There are more than 4,000 species of native bees in North America — from plump, stalwart carpenter bees to the hardworking blueberry bees that help pollinate the state’s top fruit crop.

This year the National Association of Conservation Districts is using its annual Stewardship Week celebration, April 26 to May 2, to recognize the importance of pollinators in our lives.

Whether on a farm or in your backyard, protecting pollinators helps to ensure their future and the future of our food system.

Pollinator syndrome
Although it sounds ominous, “pollinator syndrome” describes the relationship between flowering plants and pollinators. The rich diversity of pollinators evolved hand in hand with the flowers they fertilize.

Over the thousands of years since angiosperms, or flowering plants, first appeared, flowers have adapted in shape, color and fragrance to attract specific types of insect or animal pollinators. Blue, yellow and bright white flowers, for instance, draw bees. Butterflies and birds frequent red blossoms. Strong, sweet fragrances get the attention of moths, while flies prefer putrid aromas. Plants that depend on bees and butterflies for pollination offer flowers as an inviting landing pad where the insect can rest as it collects pollen and nectar.

In return for the bounty of food — pollen for protein and nectar for energy — pollinators spread pollen among the flowers. This act of fertilization enables flowers to produce the fruits, nuts and seeds that feed other animals — including humans — and helps to ensure the plant’s survival.

Pollinator niches
The thousands of native bee species in the U.S. each fill specific, ecological niches to keep from competing heavily with one another. Some, like orchard mason bees, emerge very early in the spring, before other types of bees, to pollinate fruit trees. Other pollinators are specialists. Southeastern blueberry bees only collect food from — and consequently pollinate — blueberry flowers. Similarly, squash bees only visit the flowers of cucurbits like squash and pumpkins.

(Continued on page 2.)
Hoe, mulch to control weeds in home vegetable gardens
By Frank M. Watson

Mulch added to the base of vegetable plants is an effective way to keep weeds at bay without using a pesticide. Image credit: Stephanie Schupska

Home gardeners often call their University of Georgia Extension office to ask which herbicides can safely be used in the garden. For all practical purposes, no herbicides can totally replace the trusty garden hoe and mulch.

There are a few products available for garden use, but under heavy weed pressure, they will not provide season-long control. Herbicides are normally formulated for use on a specific crop, and therefore, are not labeled for use where several different crops are grown together.

Gardeners who are tired of using a hoe to control weeds may want to try mulching.

A good mulch material applied to weed-free soil will help to control weeds and conserve moisture. Organic mulches include straw, grass clippings, wood chips, shavings, sawdust and spoiled hay. These mulches should be spread 3 to 4 inches deep around plants and between rows.

Organic mulches usually cool the soil and can cause a delay in the plant’s maturity by a few days. Wait and apply organic mulching after the soil has warmed deeply, but before weeds become established.

Manufactured materials that can be used as mulch include white and black plastics, aluminum foil, heavy craft paper and newspaper. These man-made materials usually cause the soil to warm up quicker and can speed up crop maturity by seven to 10 days.

Organic mulches are usually less expensive than manufactured mulches, and at the end of the season they can be incorporated into the soil as organic matter. Manufactured mulches cost more and must typically be removed at the end of the gardening season. They are much more effective at controlling weeds and grass than organic mulches.

For more on mulching vegetables, see the UGA Extension publications Composting and Mulching (C 816) and Mulching Vegetables (C 984).

(Frank Watson is the Agriculture & Natural Resources agent for Wilkes County Extension.)

Human landscapes can offer safety to imperiled pollinators, continued...

Pollinator stewardship
Many of our native pollinators are in decline and need our help year-round. Factors that contribute to pollinator decline are largely man-made and include:

◊ Loss of habitat. Manicured lawns, clipped hedges and tidy, suburban landscapes deprive bees of the habitats they need for reproduction.

◊ Loss of sufficient flowering plants for forage. Exotic, non-native and cultivated, hybrid flowers may not produce the pollen that insects need for protein, or the nectar that bees, birds, butterflies and bats need for energy.

◊ Pesticide use. Pesticides may kill pollinators directly, and the chemicals may be retained in the pollen that bees store to feed their young.

We can strengthen our pollinator populations by making small changes to our landscapes. Native bees and other pollinators need a variety of habitats that are easy to create.

Bumblebees nest in the ground in slightly messy, undisturbed spaces, like small brush piles. Many native bees are solitary and nest in tunnels in bare soil. Orchard mason bees nest in tubes, like nail holes in fence posts or even plastic drinking straws. They need a source of mud nearby to build separators between eggs inside the tube.

While many bee species are active only for a few weeks, bumblebees and honeybees need to forage from early spring all the way through the end of fall. To help sustain them, Georgians can keep their yards in constant bloom with flowering trees and shrubs, and an abundance of flowers and herbs.

And, finally, don’t spray pesticides when plants are blooming. That’s when pollinators are busy collecting food. If you must use pesticides, wait until petals drop from flowers.

For more information on protecting pollinators, see UGA Extension Bulletin 1164: Bee Conservation in the Southeast.

(Heather Kolich is an Agriculture & Natural Resources agent with Forsyth County Extension.)
Landscape alert: Asian ambrosia beetle  
By Steve Pettis

If you own a cherry tree or a Japanese Maple, be vigilant! There is an insect pest out there stalking your prized landscape tree. It is very tiny but it can bring even large trees down. The insect is a beetle and it is an illegal immigrant known as the Asian or granulate ambrosia beetle.

The Asian ambrosia beetle was accidentally imported to the United States in some peach trees in North Carolina that had arrived from China in 1974. Since then, this insect has spread all over the U.S. and has caused millions of dollars in plant loss. Every year, nursery owners spend money to prevent its damage in the southeast.

The female Asian ambrosia beetle emerges in spring from her winter habitat inside an infested tree and travels to a suitable nearby shrub or tree. She looks for a small plant or limb 1 to 2 inches thick, and begins to bore into it. She moves fast eating her way through an inch of wood per day.

As the insect eats her way through the tree, she ejects sawdust out of the entrance hole. The sawdust exiting the hole forms toothpick-like protrusions. This is the key diagnostic feature of Asian ambrosia beetle damage. Scout for this sawdust in early spring on trees and shrubs.

The insect doesn’t actually eat the wood but excavates tunnels that serve as habitat. She introduces a fungus into the tunnel, which is carried on her back from her last home. When her eggs hatch, the larvae feed on the fungus. It is this fungus that kills the tree eventually. It clogs the vascular system of the plant causing it to wilt and eventually die.

Almost the entire life cycle of the insect is spent inside the plant, making the beetles hard to control with insecticides. It only emerges from the tree in the early spring to either re-infect the same tree or to seek out a new one. There are traps that can be used to monitor the insect's emergence in February.

Asian ambrosia beetles must be controlled but how? There are no systemic insecticides that will kill the beetles in the trees. Once in the tree, the beetle itself is harmless. It is the fungus that actually kills the tree. Infested trees will most likely die eventually.

The best way to control AAB damage is by prevention. Trunk sprays using pyrethroid insecticides applied in late February or when the first beetle is trapped offers protection. Products available to commercial pesticide applicators such as Pounce, Astro and Onyx all show great promise in controlling this pest.

Homeowners should use outdoor tree and shrub insecticides containing imidacloprid or bifenthrin. Homeowners should remove affected plants or plant parts and they should be burned. The trunks of remaining plants should be treated with an appropriate insecticide and monitored.

Many species of trees and shrubs are susceptible to this beetle. I have observed them attacking Tulip poplars, oaks, ornamental cherry, crape myrtle, redbud, hickory and Japanese maple. Asian ambrosia beetle will attack almost any broadleaf tree or shrub and that is a suitable size healthy or not.

(Steve Pettis is the Agriculture & Natural Resources agent for Rockdale County Extension.)
Thatch is the enemy of home lawns
By Frank M. Watson

Thatch is a layer of living and dead roots, crowns and lower shoots that often develops in lawns. It can weaken and even destroy a lawn if not prevented or removed.

Excessive growth as well as conditions unfavorable to the microorganisms responsible for the decomposition of decaying plant parts aid in thatch development. Rapid and excessive growth is likely to produce heavy thatch because plant material is being produced more rapidly than it can be decomposed.

Thatch buildup varies from lawn to lawn. Some lawns never develop a thatch layer, while others become thatch-bound within a few years of being established.

The best lawn grasses are those that constantly reproduce new plants in order to renew the lawn. As old plants age and die, they decompose into fine, textured humus that becomes a part of the surface soil.

Once thatch starts to form, conditions develop that may favor even more thatch.

Grass clippings from mowing do not contribute to thatch. However, once a thatch layer has developed, clippings further speed its formation.

Accumulated thatch harbors disease-causing fungi and insects. It also prolongs high humidity, which favors disease, causes shallow root development and slows movement of air, water and nutrients into the soil. These factors contribute to the early death of grass plants.

Thatch development may go unnoticed in early stages. Lawns with a thick thatch layer may appear healthy in the spring and then suddenly die in large patches during summer heat and drought. As thatch builds up, the roots of new grass plants grow within the thatch layer rather than in the soil. When the lawn is exposed to hot, dry summer weather, the plants are unable to survive.

Zoysia grass and bermudagrass lawns usually develop thatch layers rapidly. They seldom die suddenly because these warm-season grasses are more tolerant of heat and drought.

Severe thatch usually leads to thin, diseased turf. Very thick layers of thatch may cause uneven surfaces that are difficult to mow. Thatch may develop over several years before noticeable damage occurs.

University of Georgia Extension recommends following these good cultural practices, starting when the lawn is new, to prevent or retard thatch from forming.

1. Fertilize moderately and regularly to maintain vigor without excessive growth.

2. Cut grass regularly at the recommended height to maintain vigor and to avoid shock. No more than one-third of the leaf tissue should be removed with each mowing. Remove excessive clippings, especially during periods of rapid growth. Clippings may be left to decompose if mowing occurs at regular intervals. Remove clippings that accumulate on the surface. Nutrients are recycled to turf as clippings that filter into the turf canopy decompose.

3. Collect and remove clippings once a thatch layer begins developing to avoid further buildup.

4. Irrigate every seven days, or as needed in dry periods, to encourage deep rooting.

(Continued on page 5.)
Most of the time when people call their University of Georgia Extension office, they are typically fairly calm, but when they call to report a science-fiction-type growth has taken up residence in their yard, their nerves are usually on edge.

A lot of the, “What in the world is it?” phone calls we receive are about slime molds popping up in lawns or in mulch.

Slime molds are primitive, fungus-like organisms that are classified as myxomycetes in the Kingdom Prototista. Depending on the type of slime mold, they may be white, yellow, blue-gray, black, brown or pink.

They usually appear after a strong rain, but they are almost always there in the environment just waiting to emerge. The slimy blobs seem to materialize overnight, usually on decaying organic material — like mulch. Rotting mulch serves not only as the mold’s home but also as its food source.

When the mold becomes visible, it is getting ready to reproduce by releasing spores.

One of the more interesting slime molds that we get calls about is the one that my kids think has the best name — dog vomit slime mold. It grows on wood mulch, and yes, it looks like your neighbor’s cute canine ate something that didn’t agree with its stomach.

When fresh — if you can call it fresh — it has a yellowish color, but turns to a white color when it begins to dry out. When it completely dries, it can be easily broken open, releasing brown, powdery spores into the air.

Although slime molds are unsightly, they are harmless to you and your plants.

There is no way to prevent or kill them, so there is no use trying to spray different chemicals on the ground to try to control the mold. You can rake or wash the mold away to help get rid of it quicker, but they will eventually disappear on their own.

So after a good rain, watch your step. Dog vomit may appear, and depending on your perspective, either amaze you or gross you out.

(Michael Wheeler is the University of Georgia Cooperative Extension coordinator in Hall County, Ga.)
I would love to do container garden succulents like my mom who has hens and chicks. What are some other great succulents for container gardening? Any and all info is appreciated as I am brand new to this and want to be successful.

- Amy Q. Lawrenceville, GA

Succulents are great plants for container gardens in Georgia. They can survive our hot, dry summers and have attractive foliage and flowers. Most succulents prefer full to partial sunlight exposure and like to dry out between waterings. Hen and chicks is a great starter plant and will grow well in a pot or strawberry jar with well-drained soil. Another option is sedum. There are numerous varieties of sedum with different heights, leaf shape and color, and flowers. While most hen and chicks are not hardy during our cold winters, many sedums are hardy and overwinter.

Another type of plant that is succulent-like is ice plant (Delosperma). Ice plant is a full sun loving groundcover type plant with fleshy leaves and bright purplish-pink flowers. It is also a perennial and can be grown in a pot or in the ground.

Other great succulents are available at your local garden center. There are types of aloe, jade, cactus and agave which flower in containers. There is even a type of Kalanchoe called “flapjack” that has gorgeous, colorful paddle-shaped leaves.

The other great thing about keeping these plants in containers is that you aren’t limited to what ones are able to survive cold weather. If you have a sunny window, most of these plants can move indoors during the colder months and then move back out in the spring. When you are moving these plants indoors, make sure to significantly reduce their water so the plants do not rot.

(Amanda Tedrow is the Agriculture & Natural Resources agent for Athens-Clarke County Extension.)

Q & A: Container gardening with succulents

By Amanda Tedrow

May is here, and this means that farmers market season is in full-throttle! Shopping at your local farmers market has many benefits. Not only are you supporting local farmers and business owners, but you’re also reducing your carbon footprint since the products travel such a short distance to your kitchen. Here in Athens, we are fortunate to have the Athens Farmers Market and the West Broad Farmers Market. Each has a large-scale Saturday market and a smaller weekday market. But there are many other farmers markets in the Athens area and northeast Georgia. Just do some research, and you’ll be amazed at the number of available markets. A few websites like PickYourOwn.org list farmers markets in Georgia by county. Just double-check that the market information is still correct before you head out to a market.

- Amanda
Happy Compost Awareness Week!

By Lisa Sehannie

Compost Week every week!

Happy Compost Awareness Week, or as we like to say, “Compost Week every week!” During the month of May, we celebrate composting of all kinds! This is a perfect opportunity to brag about our worms. But this month in addition to discussing worms, we will also compare vermicomposting to other types of composting. During International Compost Awareness Week we strive to learn more about composting - how it can be done, its benefits and why we should participate. As we celebrate Compost Awareness Week this year, I thought it would be fitting to share ideas about composting in general. Are you ready for some wonderful composting stories? Let’s start rotting!

What is composting?

Yes, even though it may seem like a very easy question to many of us, I still run into a good number of people who ask me, “Well, what exactly is composting?” According to several resources, composting is generally defined as recycling that is done by nature. It is a biological breakdown of organic matter. This organic matter can include food waste, manure, leaves, grass trimmings, paper, worms, coffee grounds and more. The result of this biological breakdown is compost - a crumbly, soil-like substance very rich in nutrients.

Benefits of composting

There are many benefits to making and using compost. The EPA cites a few ways that compost can be beneficial:

1. Compost is very high in nutrients. When it is added to soil, it enriches the soil and helps plants grow.

2. By composting, we are diverting materials from the landfill; this in turn lowers the production of methane and leachate in the landfill.

3. Compost actually helps to restore contaminated soil. Compost absorbs odors, binds to heavy

(Continued on page 8.)
metals and even treats organic compounds including heating fuels and explosives. It mitigates the harmful impacts of wood preservatives, pesticides and more. This is some amazing stuff!

4. Composting saves money. Composting provides a free alternative to store-bought fertilizer. It also lengthens the life of commercial landfills and is a cost-effect soil remediation technology.

**Types of Composting**

There are a few different ways to compost your organic materials. We will examine two popular methods here.

**Aerobic Composting**

This method is simply a pile in your yard where you throw food items and debris from your garden. The compost pile should be as damp as a wrung-out sponge and requires manual turning. The downside to this type of composting is the length of time it may take to harvest any compost.

**Vermicomposting**

When dealing with food scraps, this type of composting may be the most beneficial. Red wiggler worms as well as other mechanisms help to break down the food fairly quickly. This is the perfect option for people living in a city who cannot have a compost pile in the backyard.

And of course, the popular question I am then asked is, “So, which one is best for me?” And I usually reply, “It depends.” Some factors to consider: where you live; your timeframe for producing compost; the types of things are you composting; what the compost will be used for, etc. And in the end, I always tell people that doing something is far better than waiting on the sidelines.

<table>
<thead>
<tr>
<th>Composting</th>
<th>Vermicomposting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be done outside</td>
<td>Suitable for apartments or residences without a yard</td>
</tr>
<tr>
<td>High temps are needed to kill any bacteria</td>
<td>High temps are not needed in order to ensure compost is pathogen-free</td>
</tr>
<tr>
<td>Can be a longer breakdown process</td>
<td>Worms generally work more quickly to digest food scraps</td>
</tr>
</tbody>
</table>

This simple chart illustrates some of the benefits of vermicomposting compared with a compost pile.

Well, fellow composters, it is about that time. We once again wish you a very Happy International Compost Awareness Month. If you have not started to compost, I encourage you to get started. Remember:

- We can all make a difference.
- Something is better than nothing.
- It is never too late to start!

*(Lisa Sehannie is a Georgia Master Composter Extension Volunteer.)*

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Still not sure what method is for you? Check out these composting resources:

- **Vermicomposting, Utah State University Extension**
- **Athens-Clarke County Backyard Composting Resources**
- **Composting at Home in Georgia**
Gardening with Native Plants

From trees, shrubs and vines to grasses and wildflowers—native plants can benefit both the environment and the gardener. Attend this workshop to learn what native plants are suitable for Georgia and how to incorporate them into your landscape. Gardeners of all levels are welcome!

**WHEN:**
Wed., June 17 · 6-7:30 p.m.

**WHERE:**
Athens-Clarke County Library
2025 Baxter Street
Athens, GA 30606

**TO REGISTER:**
Register by contacting ACC Extension at 706-613-3640 or atedrow@uga.edu.

**Gardening Workshop Schedule**
All classes will be at the ACC Library on

**JUNE 17:** Gardening with Native Plants
**JULY 15:** Shade Gardening
**AUG. 19:** Fall Vegetable Gardening
**SEPT. 16:** Attracting Pollinators, Honeybees
**OCT. 21:** Woods in Your Backyard
**NOV. 18:** Understanding Garden Soil

For questions and to register:
Contact Amanda Tedrow, Extension Agent at 706-613-3640 or atedrow@uga.edu.
The Seniors Garden Club hosted by the Athens Community Council on Aging meets on the first and third Thursday of the month from 10-11 a.m. Meetings are FREE. Contact 706-549-4850 for more information.

The Ladies Homestead Gathering of Athens meets the third Tuesday of each month from 6:30-9 p.m. at the Athens-Clarke County Extension office. Meeting topics range from gardening and composting to making bread and preparing herbal medicines. No experience necessary. For more information, contact lhgathensclarke@gmail.com.

The Athens Farmers Market takes place each Saturday from 8 a.m.-noon at Bishop Park. Saturday markets include live music, chef demos and kids’ activities. A downtown market is held each Wednesday from 4-7 p.m. at Creature Comforts Brewing Co.

The West Broad Farmers Market is held each Saturday from 10 a.m.-2 p.m. at 1573 West Broad Street in Athens. The market features fresh produce and other foods, crafts, music and educational activities for youth and families. A produce stand is held each Tuesday from 4-7 p.m. at the same location.

Piccadilly Farm in Bishop is holding its Annual Spring Clearance Sale on May 22, 23, 29 and 30 from 10 a.m.-4 p.m. The entire retail area will be offered for a wholesale price (20% discount) in addition to other special deals. For more information, please call 706-765-4444 or email piccadillyfarm@att.net.

On Wednesday, May 27 from 4-7:30 p.m., the Athens-Clarke County Stormwater and Water Conservation office is hosting the Roll Out the Barrels silent auction. Auction items include rain barrels transformed into unique pieces of functional art by local artists. Proceeds support the Athens Green School Program. The auction will be held at Creature Comforts Brewing Co. and will include appetizers from Last Resort.

On Friday, June 5 at 2 p.m., the 2015 All Bugs Good and Bad Series will present the webinar, “Insect-borne Diseases Affecting People.” This one-hour free webinar will discuss diseases such as malaria, dengue fever, Chagas disease and river blindness as well as the insects that transmit them and preventative precautions. The link for the webinar opens at 1:45 p.m. Please enter as a “Guest.” A recording of the webinar will be posted after June 5.

On Saturday, June 6, Beech Hollow Wildflower Farm is holding a guided walk focused on flowers for hummingbirds. The walk will begin at noon. Beech Hollow Wildflower Farm is located at 1575 Elberton Road in Lexington. For more information, please visit www.beechhollowfarms.com.

On Wednesday, June 17, Athens-Clarke County Extension will present the free gardening workshop “Gardening with Native Plants.” Held from 6-7:30 p.m. at the Athens-Clarke County Library, the workshop will discuss what native plants are suitable for Georgia and ways to incorporate them into your landscape. To register, please call 706-613-3640 or email atedrow@uga.edu.

On Saturday, June 20, the State Botanical Garden of Georgia is hosting the North Georgia Daylily Show from 10 a.m.-4 p.m. This free event features over a hundred different beautiful daylilies as well as a bargain plant sale. For more information, please call 706-542-1244 or email garden@uga.edu.

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In search of my mother’s garden, I found my own. —Alice Walker
## Non-Drought Outdoor Water Use Schedule*

*Effective August 8, 2013*

### allowed daily
**Between 4:00 pm and 10:00 am**
- Automated irrigation systems
- Hand watering (without a shut-off nozzle)
- Lawn sprinklers

### odd/even schedule
**No hourly restrictions**
*Even: Mon • Wed • Sat  
Odd: Tues • Thurs • Sun*
- Car washing at home
- Charity car washes
- Hosing driveways
- Outdoor cleaning
- Pressure washing by homeowner
- Topping-off pools

### allowed anytime
**By anyone**
- Commercial pressure washing
- Drip irrigation or soaker hose
- Watering of food gardens
- Hand watering (with a shut-off nozzle)
- Hydroseeding
- Installation and maintenance of an irrigation system
- Irrigation of newly installed turf (for the first 30 days)
- Irrigation of public recreational turf areas
- Irrigation of plants for sale
- Irrigation of sports fields
- Water from a private well
- Water from an alternate source  
  • grey water, rain water, condensate

*Please note: The odd/even schedule still applies to non-landscape outdoor water use.*

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*This Non-Drought Outdoor Water Use Schedule is consistent with the Outdoor Water Use Rules set forth in the Georgia Water Stewardship Act that went into effect statewide on June 2, 2010.*

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**Athens-Clarke County Water Conservation Office**

706-613-3729 / savewater@athensclarkecounty.com
Outdoor Water Restrictions:
Barrow, Oconee & Jackson Counties

Outdoor water use for Barrow, Oconee, and Jackson Counties is now limited to three days per week with even number addresses allowed to water on Saturday, Monday, and Wednesday and odd number addresses allowed to water on Sunday, Tuesday, and Thursday. The ban on watering between 10:00 AM and 4:00 PM remains in effect for all scheduled watering days. No outdoor watering is allowed on Fridays other than exemptions below.

THE FOLLOWING USES ARE EXEMPT FROM ALL HOURLY/DAY OF THE WEEK RESTRICTIONS:

- Drip Irrigation
- Soaker Hoses
- Hand Watering
- Food Gardens
- New installations of plants and turf (with a permit)
- Grey Water, Rainwater and AC Condensation Reuse
- Golf Course - Tee and Green Irrigation
- Plants for sale, resale, or installation

Please be aware that water restrictions are subject to change.

For more information and additional exemptions please contact your county’s water conservation department.

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Mission Statement

The UGA Athens-Clarke County Extension’s mission is to respond to the people’s needs and interest in Agriculture, the Environment, Families, and 4-H/Youth in Athens-Clarke County with unbiased, research-based education and information.

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