape myrtles have tremendous variety. Current crape myrtles come in a multitude of colors with dwarf, shrub and small tree selections available. Colors available include many shades of pink, lavender, purple, red and white flowering cultivars.

We benefit today from years of breeding and crossing several species of crape myrtle at the National Arboretum which gave us several dozen cultivars to add to the landscape. Others have bred and selected and released many new cultivars recently. Many of these introductions are small dwarf and/or miniature forms.

Crape myrtles propagate easily from cutting so we have available many varied cultivars to choose from today. Unfortunately, not all nursery plants sold use the cultivar names as identification. Numerous plants are sold by color identification which leaves the consumer to guess whether the pink crape myrtle will be a small shrub or a tree that can reach thirty feet and spread twenty five feet in width.

Muddying further the size estimates of individual cultivars is the inconsistent mature size estimates given in various publications and industry advertisements and plant tags. Mature size estimates for trees and shrubs on sales tags routinely underestimate true mature sizes of shrubs and trees and this is the case with Crape Myrtle cultivars too. Unreliable or unknown mature size estimates and the practice of selecting a crape myrtle by color often ends with oversized plants in small spaces that need constant size control and a frustrated homeowner.

Somewhere in the last century the practice of cutting back the tops of crape myrtle each year to control size and produce long branches of blooms became popular. This has led to the public perception that all crape myrtles should be topped each year. Add to this that many people planted a small crape myrtle (their understanding at purchase time or their landscape designer's) which is now oversized and needs constant size control. Yearly pruning (topping often leading to murder) adds to revenue of landscape maintenance professionals too.

Over used, over pruned, over sized crape myrtles fill the south from zone 7 southward. Spaced throughout the landscape are great examples and uses of well selected, placed and maintained plants (many truly outstanding plants with year-round interest). Armed with more knowledge we could increase the success levels of crape myrtle plantings and change this picture as Master Gardeners over the next generation.

With so many choices available how do you select an appropriate cultivar to use in your landscape?

1. It's OK to first select the color of bloom you would like, if you can match plant size with available space and appropriate cultivar.
2. Cull cultivars which are susceptible to pests such as aphids, powdery mildew, leaf spot and do not have the higher levels of cold hardiness.
3. Measure your available growing space in a sunny location; look at distances from large trees, building and driveways before making a decision. If your growing conditions are better than average add to the size estimates for your cultivar.
4. Use the available information on various cultivars to select the plant type (tree, large shrub, shrub or miniature) that fits your situation.
5. Choose healthy container plants avoiding those that were topped in the nursery unless you want a shrub form plant. Nursery topped plants often develop more sprouts and stems in response.
6. Avoid using crape myrtles that originated on the Gulf coast or zone 8 and higher because they lack the higher levels of cold tolerance you will need over the next 20 years of plant growing.
7. Spend some time while they bloom to compare the many crape myrtles available around town, at arboretums and plant gardens; particularly those places where plants are labeled. Lander University has some plantings on Stanley Street with ID's that are in bloom now.

Answer to quiz p.8– D. Cicada Parachutes are produced when damaged branches break and twirl to the ground during storms. Many damaged tree stems are growing over the damage done by the female egg laying as shown in maple picture.

Examples of Crape Myrtle planting—

This nice crape myrtle has no room to grow. It was planted too close to this house and is a candidate for severe pruning in the future

In the same yard placed in full sun with room to spread is its partner. This tree will require only minor pruning and maintenance.

Two crape myrtles planted at the same time, but very different today. The tree on the right has grown to fill the large planting space. The small tree at left was planted within 20 feet of the large dominant live oak on a tiny narrow strip.

This pink flowering, mature 'Pocomoke' dwarf crape myrtle will fit a small space or container.

The 'Natchez' is a lovely tree form crape myrtle with very good cold and disease tolerance and white blooms.

This unknown local crape myrtle cultivar has been damaged by cold on several occasions and also has severe powdery mildew on the sprouts at its base. Not a good choice for planting.

Fusarium Wilt of Tomato

By Vincent Plotczyk

The fungus, fusarium oxysporum f. sp. Lycopersici, attacks only tomato. The fungus attacks tomato plants of all ages. The fungus enters the plant through roots that have wounds caused by cultivation, secondary root formation, and nematode feeding. Root-knot nematode feeding can make the plant more susceptible to the fungus due to their feeding on the plant roots. The fungus lives in the plant's vascular system and favors dry weather and soil temperatures between 78° and 90° F.

Florida Division of Plant Industry Archive, Florida Department of Agriculture and Consumer Services, Bugwood.org

The fusarium wilt fungus can be introduced into the soil in several ways such as wind, water, animals, shoes, training stakes, and equipment. The fungus can also be introduced by infected seed and transplants. The fungus can become established in most soils and is able to live on decaying tomato debris. In sandy, light, dry soils the fungus may live indefinitely.

If the fungus attacks the plant early, there may be little or no normal fruit. If the fungus attacks an older plant, the fruit on the lower clusters may be normal, but the fruit growing on the upper part of the plant may be small and inferior.

Florida Division of Plant Industry Archive, Florida Department of Agriculture and Consumer Services, Bugwood.org

The first symptom of fusarium wilt is yellowing and drooping of the lower leaves and progressing its way up the plant. Yellowing often begins on one side of the plant. As the fungus progress up the stem successive leaves turn yellow, wilt and die. When the leaves die they cling to the stem. In some instances the entire plant will wilt and die.

Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

The stem of an infected plant shows no soft decay but vascular browning can be seen when the stem has been cut and peeled back lengthwise. In severely infected plants the vascular browning may go to the top of the plant. In warm prolonged moist conditions a white to pale pink mold may grow in wounds in the stem or in old leaf scars.

Control:

1) Long crop rotation (5-7) years.
2) Avoid using solanaceous crops (potato, tomato, pepper and eggplant) in the rotation keep crops weed free.
3) Maintain high plant vigor.
4) Plant disease resistant tomato varieties.
5) Use clean equipment to avoid infecting new fields.
6) Disinfect areas where transplants are grown.
7) Avoid sowing seed produced from fusarium infected plants.
8) Do not use pond or ditch water located near infected fields.
9) If a site is known to have fusarium wilt, maintain soil ph between 6.5 and 7.0. Use nitrate nitrogen fertilizer rather than ammoniacal nitrogen.

Organic Control measures

Organic Tomato Production
By Steve Diver, George Kuepper, and Holly Born
NCAT Agriculture Specialists
Published 1999

CT073

Despite good management practices, diseases usually occur, presenting one of the greatest challenges to organic tomato growers. The degree of occurrence is regionally based and largely dependent on environmental conditions.

Tomatoes are injured by pathogenic diseases caused by fungi, bacteria, and viruses, as well as abiotic diseases, such as catfacing and blossom end rot, which are caused by environmental and physiological disorders. Pathogenic diseases develop through soil-borne and above-ground infections and, in some instances, are transmitted through insect feeding.

Major tomato diseases include those that attack the root system (fusarium wilt, verticillium wilt, bacterial wilt, nematodes, rhizoctonia), above-ground stems and foliage (early blight, septoria leaf spot, bacterial canker, late blight), and fruit (bacterial spot, bacterial speck, anthracnose). Thus, a disease control program is important at each stage of growth. Early blight, one of the most damaging diseases in the eastern United States, is the focus of many control programs.

Organic tomato disease control programs are based on a combination of organic soil management practices, IPM practices, natural remedies, and limited fungicide use.

Application of composts, crop rotations including legumes, and supplemental fertilization with organic materials and rock powders are soil management practices that form the basis of biological disease control of soil-borne pathogens. Indications of a systemic (whole plant) response to composts that are disease suppressive have been reported for several vegetables.

Fungicide options are limited in organic production; copper- and sulfur-based products are the only labeled fungicides allowed in certification programs. Coppers are labeled for anthracnose, bacterial speck, bacterial spot, early and late blight, gray leaf mold, and septoria leaf spot. Sulfur is labeled for control of powdery mildew.

Sulfur by itself is a minor fungicide in tomato production. Sulfur can easily burn the plant as air temperatures rise. It also has mild insecticidal and miticidal properties which may reduce the predator/parasite complex keeping pest insects in check.

Application of copper is a routine disease control practice in organic tomato production in the eastern United States. Copper functions both as a fungicide and bactericide. Most formulations are allowable in organic certification. These include bordeaux, basic sulfates, hydroxides, oxychlorides, and oxides. Commercial products like Kocide 101™ are used in both conventional and organic tomato production for the control of septoria leaf spot, bacterial spot, bacterial speck, anthracnose, and early blight. The efficacy of copper in the control of early blight is limited, though, especially when disease pressure is high. Since applications are made on a 7-10 day schedule, the result may be 8-12 sprays per growing season.

The use of copper fungicides in organic production is somewhat controversial. It is directly toxic at applied rates to some beneficial organisms, particularly earthworms and some soil microbes such as blue-green algae—an important nitrogen-fixer in many soils. Excessive use can also result in the buildup to phytotoxic (crop damaging) levels of copper in the soil. Thus, organic growers often monitor soil copper levels through regular soil testing.

Sources

Cornell Cooperatitve Extension
Suffolk County
Insect and Plant Disease Diagnostic Laboratory
Fusarium and Verticillium Wilts of Tomato

AVRDC – The World Vegetable Center
Fusarium Wilt

University of Wisconsin Extension
Tomato Disorders: Fusarium and Verticillium Wilts

University of Tennessee Extension
Plant Diseases
Tomato Wilt Problems
Ohio State University Extension
Fusarium and Verticillium Wilts of Tomato, Potato, Pepper, and Eggplant

Organic Source:
ATTRA - National Sustainable
Agriculture Information Service
Organic Tomato Production
Steve Diver, George Kuepper,
Holly Born
NCAT Agriculture Specialist
Published 1999

CT073

Tomato Cracking

By Vincent Plotczyk

With the hot weather that we have been having this summer, symptoms of stress have been showing up in vegetable gardens. One symptom of stress that has been showing up is fruit cracking.

Fruit cracking is a physiological problem caused most of the time by uneven watering. Fruit cracking is not a disease.

Certain tomato varieties are more prone to cracking than others are. Beefsteak types and some lobed heirlooms are also susceptible to cracking.

Cracking occurs as the tomato nears maturity. Varieties that are more susceptible crack in the mature green stage and more tolerant varieties at later stages. The earlier the cracking then the deeper and longer the crack becomes.

There are two types of fruit cracking in tomatoes, radial fruit cracking and concentric fruit cracking. Fruit cracking is the splitting of the skin around the calyx or fruit scar.

Radial Fruit Cracking

M.E. Bartolo, Bugwood.org

Radial fruit cracking is the splitting of the skin from the stem to the blossom end. Radial cracks spread outward from the stem scar and occur when temperatures are greater than 90° Fahrenheit and humidity is high. Radial cracking may occur on green fruit and fungal fruit rots may occur at the point of cracking.

Concentric Fruit Cracking

Photo by Vincent Plotczyk

Concentric fruit cracking is the splitting of the skin in circular patterns around the stem scar. Concentric cracks are circular cracks around the stem that occur from rapid fruit growth stimulated by abundant wet weather or irrigation after a dry/drought period. Concentric fruit cracking often occurs on ripe tomatoes that are on the vine too long. Fungal fruit rots can develop along cracks.

Causes:

Variations in soil moisture and temperature can cause cracking.

High nitrogen level combined with low potassium can cause cracking.

Some tomato varieties have periods of very fast fruit growth with high temperatures and moisture levels.

Wide fluctuations in temperature can also induce cracking.

Rain and excess irrigation will often cause cracking and if the fruit lacks leaf cover then the effect is even more dramatic. Tomato crops that do not receive water at regular intervals but rather receive it periodically at large intervals are likely to have cracking.

Control

Do not water with a timer or on a schedule. Check the moisture of the soil and irrigate as needed. Use mulch to control weeds and reduce water loss from the soil surface.

Maintain proper plant nutrition

Plant resistant varieties

Remove ripe fruit immediately

Sources:

AgriSupportOnline Israel

Iowa State University Extension
Tomato Diseases and Disorders

Washington State University
Benton County Extension
Hot Weather Tomato Problems

Photos

Photo by M.E. Bartolo, Bugwood.org
used with permission
Vincent Plotczyk

Master Gardener Quiz-

Oak tree decorated with dead branches in July 2011. What caused the rivets on this Japanese maple?

What is this?

A. Twig girdler damage from hickory twig girdler.
B. Drought and heat damage in summer.
C. Damage caused by semi trucks running over roots and causing damage.
D. Cicada parachute production caused by female egg laying.

Answer on page 3

Newsletter Editor-Janet Ledebuhr articles due by the 25th of the month—queenofseaford@yahoo.com

LMG General Meetings will be held at: The Greenwood Metro District Meeting Room 110 Metro Dr., Greenwood, SC 29646

Directions

From Self Regional Hospital: Take West Alexander to Premier Dr. – stay on Premier Dr. by turning right – turn left on Metro Dr. From 225 Ext: Going South on 225 Ext., turn left on W. Alexander, turn right on Joe Bernat Dr., turn left on Premier Dr., turn right on Metro Dr.

Board Meetings are held in February, April, June, August, and October on the second Thursday of the month @ 6:00 pm @ The Clemson Extension Office @ The Brewer Center

---

Miles and **Hours -** please submit to Linda Halsey halseyfarm@embarqmail.com, 864-374-7253, or P.O. Box 82, Hodges, SC 29653

Don't forget to check the Shutterfly website for photos. See address at the top of the page. Chuck keeps updating the page with more photos of our activities. The password is included in the email.

Master Gardener Office

Need hours? Volunteer to work in the Master Gardener office any time Monday thru Friday. The office hours are from 8:30a.m - 5 p.m. Schedules are posted at the office for sign-ups. We encourage everyone to work in the office for Office Volunteer Hours.

You can sign up two ways: Go to the Extension office and add your name to the schedule; or call the Extension office at 223-3264.

VOLUNTEER OPPORTUNITIES

Have a committee where you could use an extra hand? Send it to the newsletter and it will be listed.

1. **Board positions**– Public Relations
2. Urban Tree project, email James
3. Programs and Speakers chairman
4. Check the website for other ongoing projects

☹ **Missing a newsletter?** Looking for an earlier edition? All of our newsletters can be found at our website at— http://www.lakelandsmastergardener.org/newslet2011.html

THE LAKELANDS MASTER GARDENER BOARD 2011

President- Jimmy McInville 223-3096
Secretary- Sandy Orr 543-4888
Vice President- Patti Larson 554-1600
Past President- Dwight Long
Treasurer- Patti Larson 554-1600
Clemson Advisor- James Hodges 223-3264 ext. 116
Community Projects- Sandra Johnson 993-4183
Phone- Nicole Ellis 229-2343
Education- Helen Spiller 223-2806
Programs & Speakers– OPEN
Finance and Fund Raising– April Prater 543-3644
Public Relations- OPEN
Membership- Cindy Wilkins 374-7112
Social- Catherine Swindell 223-8552
Newsletter- Janet Ledebuhr 374-7781
Web Site- Chuck Bender 998-3123
Office- Vince Plotczyk 942-0871

This Association shall be operated for the growth and development of its members and for the following purposes:

1. Sharing horticultural information and guidance with South Carolina residents based on research specific to the local climate, soils, and plants;
2. Volunteering time to assist the Extension Service in meeting the demand for reliable gardening information;
3. Providing volunteer service to improve our communities through a wide variety of horticultural projects;
4. Promoting the training of Master Gardeners and keeping Master Gardeners active in service;
5. Encouraging interest in gardening by all citizens;
6. Encouraging the utilization of all resources for better gardening, including the Department of Agriculture and Clemson University Extension Service;
7. Encouraging local environmental beautification and preservation; and
8. Helping those less fortunate prosper from the benefits of horticulture.