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Texas A&M AgriLife Extension Orange County Agriculture Newsletter

January-February-March 2017

Upcoming Events

Upcoming Programs Please RSVP

April 18th: Ag Symposium

April 20th: Healthy Soil and Healthy Lawn, 6pm, 2 CEU General

May 5 & 6: Earth–Kind Specialist Training, Cost is \$100.00

May 8th: Native Plants 6pm \$12.00

May 13th: Rainwater Harvest, Volunteers needed, and spots open, 9:30 – Noon \$50.00

May 23rd: Weed ID and Pasture Management, Barron Rector, 2 CEUs, 6pm, \$12.00

June 1st: Succulents, 6pm, \$10.00

June 6th: Pond Management, 6pm

June 24th: 5 Hour CEU Program—Save the DATE

Meetings:

First Thursday's Apiary Committee at Extension Office-6pm (May)

Lawn and Garden Committee Meeting, June 14, 11:30 am at Extension Office

Second Thursday Master Gardener at Extension Office-6pm

Third Thursday Master Naturalist 6:00pm

TEXAS A&M GRILIFE EXTENSION

Word from your Ag Agent

Howdy, Orange County! We have certainly kicked off the year with a bang! We have many programs and events going on, and plenty of CEU opportunities this quarter. Thank you all for coming to our programs, and if there is any area you feel you need knowledge on let us know.

I first want to thank all of you for helping us get supplies and other donations to the Panhandle Fire Victims. I promise we will keep you updated if they need anything, but at this time our efforts have ceased. It truly is a blessing that I serve a county that cares so much for others and that you guys are so willing to help out in any way possible those that are in need.

Lastly, guys I have many programs coming up—a 5 Hour CEU event and a training June 24th! Take a look through here and you should see many topics and programs from Pecans to Ponds and everything in between. Also, if you have pecan trees I need to lay out some traps for bugs, no cost to you, if you are interested give us a call!

Feel free to "Share" this newsletter with friends, family, and colleagues. If you are not receiving this newsletter directly then call us and we will put you on the email list! You should receive this newsletter quarterly that will contain a few months' worth of useful information.

- Have a question? Need a Soil sample? Call for a site visit from your Ag Agent!
 - Need a plant, weed or bug identified? Email picture to Extension@co.orange.tx.us or Ashlee.krebs@ag.tamu.edu
- Want to be receive the Ag Natural Resources
 Newsletter? Contact us to be put on the email
 list for FREE!!!

Pond Management

Many ponds are being taken over by several aquatic weeds. However, the type of aquatic vegetation you may have, and your goals for your pond depend on what you would apply to control. Dragging ponds to rid it of the weeds may seem great at first, but many times you actually cause the weeds to multiple tenfold by doing so. Grass carp on some varieties can be effective in control of pond weed management. Most weed control in ponds can be more cost effective by spot treatment around docks, and swimming areas versus the entire pond. A Diquat plus Chelated Copper has been extremely effective in weed management of ponds. However, correctly identifying the aquatic vegetation you have and following the label is the first step in controlling pond weeds. Pond management just like pastures requires routine maintenance year round. I have attached the annual calendar below:

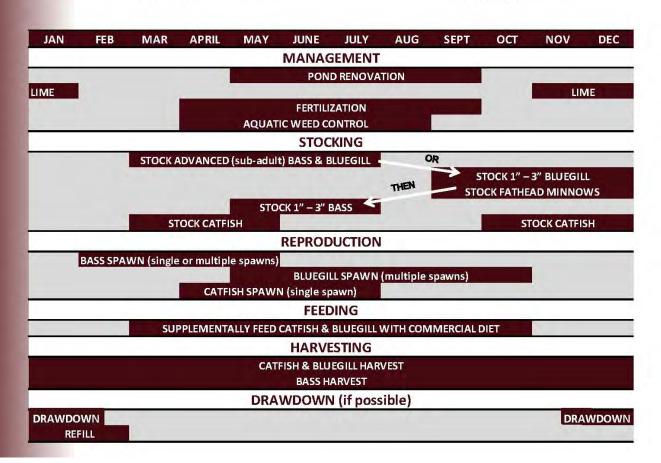
EWF-003 Revised Way 2013



TEXAS FARM POND MANAGEMENT CALENDAR

Billy J. Higginbotham
Professor & Extension Wildlife & Fisheries
Specialist

Todd D. Sink
Assistant Professor & Extension Fisheries
Specialist



Summertime pond management requires planning and caution

Posted on July 26, 2016 by Linda Causey

- Writer: Adam Russell, 903-834-6191, adam.russell@ag.tamu.edu
- Contact: Dr. Billy Higginbotham, 903-834-6191, b-higginbotham@tamu.edu

OVERTON – Phone calls about out-of-control aquatic vegetation are a common midsummer occurrence, said Texas A&M AgriLife Extension Service wildlife and fisheries specialist Dr. Billy Higginbotham.

However, he said, pond owners should proceed with caution when treating aquatic weeds in ponds where fish are important resources.

Higginbotham said thinning or eradicating aquatic vegetation can improve the overall environment for the pond and increase the pond's utility for recreation, livestock watering and/or irrigation. However, in larger ponds managed for largemouth bass and appropriate forage species, some degree of

aquatic vegetation coverage may provide beneficial habitat and harbor food items.

Because of potentially extensive coverage, there are dozens of native and invasive species of aquatic vegetation that cause ecological and economic impacts throughout Texas, he said. And positive identification is the key to successful control of aquatic vegetation.

"I recommend people use the AgriLife Extension website http://aquaplant.tamu.edu for assistance in identification and control recommendations," Higginbotham said. "There is a wealth of information available to help guide landowners."

The site assists with identification including descriptions and photos and also provides treatment advice, such as whether biologic controls are available and gives multiple herbicide options, their effectiveness and how to calculate the area and volume of ponds for applications.



Dr. Billy Higginbotham, Texas A&M AgriLife Extension Service wildlife and fisheries specialist, said pond owners should be cautious during summer months when controlling or eradicating aquatic vegetation to avoid fish kills. (Texas A&M AgriLife Extension Service photo by Robert Burns)

Higginbotham said landowners should treat ponds in stages if maintaining fish populations is important. Treating an entire pond with herbicides during the hotter months can create an oxygen debt, due to decomposing vegetation, especially algae and other submerged vegetation, and cause fish losses.

"This is typically a summertime problem because water at higher temperatures holds less oxygen than would be possible at cooler temperatures," he said. "If treatment is necessary during the heat of

the summer, break the pond up into sections and treat only 15-20 percent of the pond at a time with one week in between treatments."

Higginbotham said lower water levels typically found in late summer can also aid landowners who want to renovate their ponds. Reduced volume of water requires fewer treatment chemicals to remove the existing fish population, which might include undesirable species, in order to establish and support fish species that offer better angling opportunities.

"Landowners with unbalanced fish populations may also want to remove existing fish populations and start over, especially in smaller ponds less than one surface acre in size that lend themselves more for the management of single species that accept a pelleted ration, such as channel or blue catfish, hybrid stripers or hybrid sunfish," he said.

Removal of existing species not easily managed in these smaller ponds, or that will compete directly with the desired fish species or in some cases prey directly upon stocked fingerlings, can be accomplished using rotenone.

Rotenone is a restricted use pesticide, therefore pond owners need a Texas Department of Agriculture pesticide applicator license to purchase and use, or must hire a licensed applicator, Higginbotham said.

The liquid formulation of rotenone is easier to use, Higginbotham said, because it mixes easily with water and can be applied by pump or by mixing into the prop wash of a small outboard motor. Protective gear should be worn during the application process including eyewear, gloves and long sleeves to avoid skin contact with the pesticide.

Rotenone prevents the fish from taking oxygen from the water. Fish should begin surfacing within 30 minutes of the application, depending on species. The fish, however, cannot be consumed because the U.S. Environmental Protection Agency has not established residue levels for rotenone.

Landowners should wait at least two to three weeks to restock the pond after the rotenone application, he said. It is safe for livestock to consume water that has been treated with rotenone, except for swine.

For more information about Rotenone use, go to http://bit.ly/29YsdQB or contact your local AgriLife Extension agent.

This entry was posted in Research and tagged Dr. Billy Higginbotham, Pond management.

Pasture Management

There are several pyrethroid products available for control of fall armyworms and grasshoppers. These products are relatively low-cost and have few, if any, grazing or harvest restrictions. Some of the products to check out include Mustang, Tombstone, and Lambda-Cy.

For a link of pesticides labeled for pasture use click on the link: http://forages.tamu.edu/PDF/scs-2001-14.pdf

Spring Management Tips for Cow Calf Producers

Joe C. Paschal Livestock Specialist Texas A&M AgriLife Extension j-paschal@tamu.edu

Spring is here and it is time to consider some management tips for the cowherd. With most of the calves on the ground, now is the time to begin planning to work this year's calves. Vaccination for Blackleg and other Clostridial diseases should be a priority. The Sudden Death diseases (including Blackleg) are the number one killer of calves and cows. In addition, castration of bull calves, implanting the steer calves, internal and external parasite control treatment, dehorning, and identifying all calves with an ear tag and a ranch or holding brand should be included.

Any heifers considered for replacements should be vaccinated for Brucellosis or Bang's disease between the ages of 4 and 12 months of age. Brucellosis causes abortion and was once a significant reproductive disease in the state. After many years of vaccination and testing, Texas is Brucellosis free, but I highly recommend continued vaccination of replacement heifers, both purebred and commercial. Your veterinarian will have to administer the brucellosis vaccine so you will have to schedule your calf working around an appointment with them.

Although I prefer knife cutting for castration, some prefer to use an elastic band to castrate calves. If you prefer to band your bull calves, I recommend a tetanus toxoid vaccination. Since the process of castration by banding takes a little longer and the wound caused by the band takes longer to heal, there is a greater risk for infection. Some of the Blackleg vaccines, especially some of the 8-way vaccines, contain tetanus. Check the label or vaccinate with a separate injection.

While planning for the calf working consider any cow work that might be done. If the calves are 3-4 months old, some early pregnancy checking could be conducted. In addition, there might be some vaccinations your veterinarian recommends and certainly horn fly control would be appreciated by your cows. It has been an early season for horn flies and a combination of both a "knock down" product like a pour-on and long term control like a fly tag should be used.

For more information contact your local County Extension Agent.

Selected References:

Blackleg and Clostridial Diseases - http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/beef-blackleg-clostridial-diseases.pdf

Implanting Beef Calves and Stocker Cattle – Dr. F. T. McCollum http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/beef-implanting-beef-calves.pdf

Common Cattle Parasites – Dr. F. C. Faries http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/beef-common-parasites.pdf

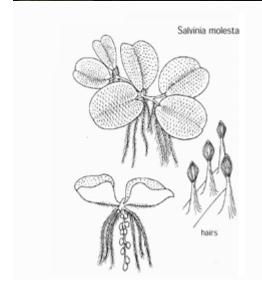
Protecting Cattle from Horn Flies – Dr. Jeffery K. Tomberlin http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/protecting-cattle-from-horn-flies.pdf

Giant Salvinia

Description:

Non-Native





Giant salvinia is native to South America. It is a small freefloating plant that grows in clusters and develops into dense, floating mats or colonies in quiet water, undisturbed by wave action. The floating leaves of giant salvinia are oblong (0.5 to 1.5 inches long) with a distinct midrib along which the leaf may fold forming a compressed chain-like appearance. Salvinias have stiff leaf hairs on the upper surface of the leaves. In giant salvinia the leaf hairs have a single stalk that divides into four branches that reconnect at the tip, giving the hair a cage-like or egg-beater appearance. Underwater the leaves are modified into small root-like structures. The entire plant is only about 1 to 2 inch in depth. Salvinias are ferns and have no flower. Giant salvinia has sporangia but are thought to reproduce only by fragmentation. Giant salvinia can double in size in 4 to 10 days under good conditions. Giant salvinia is an aggressive invader species. If colonies of giant salvinia cover the surface of the water, then oxygen depletions and fish kills can occur. These plants should be controlled.

Dense salvinia colonies provide <u>Habitat</u> for micro invertebrates but if salvinia completely covers the surface of a pond it will cause oxygen depletions. These colonies will also eliminate submerged plants by blocking sunlight penetration. Salvinias have no known direct food value to wildlife and is considered an exotic and highly undesirable species.

This plant is not native to North America and it is illegal to possess or transport this species in Texas. Please report any sightings of this plant to <u>Texas Park and Wildlife Department</u>.

Giant Salvinia is a significant problem in Texas and throughout the Southern U.S.

Management Options:

Mechanical/Physical Control Options

Salvinia can be removed by raking or seining it from the pond's surface but will reestablish from any remaining fragments.

Biological Control Options

Grass carp will seldom control aquatic vegetation the first year they are stocked. They will consume salvinia but are usually not effective for total control. Grass carp stocking rates to control salvinia are usually in the range of 7 to 15 per surface acre or higher. In Texas, only triploid grass carp are legal and a permit from the Texas Parks and Wildlife Department is required before they can be pur-

chased from <u>a certified dealer</u> (list at end of packet). Click here if you would like to read about possible insect control measures.

Chemical Control Options

The active ingredients that have been successful in treating salvinia include diquat (G), fluridone (E), glyphosate (G), penoxsulam (E), and flumioxazin (G). E = excellent, G = good.

Rodeo, Aquamaster, Eraser AQ, Touchdown Pro, and AquaNeat are liquid glyphosate formulations and have been effective on salvinia. These are broad spectrum, systemic herbicides. Systemic herbicides are absorbed and move within the plant to the site of action. Systemic herbicides tend to act more slowly than contact herbicides. An aquatically registered surfactant (see the label) will have to be added to the glyphosate solution for good results. In treatment of salvinia, the best surfactants appear to be highly active non-ionic surfactants (e.g. AQUA-KING) used at 1/2% solution.

Reward is a liquid diquat formulation that has been effective on salvinia. It is a contact algaecide and herbicide. Contact herbicides act quickly and kill all plants cells that they contact. A non-ionic aquatically registered surfactant (see the label) will have to be added to the Reward solution for good results.

<u>Sonar</u>, <u>Avast</u>, and <u>Whitecap</u> are floridone compounds and comes in both liquid and granular formulations, and have been effective on salvinia. These are broad spectrum, systemic herbicides. Systemic herbicides are absorbed and move within the plant to the site of action. Systemic herbicides tend to act more slowly than contact herbicides.

<u>Galleon</u> is a liquid penoxsulam formulation. It is a broad spectrum, systemic herbicide. Systemic herbicides are absorbed and move within the plant to the site of action. Systemic herbicides tend to act more slowly than contact herbicides. Galleon may be sprayed directly onto emergent plants or applied directly into the water. Galleon should not be applied in areas where it will be diluted rapidly. Galleon will take 60-120 or longer to completely kill the target plants. Galleon will need a surfactant for foliar and exposed sediment applications.

<u>Clipper</u> is a flumioxazin product and comes in a water dispersible granule which must be mixed in water first and then either sprayed or injected. It is a broad spectrum, contact herbicide. Contact herbicides act quickly. Flumioxazin should be applied to actively growing plants and a surfactant will be needed if the herbicide is applied foliage of floating or emergent plants. Water pH needs to be below 8.5 or flumioxazin will rapidly degrade and lose effectiveness.

One danger with any chemical control method is the chance of an oxygen depletion after the treatment caused by the decomposition of the dead plant material. Oxygen depletions can kill fish in the pond. If the pond is heavily infested with weeds it may be possible (depending on the herbicide chosen) to treat the pond in sections and let each section decompose for about two weeks before treating another section. Aeration, particularly at night, for several days after treatment may help control the oxygen depletion.

One common problem in using aquatic herbicides is determining area and/or volume of the pond or area to be treated. To assist you with these determinations see SRAC #103 Calculating Area and Volume of Ponds and Tanks.

Many aquatically registered herbicides have water use restrictions (See <u>General Water Use Restrictions</u>).

To see the labels for these products click on the name. Always read and follow all label directions. Check label for specific water use restrictions.

Other Photos:



THE FIELD OF PLENTY'S GARDEN DEDICATION



From empty lot to productive plot, The Field of Plenty provides fresh fruit and vegetables to those in need.

Come and Celebrate with Us!

The Field of Plenty Donation Community Garden, established in March of 2015, became a productive garden in 2016.

We would like to share with you how the garden began, where we are today, and where we hope to be in the future.

The Field of Plenty is truly a community success story, and we invite you to join us to dedicate the garden.

Saturday, May 20th 2017

10:00 a.m. till 12:00 p.m. 2120 Wickard, Orange, TX 77632

Dedication will be moved inside Orange Christian Services in case of rain.



THE FIELD OF PLENTY

2120 Wickard, Orange, TX 77632 thefieldofplenty@gmail.com | 409-886-0938 | http://www.facebook.com/fieldofplenty





For the

Master Gardener Class of 2017

Sponsored by Orange County Master Gardeners Assn. & Texas A&M AgriLife Extension Service (Orange County)

Some Saturdays will be required. Classes will be held at the Orange County EXPO Center 11475 FM Gardener Handbook and supplies. Texas A&M Extension Service & local horticulturist specialists 1442, Orangefield (Exit 8695 off I10).** Fee for the class is \$100 and will include your Master Classes will be held each Thursday starting June 1 - September 14, 6PM - 8PM. along with Certified Master Gardeners will train you.

For more information please call 409 882-7010 or visit http://txmg.org/orange

** Some exceptions for training courses in nearby locations for hands-on experiences and/or field trips.



race, color, religion, sex, national origin, age, disability, genetic information or veteran status. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to

The Continual War on Weeds

One of our most difficult battles to control weeds is against the Chamberbitter weed. This tropical plant loves hot weather and looks like a mimosa tree in miniature.



Controlling it is difficult because it is tough, grows fast, is drought tolerant, and will flower and produce abundant seeds in just 2 weeks. The yellow, ball-like seeds of Phyllanthus urinaria develop under the leaves. The seed capsules explode and hurl seeds in many directions away from the plant, allowing it to spread over a large area.

It takes a multi-prong approach to even get the weed down to manageable levels:

- 1) Mechanical controls: Persistent pulling by hand helps, but it is prone to breaking off at the soil level and will survive even though there are no below-ground bulbs or rhizomes to re-sprout.
- 2) Cultural controls: Deep mulching (around 3 inches) will help stop light from reaching the seeds and prevent germination.
- 3) Chemical controls: The common pre-emergent herbicides most gardeners use early when temperatures are around 52 °F are ineffective on Chamberbitter weed since it germinates in very warm soil in the 70 °F range to germinate. An additional application when it is hot and dry is required. Several applications (7 to 10 days apart) of a post-emergent herbicide are usually required, also. Even glyphosate (which kills nearly everything it touches) has to be used several times to control it. No herbicide will knock it out quickly and permanently, so prepare for a continual battle.

Wanda Woods, Certified Master Gardener
Orange County Master Gardeners

HOEING



I went out to my garden this morning. Probably like a lot of you, I saw some weeds. So, the first thing that I did was to get the hoe and start chopping. Even if you mulch, there are times when you just have to get out there and chop those weeds.

People have been chopping weeds ever since Adam and Eve left the Garden of Eden. I personally don't like to use weed killers around plants that I plan to eat or give to others. I think hoeing can be very therapeutic and it's good exercise too. It sure makes you feel better when you look back at the other end of a row or flower bed and you see the fruit of your labor.

Having a beautiful garden, whether it is flowers or vegetables, can be achieved, but they have to be maintained. Here are a few tips about hoeing that I learned from my Pap Paw.

- 1. Keep your hoe sharp. This makes hoeing a great deal easier. It is a whole lot better to use a sharp hoe than it is to beat the ground with few results.
- 2. Think about garden safety when you are hoeing. Open face sandals or flip flops are not a good choice when using sharp garden tools.
- 3. I recommend that you use the corner of the hoe to get closer to the plants with light strokes.
- 4. When you want to pull the dirt to your plants, use the open face of your hoe.
- 5. Regardless of what level of hoeing you're at amateur, semi- pro or PROFFESIONAL, you will develop your own style.
- 6. When you have to do some serious hoeing like in a vegetable garden, I like a heavy hoe (grub hoe or cotton hoe).
- 7. When I am just doing a little clean up hoeing, I use a pointed hoe or a lighter hoe.

There are some small hand hoes for getting around flowers and tight places that are very handy.

There's most likely an army of Gardeners OUT THERE pulling weeds, spraying weeds, chopping weeds etc. All I've got to say about that is keep up the good fight!

Master Gardner Keith Maloy

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COMPANION PLANTING GUIDE: COMPANION PLANTS

WHAT IS COMPANION PLANTING?

It takes more than good soil, sun, and nutrients to ensure success in a garden. Plants have to grow well with one another. Yes, some plants are friends and some just don't get along, similar to some people!

Which vegetables should you plant next to each other? Which can be planted with tomatoes? Which can be planted with potatoes? Let's get started learning about best companion plants.



VEGETABLE COMPANION PLANTS

Some plants, especially herbs, act as repellents, confusing insects with their strong odors that mask the scent of the intended host plants.

- Dill and basil planted among tomatoes protect the tomatoes from hornworms.
- Sage scattered about the cabbage patch reduces injury from cabbage moths.
- Marigolds are as good as gold when grown with just about any garden plant, repelling beetles, nematodes, and even animal pests.
- Some companions act as trap plants, luring insects to themselves. Nasturtiums, for example, are so favored by aphids that the devastating insects will flock to them instead of other plants.
- Carrots, dill, parsley, and parsnip attract garden heroes—praying mantises, ladybugs, and spiders—that dine on insect pests.



- Much of companion planting is common sense: Lettuce, radishes, and other quick-growing plants sown between hills of melons or winter squash will mature and be harvested long before these vines need more leg room.
- Leafy greens like spinach and Swiss chard grown in the shadow of corn.
- Bush beans tolerate the dapple shade that corn casts and, since their roots occupy different levels in the soil, don't compete for water and nutrients.

INCOMPATIBLE EDIBLES

Plants that are not compatible with each other are sometimes called combatants. Here are a

few:

- While white garlic and onions repel a plethora of pests and make excellent neighbors for most garden plants, the growth of beans and peas is stunted in their presence.
- Potatoes and beans grow poorly in the company of sunflowers, and although cabbage and cauliflower are closely related, they don't like each other at all.

One of the keys to successful companion planting is observation. Record your plant combinations and the results from year to year, and share this information with other gardening friends. Companionship is just as important for gardeners as it is for gardens.

MORE COMPANION PLANTINGS

Even plants in the woodlands are companions:

- Blueberries, mountain laurel, azaleas, and other ericaceous (heath family) plants thrive in the acidic soils created by pines and oaks.
- Shade-loving plants seek the shelter provided by a wooded grove. The shade-lovers in return protect the forest floor from erosion with their thick tangle of shallow roots.



Legumes (pea family) and some trees, such as alders, have symbiotic relationships with bacteria in the soil that help them to capture nitrogen from the air and convert it to fertilizer, enriching the soil so plants can prosper in their presence.

STRANGE PLANT PAIRINGS

Sometimes plants may be helpful to one another only at a certain stage of their growth. The number and ratio of different plants growing together is often a factor in their compatibility, and sometimes plants make good companions for no apparent reason.

You would assume that keeping a garden weed-free would be a good thing, but this is not always the case. Certain weeds pull nutrients from deep in the soil and bring them close to the surface. When the weeds die and decompose, nutrients become available in the surface soil and are more easily accessed by shallow-rooted plants.

Perhaps one of the most intriguing examples of strange garden bedfellows is the relationship between the weed stinging nettle and several vegetable varieties. For reasons that are unclear, plants grown in the presence of stinging nettle display exceptional vigor and resist spoiling.

See our list of Companion Planting Pairings in the Chart below. Print the page or remove for handy reference. A copy can be found at http://txmg.org/orange

From http://www.almanac.com/content/companion-planting-guide-companion-plants By George and Becky Lohmiller adapted by Sheri Bethard Certified Texas Master Gardener

COMPANION PLANTING CHART

FRIEND	FOE	FRIEND	FOE	FRIEND	FOE
BEANS		CORN		ONIONS	
Beets Broccoli Cabbage Cauliflower Celery Corn Cucumbers Eggplant Peas Potatoes Radishes Squash Strawberries Summer savory Tomatoes	Garlic Onions Peppers Sunflowers	Beans Cucumbers Lettuce Melons Peas Potatoes Squash Sunflowers CUCUMBERS Beans Cabbage Cauliflower Corn Lettuce Peas Radishes	Aromatic herbs Melons Potatoes	Beets Broccoli Cabbage Carrots Lettuce Peppers Potatoes Spinach Tomatoes PEPPERS Basil Coriander Onions Spinach Tomatoes	Beans Peas Sage Beans Kohlrabi
		Sunflowers			
CABBAGE		LETTUCE		RADISHES	
Beans Celery Cucumbers Dill Kale Lettuce Onions Potatoes	Broccoli Cauliflower Strawberries Tomatoes	Asparagus Beets Brussels sprouts Cabbage Carrots Corn Cucumbers Eggplant	Broccoli	Basil Coriander Onions Spinach Tomatoes TOMATOES Asparagus Basil	Beans Kohlrabi
Sage Spinach		Onions Peas		Beans Borage	
Thyme		Potatoes Radishes		Carrots Celery	
Beans Lettuce Onions Peas Radishes Rosemary Sage Tomatoes	Anise Dill Parsley	Spinach Strawberries Tomatoes		Dill Lettuce Melons Onions Parsley Peppers Radishes Spinach Thyme	

12 Tomato Tricks from HGTV.com

Bury Eggshells

Does this trick work? **Yes**. It's best to break up eggshells as you toss them into the hole. Use three or four crushed eggshells per plant. You can also soak eggshells in water for several days and use that water to water plants. This works well with potted tomatoes. What do eggshells supply? Calcium, which helps defeat blossom end rot. Some gardeners bury a piece of chalk in planting holes to supply calcium. You can also sprinkle crushed eggshells around tomato seedlings to keep slugs, pillbugs and earwigs at bay.

Give Plants an Aspirin

Does this trick work? **Yes**. Some gardeners dissolve one 325-mg aspirin per gallon of water and spray seed-lings a few days prior to planting. Other gardeners toss two aspirin in the planting hole. Both methods jump-start a plant's immune system. Why? Tomato plants produce salicylic acid (found in aspirin) in response to microbe attacks. Giving aspirin to plants prior to planting and/or at planting time kicks the plant's immune system into high gear, which helps it to fend off early attacks. Use the cheapest aspirin you can find—uncoated tablets dissolve easiest.

Red Mulch for Tomatoes

Does this trick work? **Yes**. Red mulch increases tomato harvest by up to 20 percent. The red color reflects far-red light wavelengths up into tomato leaves, which causes plants to produce a protein that speeds up growth and development. The result is faster-growing plants, faster-yielding plants and more, tastier fruit. Red mulch also works with red peppers, melons and strawberries.

Bury Your Compost

Does this trick work? **Yes**. With garden-planted tomatoes, start burying compostable materials in the tomato patch four to six weeks before planting. Focus on kitchen waste, including egg shells, coffee grinds and produce parts. The first time you bury items, dig a deep hole—two shovel blades deep. With subsequent burials, dig more shallowly. The composting process breaks down these items to enrich soil. This technique works best in raised beds where soil has warmed.

Use Epsom Salt

Does this trick work? **It depends on whom you ask**. The scientific community says it only works in magnesium-deficient soils. Your neighborhood tomato expert may swear by Epsom salts (a tablespoon or two per planting hole) to keep blossom end rot at bay. Science supports Epsom salt use for intense cropping situations (think commercial farms) and even then only in soils that lack magnesium. Save your Epsom salts for soaking muscles sore from gardening.

Remove Lower Leaves

Does this trick work? **Yes**, but you can also bury leaves. Some gardeners pinch off lower leaves to create a bare expanse of stem. The idea is that you then bury the lower stem section so it will generate roots. Other gardeners accomplish the same thing by simply burying the lower stem—leaves and all. Either method works.

Add Sugar for Sweet Fruit

Does this trick work? **No**. Some old-timers recommend adding from a tablespoon to a handful of sugar to each planting hole to help ensure sweet fruit. The sweetness of a tomato is determined by its genetics. Save the sugar for making green tomato jam.

Remove Suckers

Does this trick work? It depends. The adage goes that removing suckers improves the harvest. In reality, removing suckers yields fewer, larger fruit. If that's your goal, pinch away. Other gardeners don't remove suckers because tomatoes form on the suckers. They say that removing suckers reduces overall harvest. A middle of the road approach works well, especially in regions with shorter growing seasons. Allow a few older

suckers low on the plant to mature, and keep ones highest on the plant removed. Removing suckers is a good idea with tomatoes in pots.

Dig Deep

Does this trick work? **Yes**. The idea is that you want to bury as much of the tomato stem as possible so it roots. When you plant, dig a hole that's two shovel blades deep or use a post-hole digger. Or, instead of digging down, dig a trench about 12 inches long. With trench planting, lay the tomato in the trench, gently bending the growing tip so it will stand above soil when the trench is filled in. Trench planting works well with raised beds where soil isn't too deep.

Add Bone Meal to Soil

Does this trick work? **Yes**. Bone meal supplies phosphorus, a necessary nutrient for tomatoes to blossom well and produce lots of fruit. Bone meal also helps make calcium more available to tomato roots, which helps address blossom end rot. Add a handful to the bottom of each planting hole, stirring it into soil at the base of the hole.

Bury Tomato Stems

Does this trick work? **Yes**. At planting time, don't worry if tomato seedlings have developed a lean look or are too tall and leggy. Tomato stems generate roots with ease. A buried tomato stem produces roots—the start of an extensive root system that can support a tomato plant full of fruit.

Fish Head Fertilizer

Adding fish heads, tails or other parts to planting holes is a tried and true way of supplying plants with a variety of nutrients: nitrogen, calcium and other minerals. Where to get fish parts? Check with local restaurants or fresh meat markets. You can also use fish meal if you can't get an actual fish. Or try any form of seafood—crustaceans provide a nice supply of calcium, which helps defeat blossom end rot.

What's Wrong With My Tomatoes

Blossom End Rot on Tomatoes

Those dark, sunken spots on the bottom of tomatoes are blossom end rot. It's so common that in tomato circles they call it BER for short. It's not a disease but a symptom of calcium deficiency. It occurs due to uneven watering (wet-dry cycles in soil), too-high nitrogen or root damage. You can eat tomatoes with BER—just cut the bottoms off. For a quick fix, treat plants with a calcium spray for BER. Keep soil consistently moist; using mulch helps. Test soil when tomato harvest ends. Amend as needed.

Tomato Flowers Drop

When tomato plants look healthy and flowers appear but drop without setting fruit, it's usually not your fault. Blame this one on the weather. When day temperatures linger around 85°F to 90°F and nights stay above 75°F, tomato flower pollen becomes unviable. Once the hot spell passes, flower pollination will resume and tomatoes will form. Until then, keep plants well-watered and fertilized, so they're ready to jump back into production. In regions where summer sizzles, grow heat-tolerant varieties, like 'Solar Flare', 'Summer Set', 'Heatmaster', or 'Phoenix'.

Cracked Tomatoes

A cracked tomato means that while fruit was ripening, the water supply was uneven. A heavy downpour that soaks soil can result in roots sending huge amounts of water to ripening tomatoes—so much that they pop their skins. Cracked fruit is edible, but the cracks are more susceptible to mold. Eat ripe, cracked tomatoes before ones with smooth skins. Prevent the condition by mulching soil and watering tomatoes deeply twice a week, instead of giving plants a little water every day. When heavy rainfall is in the forecast, pick tomatoes that are almost fully colored.

Holes in Tomatoes

Small holes in tomatoes are usually caused by slugs. The problem is, once slugs open a hole, the tomato weeps juice, and soon other critters join the party, like pill bugs, fruit flies and wasps. The wound in the fruit also invites early decay and mold. Slugs attack low-hanging fruit first, but they also slime their way up tomato vines and supports. Research slug treatments and adopt several strategies to deal with them. When tomato season is done, before frost, continue to use slug treatments to kill adult slugs before they lay eggs.

Half-Eaten Tomatoes

If you're discovering half-eaten tomatoes or ones with bite marks, you're likely dealing with squirrels. These critters are notorious for clambering onto plants and taking a small bite out of fruits. Usually they're after the water in the tomatoes, which is why they don't eat the whole thing (although sometimes they do). A pet dog or cat does the best job of keeping these varmints away from your produce. Some gardeners distract the critters with treats set out just for them—in a remote corner of the yard.

Protect Tomatoes

Protect ripening fruit by swaddling it with plastic bird netting. This treatment keeps nibbling rodents (squirrels, chipmunks, mice) at bay, along with birds and wood turtles, who love to snack on low-hanging fruit. Cut small pieces of netting and wrap it around coloring fruits. Store netting pieces in the garden clipped to tomato supports.

Tomato Hornworm

Finding holes in leaves and missing leaves? You likely have a tomato hornworm at work. These large green worms can gobble a mature tomato plant almost overnight. The worms hide under leaves during the daytime. Get rid of them by visiting your tomato patch at night, when they come out to feed. Knock worms into a container of soapy water. If you see a worm with white tic tac-looking things sticking out of it, leave it alone. It's been attacked by a parasitic wasp, and it's on a death march. You want those white eggs to hatch and release more wasps into your tomato patch.

Tomato Early Blight

Dark spots on leaves with concentric rings followed by yellowing between spots is a sign of early blight, a tomato disease caused by a fungus. It occurs on lower leaves first; spots can also appear on stems. Control this blight by spraying plants with fungicide. Remove all fallen leaves and destroy them; do not add them to your compost. To prevent disease spread, avoid getting water on leaves and don't work with plants when they're wet. Early blight is contagious and winters over on plant debris. Destroy—do not compost—infected plants at the end of the season.

All Leaves, No Fruit

When your tomato plants are all leaves and no flowers, there's likely too much nitrogen in the soil. Nitrogen fuels leafy growth, and when it's abundant, your plants will have lush growth with dark green leaves. Your soil likely lacks phosphorus, which helps trigger flowering and fruit formation. Tomatoes are heavy feeders and benefit from receiving specialized tomato fertilizer, which is usually higher in phosphorous (the middle number on the fertilizer bag). It might read something like 2-3-1.

Tomato Late Blight

Late blight is another fungus disease on tomatoes, and it appears as water-soaked spots on leaves, fruits and stems. It's a death sentence once it attacks a plant and usually spreads quickly to other plants. Track the disease spread by region <u>online</u>, and start treating your plants with fungicide when it occurs in your area. Destroy infected leaves and plants; do not compost them. To help prevent the disease, space tomato plants so they have good air circulation and avoid overhead watering.

Squirrels Might Be the Problem

If squirrels are the reason your plump, juicy tomatoes are now missing bits and pieces, you may be contending with pesky critters in the garden.

You've got them in the ground — your favorite varieties and maybe some trial balloons. They're in a spot where they'll get **at least six hours of sun a day**. And, of course, you planted them well — deep, preferably — in a loamy, well-enriched soil.

What can you do now?

- Give your tomatoes a regular supply of moisture about 1-1/2 inches of water per week when they're fruiting. When first planted, a tomato transplant depending on your climate, humidity and type of soil will need to be watered every couple of days. After it settles in, water less often. Tomatoes in containers may have to be watered every day or two. Inconsistent watering can lead to such problems as blossom end rot. The best advice is usually to water less often but deeply.
- Feed lightly with a low-nitrogen fertilizer when the plant starts to flower; top dressing of compost and/or a hit of compost tea is great too.
- Regularly pinch off the new growth in the angle of the main stem and side branches; this keeps the plant open.
- Stake the plant to keep the foliage and fruit off the ground. You'll absolutely have to stake the indeterminate types (the types that keep growing), but even determinate types benefit from staking.
- Keeping your plants healthy will help minimize disease. Know what to look for: Tomato troubles and what to do about them.
- Root a few cuttings of a healthy plant in water, pot up in a container for a week or so, then move into the garden to extend your harvest.

Tomato:

Disorders of Tomato Leaves

Go to: http://aggie-horticulture.tamu.edu/vegetable/problem-solvers/tomato-problem-solver/leaves/ to see pictures and descriptions of the disorders.

Common Insect Pests of Tomatoes

Go to: http://aggie-horticulture.tamu.edu/vegetable/problem-solvers/tomato-problem-solver/insect-pests/ to see pictures and descriptions of the insects.

Native Plants in Your Landscape

1 CEU—Integrated Pest Management

May 18, 2017
6:00 PM
\$12
Orange County
Extension Office
11475 FM 1442
Orange, TX
409-882-7010
GO Orange agrille org to register



Bill Lindemann



Cleancutproperty.com

Presentation by
Sharon OdegarMaster Naturalist &
Master Gardener



Look for us: Texas A&M AgriLife
Extension—Orange County



HEALTHY SOIL, HEALTHY LAWN

GRASS VARIETIES AND DISEASES

1 CEU—Integrated Pest Management & 1 CEU—General



April 20, 2017 6:00 PM FREE! Orange County Extension Office 11475 FM 1442 Orange, TX

Register online at orange agrilife org
Call 409-882-7010 if you have any questions





Succulents

June 1, 2017
6:00 PM
Cost: To be determined
Orange County
Extension Office
11475 FM 1442
Orange, TX

Register online at orange.agrilife.org
Call 409-882-7010 if you have any questions



Worldofsucculents.com





Weed Identification & Pasture Management

2 General CEU's

Speaker:

Barron Rector—Extension Range Specialist

May 23, 2017 \$10 6:00 pm—8:00 pm Orange County Extension Office 11475 FM 1442, Orange



Plants.uaex.edu



Thehorse.com



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AG SYMPOSIUM

2 CEU's in Integrated Pest Management

April 18, 2017 7:30 AM - Registration 8:00 AM - 12:15 PM \$15

Orange County Extension Office 11475 FM 1442 Orange, TX

Register online at orange.agrilife.org
Call 409-882-7010 if you have any questions

TEXAS A&M
GRILIFE
EXTENSION

Provided by Corpus Christi Specialists via Lync:

Topics Include:

- The Use of Drones in Ranching
- · Weed Management Update
- New Year—Old Pest: Update of 111 Years of Fever Tick Control
- Setting Goals to Determine What to Plant in your Pasture
- The Financial Truth Behind Planting Your Pasture for Cattle Grazing
- Herd Replacement Selection
- Determining What You Can Afford to Pay for a Replacement



Look for us: Texas A&M AgriLife Extension—Orange County

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife.

Jewel Cormier Park

May 13, 2017
9:30 am - Noon
\$50 per person to sower motor

\$50 per person to cover materials

Call 409-882-7010 if you have questions.

Go to orange.agrilife.org to register

MUST REGISTER & PAY BY APRIL 28!!

Bewel Cormier Park 8235 FM 1442 Orangefield, TX

TEXAS A&M

GRILIFE

EXTENSION

Speaker: Katie Krantz w/ Shangri La





Look for us: Texas A&M AgriLife Extension—Orange County

Brown Patch:

Brown Patch (fungus – *Rhizoctonia solani*)

Host Grass: Hybrid Bermuda (*Cynodon dactylon*), Common Bermuda, Bentgrass (*Agrostis* palustris), Centipede Grass, Fescue, Perennial Ryegrass (Lolium perenne), Poa Series (Poa sp.), St. Augustine Grass (*Stenatophrum secundatum*), Zoysiagrass (*Zoysia japonica*)

Cause and Symptoms: The name, brown patch, is not very descriptive of the varied symptom expression caused by *Rhizoctonia* spp. on turfgrass. Symptoms differ on cool- and warm-season grasses and vary depending on environmental conditions and cultural practices. Turfgrass

affected by brown patch generally will exhibit circular or irregular patches of light brown, thinned grass. On cool-season grasses (bent, rye and fescue) during periods of warm, humid weather, a darkened border or smoke ring may develop at the outer margin of the patches. The smoke-ring symptom is not reliable for diagnosis. Symptoms on warm-season grasses such as bermuda grass or St. Augustine grass include circular to irregular patches of blighted turf. Patches up to several yards in diameter commonly develop in the fall, winter and spring when these grasses are Brown Patch of St. Augustinegrass. Courtesy Joseph Krausz, TAEX, 1996. approaching or emerging from dormancy, evening temperatures



are below 68oF, and rainfall usually increases. Active infections are noticeable by yellow leaves at the edges of patches. Leaf sheaths become rotted, and a gentle tug on the leaf blade easily separates the leaf from the runner. Brown patch usually does not discolor roots. Disease develops most rapidly when air temperatures are between 75oF and 85oF and wet conditions are present and generally subsides when air temperatures rise above 90oF.

Control and Management: Water only as needed and early in the day to remove dew and allow the grass to dry quickly. Avoid over fertilization in spring and fall. Improve the turfgrass root system with good drainage and aeration to reduce damage caused by brown patch. Fungicides (See the section **Chemical Controls for Turfgrass Diseases**) are most effective when used on a preventive basis.

Content edited by: Young-ki Jo, ykjo@tamu.edu , Assistant Professor and Extension Specialist, Dept Plant Pathology & Microbiology, Texas A&M University, Texas AgriLife Extension Service, May 31, 2013

11 Ways to Kill Garden Weeds

Keep unwanted weeds from infiltrating your garden with these simple remedies. By Trish Barber from the book *Extraordinary Uses for Ordinary Things*.



Baking Soda

Looking for a safe way to keep weeds and grasses from growing in the cracks of your paved patios, driveways, and walkways? Sprinkle handfuls of baking soda onto the concrete and simply sweep it into the cracks. The added sodium will make it much less hospitable to dandelions and their friends.

Bleach

Do weeds seem to thrive in the cracks and crevices of your walkways? Try pouring a bit of undiluted bleach over them. After a day or two, you can simply pull them out, and the bleach will keep them from coming back. Just be careful not to get bleach on the grass or plantings bordering the walkway.

Borax

Get the jump on those weeds that grow in the cracks of the concrete outside your house by sprinkling borax into all the crevices where you've seen weeds grow in the past. It will kill them off before they have a chance to take root. When applied around the foundation of your home, it will also keep ants and other six-legged intruders from entering your house. But be very careful when applying borax — it is toxic to plants.

Bottles

When using herbicides to kill weeds in your garden, you have to be careful not to also spray and kill surrounding plants. To isolate the weed you want to kill, cut a 2-liter soda bottle in half and place the top half over the weed you want to spray. Then direct your pump's spraying wand through the regular opening in the top of the bottle and blast away. After the spray settles down, pick up the bottle and move on to your next target. Always wear goggles and gloves when spraying chemicals in the garden.

Carpet Scraps

Place a series of carpet scraps upside down and cover them with bark mulch or straw for a weed-free garden path. Use smaller scraps as mulch around your vegetable garden.

Salt

Those weeds that pop up in the cracks of your walkways can be tough to eradicate. But salt can do the job. Bring a solution of about 1 cup salt in 2 cups water to a boil. Pour directly on the weeds to kill them. Another equally effective method is to spread salt directly onto the weeds or unwanted grass that come up between patio bricks or blocks. Sprinkle with water or just wait until rain does the job for you.

Shower Curtains

Those old shower curtains will also come in handy next time you do any landscaping with gravel or bark chips. Just place the shower curtain under the mulching material to prevent annoying weeds from poking through.

Spray Bottles

Fill one with undiluted white vinegar to get rid of the weeds and grass poking out of the cracks in your concrete, as well as ants and other insects — but be careful not to spray it on your plants; the high acidity could kill them.

Tips for Aphid Control

Aphids: Common problem we will see in our area!



Apply 2.5 Table spoons of Dawn Dish soap per 1 gallon of water spray every other day for 1 month to plants or trees, as well as the ground beneath, reapply if rain occurs, then twice a week for a month, then once a week. This should break the life cycle, and help prevent recurring infestations.

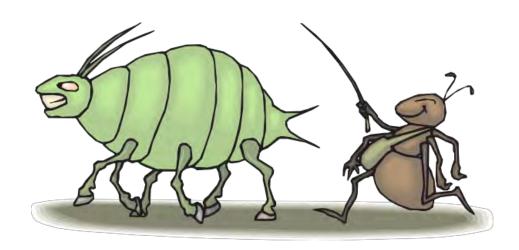
Yellow plastic cups, turned upside down and stuck onto 16 inch

tall, broomstick-sized sticks, using a thumbtack. The sticks are pushed into the ground about a foot from the tomato plant. I coat the yellow plastic cup on the outside, with Tree Tanglefoot, a very sticky substance that doesn't wash off. The aphids are attracted to the color yellow, they fly onto the cups and the Tanglefoot catches them. (Don't substitute something else, Tree Tanglefoot is the on-



Jimlongscolumns.blogspot.com

ly thing that doesn't wash off and keeps catching plants.



Controlling Fire Ants

By: Robert M. Turley Extension Horticulturist Louisiana Cooperative Extension Service LSU Ag Center – Calcasieu Parish

Imported fire ants inflict painful stings and create unsightly mounds in our landscapes, and most of us would be happier if they were not around. A variety of products and methods are available to effectively control fire ants. There is no treatment, unfortunately, that will eradicate them from a yard permanently. The product chosen is often determined by the situation and the preferences of the individual doing the treatment. When using a pesticide, always read the label very carefully before you purchase it to make sure you understand and are comfortable with how to use it, and to make sure it is appropriate for the situation.



BAITS

Fire ant baits consist of a pesticide combined with a material fire ants will consume as food.

Use fresh bait, and apply it when the ground and grass are dry and no rain is expected for the next 24 hours. Apply baits when the worker ants are actively searching for food.

DUSTS

Some products, such as those containing acephate, are applied as a dry dust. Ants walking through the treated soil get the dust on their bodies and transport the insecticide into the mound.

Within a few days, the entire colony should be killed. To use a dust, distribute the recommended amount evenly over the undisturbed mound.

MOUND DRENCHES

Other insecticides used to control fire ants are mixed with water and then applied to the mound as a drench. These liquid mound drenches kill ants underground, but must be applied in sufficient volume to penetrate the entire nest. Generally, about 1 gallon of diluted mixture is poured gently over the top of each mound.

GRANULES

Granular products offer another method of getting insecticide into fire ant mounds. To treat a single mound, measure the recommended amount, and sprinkle it on top of and around the mound following label directions.

ORGANIC CONTROLS

A few active ingredients used in fire ant control products, such as boric acid, pyrethrin, pyrethrum, rotenone, citrus oil extract and diatomaceous earth, are organic pesticides. Diatomaceous earth, a natural silica-based dust, will kill some ants, but it rarely eliminates ant colonies when used alone. Avoid breathing in the dust-like particles.

HOME REMEDIES

Be advised that some home remedies do not work well. Spreading grits on a fire ant mound will only feed the pests. Laying orange or grapefruit peel on a fire ant mound will only make them move to another spot. Shoveling one mound on top of another in an attempt to force the ants to kill each other is not effective. Do not use gasoline or other petroleum products for fire ant control. While many of these products will kill fire ants, they are extremely flammable and will kill grass and other plants.

Pecans

May through early June is pollination and Nut Set see below the activities and Pest that can occur:

Pollination - Nut Set (May - early June)

Activities

- Make last zinc treatment on bearing trees (continue to August on young trees)
- Monitor weeds and pecan scab
- Inspect nut crop and sample for pecan nut casebearer if nuts are worth protecting
- Time casebearer treatment, if needed, to coincide with hatch/nut entry so a single treatment will do the job - Inspect foliage for last of early season pests and beginning of mid-season pests like walnut caterpillar, fall webworm, leafminers,
- Maintain weed control

aphids, mites, etc.

Pests

At pollination the overwintering generation of the pecan nut casebearer (PNC) lays eggs for first generation PNC. Although nuts are susceptible to damage from PNC anytime after pistillate bloom, the PNC does not reach the egg laying moth stage until at least pollination. The earliest laying can be expected to occur is shortly following this plant stage. Monitoring PNC by using a degree day prediction model or the new PNC pheromone, or both, will help time scouting activities.

To see the whole calendar go to: http://pecankernel.tamu.edu/ipm_calendar/index.html



Bee Keeping in Orange County

Bee Keeping in Orange County Spring 2017



Spring is an active time for the honey bee, they are building their numbers, some are swarming, and all are out pollinating the home gardens. We desperately need our honey bees as they pollinate 35% of all our food, including the squash and cucumbers in our local gardens.

If you're a local bee keeper now is the time to inspect and check your hives, watch for signs of winter weakening and potential hive failure. Look for new swarm cells, if present you might consider splitting the hive, or at least watch for the pending swarm. If hives are full of bees, brood, honey you need to add supers or additional brood boxes to make room for the pending nectar flows. If you're a beginner bee keeper with questions contact the AgriLife office, they can put you in contact with a local bee keeper who can help answer your questions.

Migratory beekeepers are finishing their visit to California for the Almond bloom and are now showing up in southeast Texas. Many of these beekeepers stop off here to re-queen, split and make use of the Tallow bloom. Watch your bees to see if they are hungry. A lot of bees in a small area can "overgraze" the available nectar until the Tallow blooms. You MAY need to feed for a while.

If you're not a bee keeper yet but are thinking about getting a hive, watch for information on the Orange County Beekeepers group. We meet the first Tuesday of the month at La Cantina, 2709 Mac Arthur Drive at 6 p.m.

If you have a swarm of bees move into your home or outbuilding and need to have them removed contact the Agrilife office as they can get you in contact with a bee keeper who can recover the bees without killing them.

Orange County Apiary Committee

Have bees?

Need them removed?

Have Questions?

Don't hesitate to call

409-882-7010.

Save the Date: 5 HOUR CEU PROGRAM June 24 **Orange County Extension Office Details Coming Soon**

Upcoming Events:

April 18th: Ag Symposium, 8am-12:15pm, Extension Office, \$15

April 20: Texas Master Naturalist Meeting, 6:30 pm, Big Thicket

Preserve Visitors Center

April 20th: Healthy Soil and Healthy Lawn, 6pm, Extension Office, 2

CEU's (1 IPM & 1 General), Free!

May 5 &6: Earth-Kind Specialist Training, Cost is 100.00

May 8th: Native Plants, 6pm, Extension Office, \$12.00

May 13th: Rainwater Harvest, Volunteers needed, and spots open,

9:30 – Noon, Jewel Cormier Park, \$50.00

May 23rd: Weed ID and Pasture Management, Barron Rector, 6pm, Ex-

tension Office, 2 General CEUs, \$10.00

June 1st: Succulents, 6pm, Extension Office, \$10.00

June 1—September 14 (every Thursday): Master Gardener Training

June 6th: Pond Management, 6pm, Extension Office

June 24th: 5 Hour CEU Program-Save the DATE

