In this Issue

Now that the New Year is upon us, it’s time to make resolutions!! What can you do in 2010 to have a more beautiful, productive, and environmentally conscious landscape? You’ll find many ideas inside, including planting native trees, using microirrigation, or pruning fruit trees and roses. Perhaps you’ve always wanted to renovate your landscape, add more wildlife areas, or put in that vegetable garden you’ve been talking about for years. Building a compost bin to reuse kitchen and yard waste is a great project over the holiday break. Whatever your resolution may be, you can always turn to your local County Extension Office for assistance. Best wishes for a productive year!

Carrie T. Stevenson
Editor, Sustainability Agent
Escambia County
csteven@ufl.edu

A small area in front of this Master Gardener’s house was transformed into a lush butterfly garden.
Photo Credits: Carrie T. Stevenson
Celebrate Trees And Protect Our Urban Forests

Theodore Roosevelt once said, “To exist as a nation, to prosper as a state, and to live as people, we must have trees.” As we approach Florida’s Arbor Day on January 15, 2010, be sure to notice the trees around you and consider what they may do to enhance Florida’s urban forest. With nearly 80% of the population living in “the city,” trees sometimes escape our attention. Yet they are a vital part of the urban environment. Trees shade our homes and businesses, reduce energy demands, protect water quality by filtering runoff and preventing soil erosion, and provide habitats for wildlife. All of these things improve our quality of life.

However, when considering a tree selection for your Arbor Day planting, also remember another upcoming event - National Invasive Species Awareness Week, January 10-12, 2010. Some exotic plants, like Chinese tallow or popcorn tree (Triadica sebifera) have escaped cultivation and disrupted native ecosystems. They are referred to as “invasive” exotic plants. In 1772, Benjamin Franklin sent a few seeds to Dr. Wimberly of the Georgia colony with a brief comment, “Tis a most useful plant.” Since then, the Chinese tallow tree has been used as an ornamental plant. Unfortunately the species is an invader of wetland, coastal, and disturbed habitats, and has been shown to reduce native species diversity and richness and alter ecosystem structure and function in Florida’s natural areas. Chinese tallow, a native of eastern Asia, has been a popular landscaping choice because of its brilliant red fall color. Yet several native trees have similar beautiful autumn displays. This year consider one of the Florida native trees, such as winged sumac (Rhus copalluim), red maple (Acer rubrum) or blackgum (Nyssa sylvatica). We can add to our Florida urban forests without contributing to the state’s invasive species problems.

Even though the Chinese tallow has beautiful fall color, it should not be used in the landscape due to its invasiveness.

Photo Credits: James H. Miller, USDA Forest Service, Bugwood.org

Sheila Dunning
Commercial Horticulture Agent
Okaloosa County
sdunning@ufl.edu
Take Care Of Your Lawn During Winter

One thing that’s predictable about the weather in January is that it is unpredictable. Cycles of moderate temperatures, rain and cold fronts are common. Even though most of our lawns have gone dormant, some care is needed especially to prevent stress from the constantly changing weather.

Because most of our warm-season grasses have poor cold tolerance, it’s important to continue to take care of your grass during its dormancy. Injury to our warm-season turfgrass often occurs when temperatures drop below 20 degrees F. In general, major winter injury to turfgrass is caused by tissue desiccation, direct low-temperature kill, diseases or effects of too much traffic.

Unfortunately, it’s not until spring that we see the effects of low-temperature stress. One of the most important things to do during the dormancy period is to water correctly.

Leaves lying on top of the lawn will reduce light and impede air circulation that is necessary for healthy turf. Photo Credits: Theresa Friday, Santa Rosa County

Grass roots continue to live during our mild winters along the Gulf Coast and therefore should continue to receive water occasionally. From the time the grass growth significantly slows in the fall until the time it begins to grow in the spring, approximately mid-November until the end of February, be sure that the grass receives water when needed. In the absence of sufficient rainfall, irrigate every ten to fourteen days.

On the other hand, too much water during the winter can also be a problem. During cooler temperatures, grass root growth slows down. However, the roots of many moisture-loving weeds (such as dollarweed) are stimulated by excessive moisture. Many weeds continue to grow during the winter when generous amounts of water are applied. When the weather warms, the weeds will “explode” into rapid growth while the grass slowly comes out of its dormancy.

The fall tree color was spectacular this year. But, we had only a short time to enjoy the kaleidoscope of color before the leaves floated to the ground and covered our lawns. While leaves can become excellent mulch or compost, they should not be left intact on your lawn.

Leaves lying on top of the lawn will reduce light and impede air circulation that is necessary for healthy turf. Insect and disease damage can easily go unnoticed until the following spring.

A blanket of leaves covering the turf traps moisture between the soil and the leaves providing an ideal environment for the proliferation of pathogens, such as large patch. Therefore, leaves should be periodically raked from the lawn or at least mulched down into the thatch with a good mulching mower.

Theresa Friday
Horticulture Extension Agent
Santa Rosa County
tlfriday@ufl.edu

Microirrigation Goes Mainstream and Now Available For Homeowners

The sight of black plastic mulched rows of tomatoes cultivated for commercial production has become commonplace in North Florida and the surrounding farming region. Beyond what the eye can see, traveling at 60 mph and hidden under the plastic mulch, is a tube of plastic irrigation tape. Precisely sliced and spaced holes allow water to be emitted at a uniform rate, and in combination with mulch, produce significant water savings. Irrig-
ation tape is available with optional emitter distances and total volume of delivery. Similarly, microirrigation landscape applications and equipment have developed in the past decade to accommodate almost every bed size or shape and plant material imaginable.

Once only utilized by the farmer and landscape professional, these two types of microirrigation technologies are now available for do-it-yourself (DIY) uses at home for vegetable gardens and ornamental plants. Many local hardware stores and gardening centers now carry gardening or landscape microirrigation starter kits that include the necessary equipment and detailed instructions to help you complete your own home project. Installation is very simple and is easier than working with PVC plumbing. Little, if any, previous plumbing or irrigation installation experience is required. Also note, mulch materials are also important parts of a microirrigation system and are commonly constructed of plastic, straw, or wood chips.

Microirrigation of okra and tomatoes in a medium sized garden utilizing plastic mulch.
Photo Credits: L. Scott Jackson

In addition to water savings, micro-irrigated vegetables are often healthier compared to plants watered by a sprinkler system. Traditional irrigation can cause physical damage and increase disease incidence. Other plant growth advantages utilizing microirrigation may be realized in your home garden. Slow releases of water into the root area allow for efficient uptake of water and other necessary nutrients.

Microirrigation is great technology but not perfect. Installing a system does not cure all your landscape and gardening problems. Often small wildlife such as squirrels and rabbits are attracted to the water source and will gnaw holes in the irrigation tape or distribution lines. Additionally, small emitter openings may become clogged. Using an in-line filter, often included in starter kits, minimizes clogging. Finally, a back flow preventer valve is highly recommend and maybe required by local ordinance when connecting your microirrigation system to your home’s water supply. Again, this part is often provided in starter kits.

References:
“Drip Irrigation for Home Gardens” by C. Wilson, M.Bauer. Colorado State University
http://www.ext.colostate.edu/PUBS/garden/04702.pdf

“In addition to water savings, micro-irrigated vegetables are often healthier compared to plants watered by a sprinkler system. Traditional irrigation can cause physical damage and increase disease incidence. Other plant growth advantages utilizing microirrigation may be realized in your home garden. Slow releases of water into the root area allow for efficient uptake of water and other necessary nutrients.

“In addition to water savings, micro-irrigated vegetables are often healthier compared to plants watered by a sprinkler system. Traditional irrigation can cause physical damage and increase disease incidence. Other plant growth advantages utilizing microirrigation may be realized in your home garden. Slow releases of water into the root area allow for efficient uptake of water and other necessary nutrients.

“Principles of Micr-Irrigation” by Dorota Z. Haman and Forrest T. Izuno. University of Florida – IFAS
http://edis.ifas.ufl.edu/pdf/files/WI/WI00700.pdf

“Landscape Mulches: What Are the Choices in Florida?” by Mary Durea. University of Florida – IFAS
Landscape Color

Winter is not the most colorful time in the north Florida landscape. But, there are still ways to add a little color to the winter garden. One of the easiest is to overseed your lawn with ryegrass. The brighter green lawn brightens even the dreariest day. Here are some other plants that can bring color into your winter days.

Don’t forget using plants that have colorful berries as a way to add color to the winter landscape. Our native possumhaw (*Ilex decidua*) is particularly striking because the bright red berries really stand out on the plant after it drops its leaves for the winter.

Photo Credits: Benny Simpson, Texas A&M University

This is the season to enjoy camellias. There are lots of cultivars to choose from, most having some variation of red, pink, or white flowers. Visit your local garden center to select your favorite. The ideal planting site is lightly shaded, with some protection from the harsh afternoon summer sun. But, camellias will tolerate a fair amount of sun, so don’t give up if you don’t have shade. Just plant on the north or east side of the home to give the plant a little protection from the sun.

Photo Credits: David W. Marshall

Pyracantha is also noteworthy this time of year. The bright orange berries cover the plant, creating a nice show of color. When deciding where to plant pyracantha, don’t forget its other common name, firethorn. Don’t plant it close to areas where you’ll come into frequent contact with the long thorns.

Photo Credits: David W. Marshall
Many of the Oriental magnolias, such as *Magnolia x soulangiana*, bloom in late winter. Most of them are medium-sized deciduous trees and will need room to spread thirty feet or so. Some, like the ‘Little Girl’ series, such as ‘Ann’, ‘Betty’, and ‘Jane’ are a little smaller.

Photo Credits: David W. Marshall

The Taiwan or Formosan cherry, *Prunus campanulata*, brings spring to north Florida early. It usually starts blooming in late February, a reminder that spring is just around the corner. It is a relatively fast-growing small tree. Give it full sun for best flowering, but it will tolerate some shade.

Photo Credits: David W. Marshall

The red or pink-flowering forms of loropetalum start blooming in late February to March. Their popularity has increased so much in the last few years that their sales have probably surpassed those of azaleas. They flower earlier than the azaleas, and the flowers last longer. In addition, many of them have burgundy-colored foliage, at least on the new growth. They flower best, and stay more compact, if planted in full sun.

Photo Credits: David W. Marshall

David W. Marshall
Agriculture/Natural Resources
Program Leader
Leon County
marshald@leoncountyfl.gov

Velvet Ants

An insect with a common name of ‘cow killer’ sounds extremely deadly. This common name of the Mutillid wasp is used to describe the very painful sting. Although a sting would indeed be very uncomfortable, most are accidental because the wasp is not aggressive. Florida researchers looked at the toxicity of stings and found the velvet ant sting to be 600 times less toxic than a harvester ant. For reference, just six stings of the harvester ant can kill a 2 pound mammal.

Also called the velvet ant, this insect is not an ant at all. It is a solitary wasp that parasitizes other wasps and occasionally flies, beetles, caterpillars, and cockroaches. The female is covered in dense red and black hairs and is wingless. People often see the female wasp moving across the ground, especially in more sandy soil. The
male has wings and would blend in with other wasps found around flowers.

While the adult wasps feed on nectar and the larval grubs most often feed on the cocoons of other bees and wasps. If you see one in your landscape, be cautious but do not reach for any controls. Management is unnecessary.

Solitary wasps, such as the velvet ant, often help maintain balance in a garden.

Photo Credits: James Castner, University of Florida

Holiday Cactus Diseases

During the holiday season the holiday cactus, also known as Christmas cactus, popularity ranks right up there next to the poinsettia. Even though the name suggests it is a desert plant, it actually a native plant from the mountainous rain forests of Brazil. The plants grow on trees instead of soil. Being a tropical plant it requires water and bright, indirect light. If care is not taken, the plant can develop several diseases.

Diseases associated with holiday cactus are: *Fusarium oxysporum*, *Phytophthora parasitica* and *Pythium aphanidermatum*, *Bipolaris cactivora*, and *Erwinia carotovora*.

*Fusarium oxysporum* is a root or stem rot fungus. Infected parts produce reddish-orange sunken spots. Orange spores develop in the lesions and are spread easily by water or air. When the basal segment becomes infected, the stem falls over.

Brown discoloration due to *Fusarium oxysporum*

Photo Credits: www.ipm.ucdavis.edu

*Phytophthora parasitica* and *Pythium aphanidermatum* are fungi that produce root or stem rots. These diseases are characterized by dead stem lesions with faded reddish borders, grey-green discoloration of the stems, and segment abscission. *Bipolaris cactivora* is a fungus that

---

Beth R. Bolles
Horticulture Extension Agent
Escambia County
bbolles@ufl.edu

---

Holiday Cactus Diseases

During the holiday season the holiday cactus, also known as Christmas cactus, popularity ranks right up there next to the poinsettia. Even though the name suggests it is a desert plant, it actually a native plant from the mountainous rain forests of Brazil. The plants grow on trees instead of soil. Being a tropical plant it requires water and bright, indirect light. If care is not taken, the plant can develop several diseases.

Diseases associated with holiday cactus are: *Fusarium oxysporum*, *Phytophthora parasitica* and *Pythium aphanidermatum*, *Bipolaris cactivora*, and *Erwinia carotovora*.

*Fusarium oxysporum* is a root or stem rot fungus. Infected parts produce reddish-orange sunken spots. Orange spores develop in the lesions and are spread easily by water or air. When the basal segment becomes infected, the stem falls over.

Brown discoloration due to *Fusarium oxysporum*

Photo Credits: www.ipm.ucdavis.edu

*Phytophthora parasitica* and *Pythium aphanidermatum* are fungi that produce root or stem rots. These diseases are characterized by dead stem lesions with faded reddish borders, grey-green discoloration of the stems, and segment abscission. *Bipolaris cactivora* is a fungus that
causes stem rot. Symptoms include blackened, sunken lesions up to ½” in diameter. Black spores develop in the lesions.

*Erwinia carotovora* is a bacterium that causes soft rot in numerous cacti, including holiday cactus. The initial symptom is usually a blackened, wet, slimy lesion that develops on the basal segment and progresses upward in the shoot. Plants wilt, collapse, and usually die. Bacteria are spread by splashing water. Since this disease is caused by a bacterium, fungicides will not control the disease.

The key to disease prevention is not to over water your plant. Provide good drainage and keep the plant in bright indirect light. There are fungicides available for use on some of the diseases, but prevention is the best solution.


---

**Ken Rudisill**
Horticulture Extension Agent
Bay County
krru@ufl.edu

---

**Pruning Dooryard Fruit Trees**

Heading-back cuts which consists of cutting a terminal shoot back to a bud on 1 year old wood.

Photo Credits: J. Williamson; EDIS Publication HS82: Pruning and Training Deciduous Fruit Trees for the Dooryard.

Proper pruning and training of dooryard fruits are essential in order to construct a healthy tree that produces high quality fruit. The primary reason fruit trees are pruned is to increase production while decreasing the overall size of the tree so that it is a manageable size. Major benefits for pruning fruit trees include:

- Pruning helps in the establishment of newly planted trees.
- Pruning produces a desirable size and shape of the fruit tree.
- Pruning encourages a strong tree structure.
- Pruning improves the tree's vigor while encouraging new wood that is essential in fruiting.
- Pruning promotes flower bud development.
- Pruning enhances fruit development and tree productivity.
- Pruning increases size and quality of the fruit.
- Pruning helps make pest control and harvesting easier and more efficient.

Thining-out cuts which are the complete removal of limbs at their point of origin.

Photo Credits: J. Williamson

Cutting-back to lateral shoots, which consists of cutting terminals back to existing lateral shoots.
It is important for gardeners to understand the optimum time to prune dooryard fruit trees and what cuts should be made. All pruning of deciduous fruit trees should be done when the tree is dormant in mid to late winter when the threat of extreme cold weather has passed.

There are also three basic categories of cuts used to train and prune fruit trees.

1. **Heading-back cuts**: Heading-back cuts consist of cutting terminal branches back to a bud on the last year’s wood. This is the only type of cut that will stimulate growth of lateral shoots from several buds located at or below the cut. The cut should be made about 1/4” above a one year old bud where growth is desired. The purpose of this cut is to stiffen branches along with promoting new shoot growth in the area of the cut.

2. **Thinning-out cuts**: A thinning-out cut is complete removal of limbs or branches at their point of origin. This technique is used to reduce limb crowding and removal of weak and/or nonproductive branches. This is done primarily to reduce the overall size of the tree. When removing large branches always use the 3-cut method.

3. **Cutting-back cuts**: Cutting-back cuts are comprised of pruning terminal shoots back to existing lateral branches. This method is used to strengthen branches, to eliminate overcrowded and nonproductive shoots, and to reduce tree size while directing new growth and increasing tree vigor.

For more detailed information please visit http://edis.ifas.ufl.edu/mg345 or contact your local Extension office.

References:


---

**Weed-n-Feed Not Foolproof**

The weed and feed concept is very popular. Fertilizing a lawn and controlling weeds at the same time sounds like a winning combination. But be cautious, it’s not foolproof.

When the herbicide (weed killer) in a weed and feed product is a preemergent, the product must be applied prior to weed emergence. Applying a preemergence herbicide, after weed emergence (when weed seedlings are visible), will have little or no effect. In general, a preemergence herbicide should be applied February 15 to March 1 in North Florida (when day temperatures reach 65° to 70°F for four or five consecutive days). This will be about the time that azaleas and dogwoods first begin to bloom.

Many common weed and feed products contain fairly high amounts of nitrogen fertilizer. Nitrogen stimulates top growth in lawns. Applying a high nitrogen fertilizer too early, increases the likelihood of frost/freeze injury to the tender new growth induced by the early nitrogen application.

If the weed and feed is applied mid February to early March (as a preemergence), it’s too early for the fertilizer. If it is applied mid March through April (as a fertilizer), it’s too late for the preemergence.

Additional concerns with the weed and feed approach:
Stunted lawn roots with clubbed tips from high rate of (prodiamine) preemergence herbicide

Photo Credits: Larry Williams

- Does not lend itself to spot treatment of small weed infested areas in a lawn because fertilizer is typically applied throughout the lawn.

- Does lend itself to blanket application of the herbicide, even where weeds aren’t a problem. Again, because the herbicide is mixed with the fertilizer.

- Herbicide can easily end up on paved surfaces and ultimately in waterways.

- Many weed and feed products contain too much nitrogen and too little potassium.

- Herbicide in many weed and feed products can injure nearby trees and shrubs.

- Overuse of some preemergence herbicides can result in stunted lawn roots.

- Preemergence herbicides can interfere with lawngass seed germination.

- Some preemergence herbicides can severely injure newly sprigged lawns.

Give these considerations some thought and you may decide to do your weed control and fertilization separately. It is the user’s responsibility to read and follow all label directions and precautions when applying any pesticide, including herbicides.

Larry L. Williams
Horticulture Extension Agent
Okaloosa County
lwilliams@co.okaloosa.fl.us

Pruning Time for Roses

In north Florida you can prune your roses during the months of December or January. Pruning develops plant energy, which will provide new growth and blooms. Rose pruning consists of removing twigs and branches that may be dead, diseased, or injured, along with some healthy top growth. Pruning the main canes, lateral branches, small twigs and some of the oldest canes improves the plant’s form and regulates its height. This pruning will help in producing better light conditions within the plant, along with preventing diseases and fungi development. Leaving at least half the length of each main cane that is one to three years old is recommended. The first set of flowers can be expected eight to nine weeks after pruning is completed, so be sure not to prune your roses any earlier than December. To avoid branch dieback and encourage rapid healing, pruning cuts should be made ¼” above a dormant bud. When removing an entire branch make a smooth cut at the point of juncture or ground level. Remember, pruning will promote new growth and blooms, so prune eight to nine weeks before you want the first blooms and enjoy the beautiful color of your rose garden.

For more information on pruning roses, check out this website http://edis.ifas.ufl.edu/document_ep339
Pruning Knockout Roses

Photo Credits: Eddie Powell

Mark Your Calendars: Upcoming Events

Escambia County

January 15: Arbor Day Tree Giveaway sponsored by Escambia County Neighborhood and Environmental Services Department, 1-3 pm at Jones Swamp. Contact Carrie Stevenson at ctsteven@ufl.edu or 850-475-5230 for more information.

February 10: Planning for the Future: Escambia County’s Urban Trees and Landscape, to be held 9-11 am at the Pensacola Civic Center. Featured speakers include Francisco Escobedo, an Assistant Professor and Extension Specialist at the University of Florida, School of Forest Resources and Conservation, and Beau Brobeck, an Alabama Extension as a Regional Extension Agent in forestry, wildlife & natural resources in south-western Alabama. Contact Carrie Stevenson at ctsteven@ufl.edu or 850-475-5230 for more information.

February 19: Bay Area Resource Council Stormwater Workshop, to be held at Pensacola City Hall Hagler-Mason Conference Room. Contact Mary Gutierrez at 850-332-7976 x 226 for more information.

Okaloosa County

February 27: ECO-Nomic Living Expo - Ft Walton Beach Fair Grounds. Contact the Okaloosa County Extension Office at 850-689-5850 for more information.

Walton County

January 16: Master Gardener Tree Sale at DeFuniak Springs Fairgrounds, 9 am-Noon. Contact Eddie Powell at pep5@ufl.edu or 850-892-8172.

Washington County

January 23: Muscadine Pruning Workshop in Chipley at Washington County Extension Office. Contact Collin Adcock at collinwa@ufl.edu or 850-638-6180 for more information.

Jackson County

January 28: Watermelon & Cucurbit Meeting, Washington County Extension Ag Center, 1424 Jackson Street, Chipley, FL; 3:30 - 8:30 PM. Call 850-638-6180 or 850-482-9620 for more information.

Leon County

February 8: Grapevine Pruning Workshop, FAMU Viticulture Center, Tallahassee, FL at 10 am (Eastern). For more information contact Alex Bolques at abol@ufl.edu or 850-875-7255.
Northwest District Extension Offices

<table>
<thead>
<tr>
<th>County</th>
<th>Address</th>
<th>City, State Zip</th>
<th>Phone</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay County</td>
<td>647 Jenks Avenue, Suite A</td>
<td>Panama City, FL 32401-2660</td>
<td>(850) 784-6105</td>
<td><a href="http://bay.ifas.ufl.edu">http://bay.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Calhoun County</td>
<td>20816 Central Avenue East, Suite 1</td>
<td>Blountstown, FL 32424-2276</td>
<td>(850) 674-8323</td>
<td><a href="http://calhoun.ifas.ufl.edu/">http://calhoun.ifas.ufl.edu/</a></td>
</tr>
<tr>
<td>Escambia County</td>
<td>3740 Stefani Road</td>
<td>Cantonment, FL 32533-7792</td>
<td>(850) 475-5230</td>
<td><a href="http://escambia.ifas.ufl.edu">http://escambia.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Franklin County</td>
<td>66 Fourth Street</td>
<td>Quincy, FL 32351-1905</td>
<td>(850) 875-9337</td>
<td><a href="http://franklin.ifas.ufl.edu">http://franklin.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Gadsden County</td>
<td>2140 West Jefferson Street</td>
<td>Quincy, FL 32351-1905</td>
<td>(850) 875-7255</td>
<td><a href="http://gadsden.ifas.ufl.edu">http://gadsden.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Gulf County</td>
<td>200 North 2nd Street</td>
<td>Wewahitchka, FL 32465-0250</td>
<td>(850) 639-3200</td>
<td><a href="http://gulf.ifas.ufl.edu">http://gulf.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Holmes County</td>
<td>201 N Oklahoma Street</td>
<td>Bonifay, FL 32425-2295</td>
<td>(850) 547-1108</td>
<td><a href="http://holmes.ifas.ufl.edu">http://holmes.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Jackson County</td>
<td>2741 Pennsylvania Avenue, Suite 3</td>
<td>Marianna, FL 32448-4022</td>
<td>(850) 482-9620</td>
<td><a href="http://jackson.ifas.ufl.edu">http://jackson.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Leon County</td>
<td>615 Paul Russell Road</td>
<td>Tallahassee, FL 32301-7060</td>
<td>(850) 606-5200</td>
<td><a href="http://leon.ifas.ufl.edu">http://leon.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Liberty County</td>
<td>10405 NW Theo Jacobs Way</td>
<td>Bristol, FL 32321-0368</td>
<td>(850) 643-2229</td>
<td><a href="http://liberty.ifas.ufl.edu">http://liberty.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Liberty County</td>
<td>6263 Dogwood Drive</td>
<td>Milton, FL 32570-3500</td>
<td>(850) 623-3868</td>
<td><a href="http://santarosa.ifas.ufl.edu">http://santarosa.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Okaloosa County</td>
<td>5479 Old Bethel Road</td>
<td>Crestview, FL 32536-5512</td>
<td>(850) 659-5850</td>
<td><a href="http://okaloosa.ifas.ufl.edu">http://okaloosa.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Wakulla County</td>
<td>84 Cedar Avenue</td>
<td>Crawfordville, FL 32327-2063</td>
<td>(850) 926-3931</td>
<td><a href="http://wakulla.ifas.ufl.edu">http://wakulla.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Walton County</td>
<td>732 N 9 Street Ste B</td>
<td>DeFuniak Springs, FL 32433-3804</td>
<td>(850) 892-8172</td>
<td><a href="http://walton.ifas.ufl.edu">http://walton.ifas.ufl.edu</a></td>
</tr>
<tr>
<td>Washington County</td>
<td>1424 Jackson Avenue Ste A</td>
<td>Chipley, FL 32428-1602</td>
<td>(850) 638-6180</td>
<td><a href="http://washington.ifas.ufl.edu">http://washington.ifas.ufl.edu</a></td>
</tr>
</tbody>
</table>

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information, and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions, or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A&MUniversity Cooperative Extension Program, and Boards of County Commissioners Cooperating.