Living in Florida, we have to share our space with a very large reptile, the American alligator (*Alligator mississippiensis*). Because of Florida's booming population growth, people and alligators are constantly forced to cross paths, increasing the chances of conflict. Knowing where alligators live, how they behave and what you can do to avoid conflict with alligators is key to sharing space safely.

**What is the natural history of alligators?**

The American alligator has survived the test of time. The family Alligatoridae first appeared about 35 million years ago. Today there are only two species of alligator in the world, the American alligator (*Alligator mississippiensis*) and the Chinese alligator (*Alligator sinensis*). The name “alligator” is widely believed to have come from the Spanish name “el lagarto”. This eventually changed into “aligarto” and then “alligator” by English settlers.

In addition to the American alligator, the spectacled caiman (*Caiman crocodilus*) and the American crocodile (*Crocodylus acutus*) also occur in Florida. The family Alligatoridae includes five species of caimans, which are native to Central and South America. Spectacled caimans, which are smaller than the American alligator, have become established in some parts of south Florida, presumably from people releasing pets into the wild. American crocodiles belong to the family Crocodyliidae and are native to Florida. Whereas alligators prefer freshwater, crocodiles occur almost exclusively in the marine and brackish coastal waters of extreme southern Florida. Crocodiles, which are an endangered species, are much less abundant and tend to be more secretive than alligators. Consequently, conflicts are much more likely to occur between humans and alligators. Historically, alligators ranged from southern Virginia to the Florida Keys, west to the Rio Grande and up to southern Oklahoma. Today, the American alligator can be found throughout the southeastern United States from the Carolinas to Texas and north to Arkansas. Large populations are found in Florida, southern Georgia, and Louisiana.

Alligators may occur anywhere there is water—lakes, ponds, rivers, marshes, swamps, and even man-made canals. Although almost exclusively a fresh-water species, they have been found in brackish water and marine salt waters. Alligators play important ecological roles both as top-level predators and because they often dig or wallow to create "gator
holes” that hold water during dry periods. Sometimes gator holes are important features in the Everglades because they are often the only places water is found during the dry season and provide critical habitat for fish and other wildlife. They also ensure the alligator will have a continued supply of food. Gator holes are so important that ecologists consider the alligator a “keystone species” because its actions provide habitat for many other species. In addition to gator holes, alligators sometimes dig dens in stream banks. Alligators may occupy dens year-round, but they are particularly important in winter and protect the alligator from the cold.

**What do alligators eat?**

Alligators primarily hunt at dusk or during the night. They lay motionless in wait for prey. Their prey selection seems to be determined primarily by size. An alligator’s diet depends on what is available to it, which means it will eat just about anything including fish, frogs, birds, turtles, insects, snakes, small mammals, other alligators, white-tailed deer, wild hogs, and sometimes people’s pets. Once the prey is caught, it is typically swallowed whole. Alligators have tremendously powerful jaws that can crush turtle shells and the bones of small mammals. A flap in their throat allows alligators to capture prey underwater without water entering their breathing passages.

When prey animals are too large to be swallowed whole (deer, wild hogs), the alligator will stash its kill underwater, pinning it under a submerged log or anywhere it can be wedged in for safe keeping. The alligator must then wait until the prey animal’s hide is rotted and soft enough for the alligator to tear off chunks. Alligator teeth are designed for crushing and for a strong grip on prey. They are not sharp teeth like a bobcat or a wolf have for tearing meat.

**How does an alligator move?**

Alligators and all crocodilians have extensive modifications of the shoulder, pelvis and spine that enable them both to swim and walk on land. In the water, alligators propel themselves through the water by moving their muscular tail from side to side (lateral undulations). Partially webbed feet also help push the alligator along through the water. Although crocodiles have been clocked swimming at 10 mph, there...
is no definitive answer for how fast an alligator can swim. When alligators walk on land, they can move very quickly and are capable of running at speeds of 7.5 to 9 mph for short distances. The speed at which alligators can move makes them potentially dangerous in water and on land.

**How do alligators reproduce?**

Mating season for alligators occurs from mid-April through May. To attract females, males display by head-slapping the water and producing a deep rumbling bellow. Once a male-female pair is formed, they will swim together, touch each other’s snouts, and blow bubbles. Mating takes place in the water and when completed, the male disperses and the female is left to search for a place to build her nest.

Female alligators construct nests by mounding up vegetation, sticks, leaves, and mud in a sheltered spot in or near water. Females use their whole bodies during nest construction—body and tail to clear an area, jaws to gather and drag vegetation, and hind legs to dig the hole in the mound for the eggs. After completing the nest, the female will deposit all of her eggs (ranging between 20 and 50) at once and cover them up with more vegetation for incubation. She may move vegetation around to keep the eggs at a fairly constant temperature. Females stay near the nest during incubation and actively defend it from predators like raccoons. Females may also be aggressive toward humans, often hissing and charging at intruders, so alligator nests should never be approached.

Alligator eggs incubate for about 65 days. During this time, the alligator embryos develop and the sex is determined by the temperature at which the eggs were incubated (temperature-dependent sex determination). A temperature of 86°F or below produces females and a temperature of 91.4°F or higher produces males. In between those temperatures, at 89.6°F there is...
about a 50-50% chance of getting males or females.

Once incubation is complete and the hatchlings are ready to emerge from their eggs, they emit a “yerping” sound. A few hatchlings yerping stimulates the other hatchlings in the clutch to yerp. This signals the female that the eggs are about to hatch and she carefully opens the nest. The hatchlings tear through their leathery egg with an egg tooth on the tip of their snout, which falls off after a few days. The mother alligator can also help the hatchlings emerge by rolling eggs between her tongue and palate. This helps to assure that all the eggs hatch at the same time.

**How can I stay safe around alligators?**

Alligators and Floridians usually have a peaceful coexistence, but there are recorded attacks and occasional fatalities. The key to staying safe is being alert to the possibility of alligators being present. Never feed gators or swim or wade in waters where large alligators are known or likely to occur, especially at dusk or night (when they naturally feed). It is illegal to feed alligators. When humans feed alligators, it causes the alligators to lose their natural fear of humans and to associate humans with food. It doesn’t matter if people feed them human-
food like marshmallows or throw them fish guts when cleaning fish, it's all bad. It changes the alligator's behavior.

Normally, alligators avoid humans, but alligators that have been fed by humans will move toward humans and can become aggressive. Alligators that have been fed by humans are dangerous and should be reported to the Florida Fish and Wildlife Conservation Commission.

It's very important to keep children and pets away from the water's edge wherever alligators are likely to be present. Do not allow dogs to swim or explore waters that are known to have alligators because dogs look like prey to alligators. There are far more alligator attacks on dogs than on humans. An alligator's prey selection seems based mostly on size of the potential prey animal, not so much on a keen recognition of specific animals as prey or non-prey.

**What are some laws protecting alligators?**

The U.S. Fish and Wildlife Service (USFWS) lists alligators as a species threatened due to similarity of appearance, which specifically refers to the similarity between alligators and the endangered American crocodile. In Florida, alligators are considered a Species of Special Concern but can be harvested legally under proper licenses and permits issued by the Florida Fish and Wildlife Conservation Commission. It is illegal to feed or harass alligators in Florida.

**What do I do if there is a nuisance alligator in my neighborhood?**

The best thing you can do is to contact your local or regional Fish and Wildlife Conservation Commission (FWC) office or call 1-866-FWC-GATOR. If the alligator is deemed to be a threat to the public, a licensed trapper will be sent to remove it.

**What are some common misconceptions about alligators?**

**Myth #1. You should run zigzag if you come across an alligator.**

This is a common misconception. First, it is rare for an alligator to pursue a human because humans are too large to be suitable prey. However, if an alligator does make an aggressive charge, run fast and straight (away from the alligator, of course). They usually do not run very far. But remember they are most likely to charge at you if you are near their nest.

**Myth #2. Alligators have poor eyesight.**

Alligators actually have very good eyesight, which is an important adaptation for hunting. They are especially adapted to see and sense movement of potential prey animals. The position of their eyes on their head (almost on the side) gives them a wide sight range. The only place they cannot see is right behind them.

**Myth #3. Alligators are not good climbers.**

Alligators have sharp claws and powerful tails to help them push their bodies up. Young alligators are agile climbers and adults have been known to climb fences to get to water or escape captivity. Low fences, therefore, may not be sufficient protection for pets in areas where alligators are present. Fences should be more than 4.5 feet tall if you are attempting to keep alligators out of your yard.

**Myth #4. Alligators make good pets.**

This is entirely untrue. Alligators make terrible pets. Although baby alligators may seem like a cool pet, it is illegal to possess or take an alligator without the proper licenses and permits from the Florida Fish and Wildlife Conservation Commission. Alligators are purely instinctual hunters and do not show affection. Unlike cats and dogs, alligators will never love the hand that feeds them.
Program Announcements

Landscape Matters 10AM-11AM

Turfgrass
Wednesday March 12
Master Gardener Nelson Peterson

Container Gardening
Wednesday April 2
Master Gardener Carol Ann Atwood

Landscape Matters Special Event

Rainbarrels
Saturday March 8 10AM-12PM
Master Gardener Paul Gosnell
Class limited to 15 people
Register by March 3 5PM
Cost of $40 includes barrel and hardware

Landscape Matters Special Event

Pruning Your Landscape
Tuesday March 11 10AM-11AM
Rebecca Jordi

Plant Clinics 10AM-2PM

Monday March 3
Monday March 17
Monday April 7
Monday April 21

Bring us your tired, diseased, insect infested plants yearning to be free of problems. When possible place your plant in a plastic bag to prevent chances of spreading issues to other plants. You will receive current researched based information on proper plant care, disease management and insect control. These sessions are free to the public. No registration required. Come anytime between 10AM - 2PM for expert advice.
Invasive Exotic Plants Know No Boundaries

One of the greatest threats to our state is invasive exotic plants. These plants are popular in yards but easily spread and take over natural areas. The City of Fernandina Beach and the University of Florida/IFAS Extension want to partner with you to put a stop to the invasion.

Join us Saturday, March 8th
Fernandina Beach Rec Center and Greenway
2500 Atlantic Ave

9AM to 11AM Guided Nature Hike 11:00-11:30
Registration is FREE

Learn how to identify and remove invasive plants that may be in your yard, receive a native plant and invasive plant ID cards!

Breakfast will be provided.

Call the UF/IFAS Nassau County Extension Service to register at
904-879-1019
On Friday the 13th, Fernandina Beach residents hit the classroom and the trails to learn about one of Florida’s worst environmental threats.

Invasive exotic plants are plants that have been introduced to Florida from other places, oftentimes Asia. These plants have the ability to outcompete native plants and change Florida’s habitats. Not only do invasive exotic plants cost the state millions of dollars each year, threatened and endangered wildlife species are losing habitat because of these invasions.

Unfortunately, invasive exotic plants are moved and introduced to natural areas in many different ways. Wind, wildlife, and transportation all contribute to their spread. And because some of these plants are readily available at home improvement stores, many invasive exotic plants are planted in private yards without the homeowners being aware. One good storm or one pile of yard waste dumped over the fence later, and invasive exotic plants can begin their spread into Florida’s parks and forests.

This is what Nassau County residents, the UF/IFAS Nassau County Extension Service, the Florida Park Service, and the City of Fernandina are trying to prevent through the invasive exotic plant education program appropriately called “Yards to Parks.”

During the “Yards to Parks” programs, participants learn about the impacts invasive exotic plants are having on our state, how to identify some of the worst invasive plants in the county, and what are some beautiful native plant alternatives. Participants also learn how to remove invasive plants such as by hand and through the safe and lawful use of herbicides.

The “Yards to Parks” program was followed up by a beautiful hike down one of Fort Clinch’s pristine nature trails that demonstrate the real Florida.

The “Yards to Parks” program will be offered again on March 8 at the Atlantic Recreation Center in Fernandina Beach at 2500 Atlantic Ave from 9AM –11AM. An invasive plant pull event will follow the program beginning at noon. Registration will be $5 and will include refreshments, a native plant, invasive exotic plant identification cards, and a yard sign.

Call the UF/IFAS Nassau County Extension Service at 904-879-1019 to register by March 6th, or e-mail Amanda Burnett at mandab@ufl.edu.
Different lawn grasses require different levels of maintenance. You should realistically assess how much time, money, and work you can put into maintaining your lawn before you establish it. During times of drought or water shortages, selecting the right turfgrass for your site becomes even more critical.

“Drought tolerance” refers to how well a turfgrass can survive extended dry periods. Drought tolerance is a quality you want to look for when establishing a lawn during a multi-year drought like the one Florida is currently facing. Other characteristics of your lawn site are also important, like how much shade the site gets, what its soil type and pH are, how its drainage functions, and what the climate of your area is like.

Consider, too, what you plan to use the lawn for. Is it primarily for aesthetic purposes, or will it receive heavy traffic from usage? Take all of these things into consideration when choosing a turfgrass. Visit Your Florida Lawn for more help with selection.

**Drought-tolerant Grasses**

The three most-used grasses for home lawns in Florida are St. Augustinegrass, bahiagrass, and centipedegrass. St. Augustinegrass, the most popular lawn grass in Florida, does not perform well during extended dry periods. Bahiagrass and centipedegrass, however, both have good drought tolerance, but centipedegrass is adapted to North Florida only. These low-maintenance lawn grasses require less water and fertilizer than other species, and thus less mowing and pest control. A low-maintenance lawn will generally look better during extended dry spells because it relies on less water and fertilizer in general, both of which are reduced during drought.

**Irrigation**

Deep-rooted bahiagrass and centipedegrass grow best in acidic, sandy soils that do not retain water. These grasses survive dry spells better and resist other kinds of stresses, such as traffic. The deep roots of these grasses make them good choices for establishing a lawn during an extended drought.

In most parts of Florida, irrigate by applying 1/2–3/4 inches of water at any given time. In very sandy soil, you may need to apply the 3/4-inch rate. In North Florida and the panhandle, where soils are heavier and have more clay, you may only need to use the 1/2-inch rate. In southeast Florida and the Keys, where the soil is shallow, you may only need to irrigate 1/4 inch to saturate it.

More lawns are damaged by over-watering than by any other cultural practice, so watering restrictions may not actually be as devastating as they seem. Water only when your lawn shows one of the three signs of wilt (lengthwise-folded blades, blue-gray color, or footprints remaining in grass).

**Fertilization and Mowing**

Bahiagrass and centipedegrass only need to be fertilized one or two times a year. For the correct fertilizer rates to use, read “Figuring Out Fertilizer for the Home Lawn.” Both grasses should be mowed as needed, maintaining the highest recommended height for their respective species. For bahiagrass this is 3.5–4 inches and 1–2 inches for centipedegrass. Be aware that bahiagrass does tend to form tall seedheads during the growing season, which may be unsightly on a home lawn.

**Pest Problems**

All grasses have some pest problems, but bahiagrass and centipedegrass are generally less affected than other species. Sometimes pests can be managed by cultural practices such as fertilization, irrigation, and mowing. Other times, chemical controls may be required. Mole crickets are the major insect problem for bahiagrass, while ground pearls are the most prevalent insect pest of centipedegrass.

Bahiagrass is well adapted for drouthly lawns. Photo: Dan Culbert, UF/IFAS
Bertie and Marshall Tanner have some of the most prolific and beautiful Citrus trees that you can imagine. Satsuma is one of their varieties of oranges. Also the Blood Orange... If you cut into the Blood Orange the inside is quite red. The Kumquat is also doing well. They have lived in Callahan for 30 years and have enjoyed growing many fruits and plants. In their yard there are also Scuppernong and Concord grapes, and Pear and Fig trees. The Pine Cone Ginger that Marshall is holding can be used as a hair shampoo.
To be considered for Spotlight on Nassau Gardens, send a digital photo, with a description of your garden, along with your name, address and phone number to ncmg@nassaucountyfl.com. For more information contact Rebecca Jordi at 491-7340 or 879-1019.
Cold Damage on Palms

by Timothy K. Broschat, professor, Environmental Horticulture Department, Ft. Lauderdale Research and Education Center, UF/IFAS Extension

Because palms can give any landscape a more tropical look, it is understandable that people would attempt to grow them in climates that are decidedly less than tropical. While palms may survive, or even thrive, for years in climates cooler than those to which they are native, eventually they will experience temperatures cold enough to cause injury. This publication describes how cold temperatures affect palms and how to treat them following a cold weather event.

Types of Cold Damage

There are essentially three types of cold weather events that can injure palms.

1. **Chilling injury** occurs in tropical species at temperatures above freezing and occasionally as high as 50°F. However, the absolute temperature at which chilling injury occurs is less useful as a predictor of damage than the degree of cold acclimation a particular palm has experienced. For instance, a tropical palm acclimated to night temperatures of 70°F, but suddenly subjected to a single night of 45°F, may experience some foliar necrosis (dead tissue) as a result. However, if that same palm had experienced gradually decreasing temperatures over a period of weeks, it may not show any cold injury symptoms until exposed to temperatures in the low to middle 30s°F.

Chilling injury symptoms include leaflet discoloration and/or death of tissue, which occurs within days of the cool or cold weather. Since newly expanded leaves are usually more cold hardy than mature leaves, the youngest leaves may be unaffected or show only mild symptoms. In coconut palms, younger leaves may show reddish blotches on the top while mature leaves may show extensive tissue death from the base of each leaf to its tip. While potassium deficiency, which is almost ubiquitous in palms in Florida (see Potassium Deficiency in Palms, [http://edis.ifas.ufl.edu/ep269](http://edis.ifas.ufl.edu/ep269)), also causes leaflet tissue to die, this is most severe on the oldest leaves toward the leaf tips. Thus, the sudden appearance of extensive leaflet necrosis on mid- and lower-canopy leaves caused by cold temperatures can be fairly easily distinguished from the leaf tip necrosis on the oldest leaves caused by potassium deficiency.

Coconut palms subjected to prolonged temperatures in the low to middle 30s°F or below often have soft, sunken, reddish areas
on the trunk. These cold-damaged trunk areas are often invaded by secondary fungi and/or bacteria that cause trunk rot.

2. Frost damage is similar to chilling injury in its symptoms, but occurs on clear, calm nights when heat loss of the leaf surface can cause leaf temperatures to drop to 32°F or less, while air temperatures may be several degrees warmer. The lack of air movement and protection of some parts of the crown from radiational heat loss mean that frost damage is often spotty in distribution, both among trees within a landscape and among leaves within a single palm crown.

3. The third type of cold weather damage is caused by a hard freeze, during which air and plant surface temperatures drop below 32°F due to the presence of winds that cause uniform cooling of all plants and plant parts within the landscape. Although all parts of the palm canopy could theoretically reach the same temperature in an hard freeze, not all parts of the palm will be affected to the same degree.

Larcher and Winter (1981) have shown that flowers and fruits are the most cold sensitive parts of a palm, while the petioles and bud are the most cold hardy. The spear leaf tip and youngest, partially expanded leaves are also harder than more mature leaves, but the base of the spear leaf is one of the least cold-hardy tissues in a palm. Thus, one of the most common problems associated with advective freezes is that the freeze-killed lower portion of the spear leaf is degraded by secondary fungi and bacteria that were naturally present prior to the freeze. Several weeks after the freeze, the spear leaf can often be pulled out of the palm with little effort, and its base will be mushy and have an offensive odor. The purpose of bud drenches with copper fungicides (discussed below) is to prevent these secondary tissue-rotting microbes from reaching, and eventually killing, the bud, which is located just below the spear leaf base. Whether bud rotting is actually caused by these secondary microbes invading a healthy bud is not known. Bud death in severe freezes may be caused by the cold temperatures themselves.

Factors affecting palm cold hardiness

It is well known that palm species differ greatly in their cold hardiness. For any palm, planting them in areas protected by buildings or tree canopies can increase their chances of survival during cold weather. Recent studies have also
demonstrated that proper fertilization can improve cold hardiness of palms. Broschat (2010) found that tissue death caused by chilling temperatures in coconut palms was significantly less in palms fertilized routinely with an 8N-2P2O5-12K2O-4Mg plus micronutrients palm fertilizer than in unfertilized palms. See Fertilization of Field-grown and Landscape Palms in Florida (http://edis.ifas.ufl.edu/ep261) for more information about palm fertilization. Although not documented experimentally, there is anecdotal evidence that overtrimming can also reduce palm survival rates following cold weather events.

Treatment of cold-damaged palms

Since foliar tissue death is one of the first and most conspicuous symptoms associated with cold damage, palm owners are often anxious to trim off these dead or mostly dead leaves following a cold weather event. Avoid the temptation to remove these leaves until the danger of additional cold weather has passed. Even dead leaves provide some insulative value to the palm meristem.

If the cold weather was sufficient to kill the spear leaf base and the spear leaf can easily be pulled out, it may be helpful to remove the spear leaf to allow for air movement and drying of the tissue. Drenching the bud area with a copper fungicide (not a copper nutrient spray or drench) to reduce the chances of secondary microbes killing the bud may also be helpful. Whether or not such practices actually improve palm survival has never been scientifically tested. If the spear leaf does not pull out easily, it is likely that the spear leaf base has survived, and since the bud is much hardier than the spear leaf base, it, too, should be alive. Fungicide treatment of such palms is probably unnecessary.

If applying a copper fungicide, follow the label. The label is the law. Avoid the use of water-soluble compounds such as copper sulfate unless they have been neutralized according to the label. Water-soluble copper compounds are phytotoxic when applied to palm foliage. Copper fungicides are recommended over other fungicides because they are active against both bacteria and fungi. The purpose of using these fungicides on cold-damaged palms is not to control a specific disease, but to inhibit fungal and bacterial degradation of damaged plant tissue.

Once warm weather returns and growth resumes, newly emerging leaves often have truncated leaf tips or even dead leaflets in the
middle of a leaf. If the stem itself has been severely damaged on this leaf, the otherwise healthy leaf tip may fall off. This type of damage occurred on the primordial leaves prior to their emergence and expansion. Subsequent leaves are usually normal in appearance.

Sometimes new leaves show symptoms of micronutrient deficiencies, such as manganese deficiency. (see Manganese Deficiency in Palms, [http://edis.ifas.ufl.edu/ep267](http://edis.ifas.ufl.edu/ep267)) or boron deficiency (see Boron Deficiency in Palms, [http://edis.ifas.ufl.edu/ep264](http://edis.ifas.ufl.edu/ep264)). These deficiencies are likely the result of cool soil temperatures that occurred about four months prior to the emergence of the affected leaves and slowed the rate of nutrient absorption by the roots. As soil temperatures warm up, these deficiencies typically are resolved without supplemental fertilization. Some people have advocated foliar sprays with micronutrient fertilizer blends following cold weather events to help correct these problems. However, since most of the foliage will be dead following a cold temperature event, the uptake of nutrients through the leaves is minimal at best. **Routine applications of a complete landscape palm fertilizer** ([see Fertilization of Field-grown and Landscape Palms in Florida, [http://edis.ifas.ufl.edu/ep261](http://edis.ifas.ufl.edu/ep261)]), for specific

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**More information:**

**Palms for North Florida**
[http://edis.ifas.ufl.edu/ep359](http://edis.ifas.ufl.edu/ep359)

**Chapters of the International Palm Society nearby:**

- **Florida First Coast**
  [http://www.palms.org/chapters/florida_first_coastChapter.cfm](http://www.palms.org/chapters/florida_first_coastChapter.cfm)

- **Southeastern US**
  [http://www.palms.org/chapters/southeastern_us.cfm](http://www.palms.org/chapters/southeastern_us.cfm)

- **Gulf of Mexico**
Hello everybody! Welcome back to Harvest Gold! Spring will soon be upon us. As we enter the month of March, I would imagine most of us are getting ready to prepare and plant our spring gardens. During the months of March and April, a number of notable days are celebrated, among them Mardi Gras, St. Patrick’s Day, and Easter Sunday.

I asked a long-time friend, Captain Bumpy Rhodes, who is Cajun, grew up in Louisiana, and currently captains a tugboat on the Mississippi River, to share with us a little of his knowledge and experiences of Mardi Gras.

According to Bumpy, Mardi Gras began as a Christian festival. In New Orleans, the Mardi Gras season begins on the Feast of the Epiphany (January 6th), and always ends at midnight on Fat Tuesday, 47 days before Easter Sunday. The term “Mardi Gras” itself means “Fat Tuesday” in French, and refers to the last day of celebration, eating rich foods, and merriment before the Lenten fast begins the next day on Ash Wednesday. (This year, Fat Tuesday falls on March 4th.)

Mardi Gras, as it is celebrated in New Orleans, came to America from France by way of Mobile (in present-day Alabama). In 1699, Jean-Baptiste Le Moyne Sieur de Bienville, who was sent to Louisiana by King Louis XIV to defend the French claim to the area, landed on the west bank of the Mississippi River about 60 miles downriver from where New Orleans is today. Since he landed on Fat Tuesday, he named the spot Point du Mardi Gras. In 1702, Bienville established the settlement of Mobile as the first capital of French Louisiana. In 1703, the first organized Mardi Gras celebration in what is now the United States was held in Mobile. By 1720, French colonists founded Biloxi (in present-day Mississippi), moved the capital of Louisiana there, and brought their Mardi Gras customs with them. In 1723, the capital of Louisiana was moved to New Orleans, and in New Orleans, the celebration of Mardi Gras took off, evolving over the years into what it is today.

“Everything you’ve ever heard about Mardi Gras is true; a giant celebration of food, fun, and partying,” Bumpy went on. The Mardi Gras season in New Orleans is marked by parades, balls, parties, dressing up in costumes, and similar revelry. The parades are held daily during the weeks before Fat Tuesday itself in New Orleans, and are one of the biggest draws of the Mardi Gras celebration. The organizers of the parades are known as krewes, and these krewes work year round building, repairing, and decorating floats for the Mardi Gras parades. “These floats are quite exotic, and thousands of dollars are spent decorating them by the krewe members,” Bumpy said. Those on
the floats often throw beads colored in the official Mardi Gras colors of gold, purple, and green into the crowds. "These beads are coveted Mardi Gras mementos for the many people who attend the parades....The beads used to be glass, but are pretty much all plastic today," Bumpy added.

Bumpy went on to say, "No Mardi Gras celebration would be complete without food, and authentic Cajun cooking is the best in the world....Most Cajun dishes were influenced by a mix of Creole, Indian, African, and French Acadian ways of cooking, and they pretty much put whatever was available in the pot (especially in the jambalaya)." Cajun cooking is spicy and flavorful, and most dishes are based on the Holy Trinity vegetables of bell pepper, onion, and celery (all of which can be grown here in Nassau County). Bumpy left me with a couple of traditional Cajun recipes he and his family enjoys, and asked me to share them with you. These recipes will be found at the end of the column.

In closing, Bumpy said, "Contrary to popular belief, one doesn't have to get drunk to enjoy Mardi Gras. Now they have many family friendly events, music, parades, and balls to enjoy. In Mandeville there is even a parade by boat in the Tchefuncte River across the 22 mile bridge over Lake Pontchartrain from New Orleans. The police downtown and on Bourbon Street patrol on horseback (the only way to move through the crowds), and they exercise massive amounts of restraint with the revelers. If you have never been, I highly recommend it. But search in advance for a place to stay." And to that, I will add the words of Mark Twain, who said, "I think that I may say that an American has not seen the United States until he has seen Mardi Gras in New Orleans."

Another holiday celebrated in March is St. Patrick's Day. I remember St. Patrick's Day from my childhood for two reasons. First of all, you had to wear green, or you risked getting pinched by your classmates (I did not like getting pinched, so I always found something green to wear!). The second thing I remember about St. Patrick's Day from childhood is that my Grandfather would never plant any spring vegetables (the exception being potatoes, which he planted by St. Valentine's Day) before St Patrick's Day. According to him, if you planted tender vegetables before St. Patrick's, there was a much greater chance the plants would get burned by a frost. After St. Patrick's, the chance of a frost is much less. Here in Nassau County, that makes perfect sense, because on average, our last killing frost usually comes by late February, or early March, and by St. Patrick's Day, in most years (not all, but most), we are pretty much out of the woods.
Beginning on St. Patrick’s Day, my Grandfather would begin planting and transplanting most of his spring seeds and plants. He would continue planting up until Easter (this year, Easter falls on April 20th). According to him, for most vegetables, if you don’t get them in the ground early (by which he meant before Easter), they will not mature and be producing before the summer heat begins to take a toll on them in June. The only exceptions to this St. Patrick’s to Easter rule of thumb my Grandfather made was for okra, sweet potatoes, field peas, butter beans, and eggplant, all of which love the heat, and do well in the summer. He would usually plant these crops anywhere from Easter until about the middle of June, with mid-April through the end of May being, according to him, the best times to plant these heat loving crops.

Most farmers back in the day planted according to the season, and used various holidays within those seasons to determine what to plant and when. I always planted according to my Grandfather’s rules about planting dates, and my crops always turned out well for me. When I became a Master Gardener, and learned about all of the information available from the University of Florida/IFAS and the local Extension Office relating to planting and gardening, I realized my Grandfather’s wisdom about planting dates was right on the mark and mostly agreed with the documents, research, and information provided by IFAS and Extension.

For more information about what kinds of vegetables can be planted and when in this area, go to [http://nassau.ifas.ufl.edu/horticulture/landmatters/landmatters.html](http://nassau.ifas.ufl.edu/horticulture/landmatters/landmatters.html) scroll down to the August 6th Landscape Matters class on Vegetables, and click on the “NE FL Seasonal Planting Guide.” This guide provides a complete calendar listing the best vegetables to plant for every month of the year. The County Extension Office also has a website ([http://nassau.ifas.ufl.edu](http://nassau.ifas.ufl.edu)) that provides a wealth of information put out by the University of Florida/IFAS, as well as our local Extension Office, on horticulture, gardening, home landscapes, and many other topics that would be useful and of interest to gardeners and homeowners. This website has been a tremendous help to me, and I would highly recommend that you visit the website to see what it has to offer.

Well, my friends, that about does it for today. Before I go, I would like to thank Captain Rhodes for sharing his recollections and knowledge of Mardi Gras with us. Thanks Bumpy! Be sure to check out the Mardi Gras recipes at the end of the column. (I have also included a delicious Beef with Barley Soup recipe in honor of St. Patrick’s Day for your enjoyment.)

Until we meet again, Happy Mardi Gras, Happy St. Patrick’s Day, Happy Easter, and Happy Harvesting!

Peace and Goodness,

Joseph
Captain Bump’s Cajun Jambalaya

Ingredients

- 1 Whole Chicken (Cut Up)
- Frank’s Hot Sauce, Texas Pete, or Tabasco Sauce (For Marinade)
- ¼ Cup Olive Oil
- 1 Teaspoon Cayenne Pepper
- ¼ Teaspoon White Pepper
- Black Pepper and Salt (To Taste)
- Dash or Two of Turmeric
- 3 Cups Brown Rice (Makes for 10 People—Use 2 Cups for Small Family)
- Lightly Salted Organic Chicken Broth (2 Cups per Cup of Rice)
- 1 Pound Andouille Sausage
- 1 Green Pepper (Diced)
- 1 to 2 Onions (Diced)
- 4 Stalks Celery (De-strung and Diced)
- 1 Can (16 Ounce) Tomato Puree or Tomato Sauce
- 1 Pound Shrimp (Headed, Peeled, Deveined, and Cut in Half)

Directions

Wash and cut up a whole chicken (boneless chicken breasts diced into half-inch cubes can be substituted). Marinate chicken overnight in a bath of Frank’s Hot Sauce, or Texas Pete. (You can use Tabasco Sauce if you are used to the heat. The other two hot sauces aren’t as hot, but give a nice, spicy flavor.) Remove chicken from marinade, but don’t rinse. Add ¼ cup olive oil to the bottom of a cast iron Dutch oven (another pot could be used, but it has to be oven-proof). Heat olive oil, and brown chicken in oil, turning often. Be sure to keep lid on when not stirring or turning chicken to retain juices. (While browning chicken, mix salt and seasonings, add half to chicken broth, and heat broth in another pot.) Remove chicken from pot, and set aside.

Add Andouille (another smoked sausage can be substituted for the Andouille, but is not as good), other half of seasonings, and vegetables to leftover chicken juice. Sauté for about 5 minutes, or until translucent. (I usually add sausage first for about 3 to 5 minutes, and then add veggies on top for another 3 to 5 minutes.) Put chicken back in pot, add uncooked brown rice on top, and pour on heated broth. (If using white rice instead of brown, use 1½ cups of broth per cup of rice instead of 2. Also, water could be substituted for the broth.) Pour 16 ounce can of tomato puree or tomato sauce on top (use more if more rice is used; the goal is to add more liquid than what the actual rice calls for—as the oven will absorb all the liquid, I use more than what is called for—the stock amount is what the rice calls for; and the tomato sauce or puree is the extra amount). Stir, cover, and cook in the oven for about 60 to 80 minutes at 350 Degrees Fahrenheit. (Brown rice takes about an hour plus, maybe more depending on the oven, and white rice takes about 45 to 55 minutes.) Add shrimp about 5 to 8 minutes before jambalaya is finished, because they cook fast. Remove from the oven, let cool for a few minutes, and enjoy with French bread. (This is the real Cajun way of preparing Jambalaya, and is excellent—not the junk you find in restaurants.)

Notes

If you don’t use stock of some kind, throw a couple of bouillon cubes in water, but any kind of stock is preferred. When I peel my shrimp, I make stock from the peelings, and freeze for the next batch. You can use heads and peelings together, but this makes a much stronger stock, and would have to be cut some. Like all Cajun foods, this jambalaya is much better reheated the next day. Stash some. Also, this is the one dish that can have many substitutions. Back in the early Cajun day, they put whatever they had in the ingredients. Enjoy!

Laissez Le Bon Ton Roulettes Cher Mon Amie!

Recipe courtesy of Captain Bumpy Rhodes
Helen’s Beef with Barley Soup

Ingredients

- 2 Tablespoons Olive Oil
- 1 Pound Beef Cubes
- 1 Large Onion (Medium Diced)
- 2 Cloves Garlic (Minced)
- 2 Carrots (Smaller Ends Cut Into Rounds, Larger Ends Diced)
- 2 Potatoes (Large Diced)
- 1 Teaspoon Sea Salt (To Taste)
- Ground Black Pepper (To Taste)
- 6 Cups Beef Stock
- 2 Cups Water (Or As Needed)
- ½ Cup Pearl Barley
- ½ Teaspoon Thyme
- 1 Whole Bay Leaf
- 1 Can (14.5 Ounce Size) Diced Tomatoes

Directions

Heat a large pot over medium high heat. Add olive oil. Brown beef cubes for three minutes in the oil, then add onions and garlic. Lower heat to medium low, and cook until the onions are cooked and just start to caramelize. Stir as needed to keep onions and garlic from burning. Lower heat if necessary; drizzle a little more olive oil if needed to keep food from sticking. Then add everything except the tomatoes to the pot, and stir well. Increase the heat and bring the soup to a boil, then turn heat to low, cover pot, and simmer for two hours, stirring occasionally. Adjust heat as necessary to keep soup at a slow simmer. If the soup thickens too much, add a little more water or broth. Taste to correct seasonings, then add tomatoes and simmer for another hour. Remove bay leaf before serving. Serves 8.

Notes

A friend of mine told me that her father never liked corned beef and cabbage on St. Patrick’s Day, so her mother made him a beef stew. This is a delicious and healthy beef and barley soup, and I hope you like it. It can be enjoyed on St. Patrick’s Day, but also is great served any other time of the year. I usually suggest that people accompany this with a pint of Guinness.

Recipe courtesy of Helen McDevitt-Smith.
BeeZee’s No Roux Seafood Gumbo

Ingredients

- 1 Pound Okra (Sliced)
- 2 Tablespoons Olive oil
- 1 Large Onion (Diced)
- 1 Large Bell Pepper (Diced)
- 3-4 Stalks Celery (Diced)
- 1 Pound Andouille Sausage (Sliced into Quarter Inch Rounds)
- 3-4 Cloves Fresh Garlic (Finely Diced)
- 1 Can (16 Ounces) Diced Tomatoes
- 1 Smal Can Tomato Paste
- About 4 Cups Organic Chicken or Seafood Stock
- 1 Teaspoon Thyme
- Sea Salt (To Taste)
- White Pepper, Black Pepper, and Cayenne Pepper (Quantities To Taste)
- 1-2 Tablespoons Liquid Crab Boil (To Taste)
- 2 Pounds Shrimp (Headed, Peeled, Deveined, and Cut in Half)
- 1 Pound Fish Fillets (Diced)
- 1 Jar (16 Ounce) Oysters (Drained)
- 1 Can (16 Ounce) Jumbo Lump Crab Meat

Directions

In a cast iron skillet (another skillet can be used, but cast iron is best), sauté slime out of the okra in olive oil. Use fresh okra if possible (frozen okra can be substituted, but still needs to be sautéed). Take your time and sauté okra on medium heat for about 15 minutes, or until the slime is cooked out. Remove okra from skillet, and set aside.

In the same skillet, lightly sauté the Holy Trinity veggies, garlic, and Andouille sausage. (If you cannot find Andouille, regular smoked sausage can be substituted, but is not as good as Andouille.) Begin by sautéing the onions for about one minute, and then add celery and bell pepper. Add sausage next, and garlic last. Lightly sauté the veggies and sausage for maybe 3 to 5 minutes (they will cook in the gumbo, so LIGHTLY sauté).

Add diced tomatoes and tomato paste to veggies, and simmer. Heat stock in a Dutch oven on high heat to near boiling, then turn heat down to low, and add veggie mixture and okra to stock. Next, add thyme, salt, other seasonings, and liquid crab boil to the pot. (If you cannot find liquid crab boil, Old Bay powdered crab boil can be substituted, but liquid is best.)

Stir and dance a bit—best if listening to reggae music while cooking. And make sure you have the most important ingredient—Love in your heart! Add the diced fish fillets, shrimp, and oysters after the okra is fully cooked (okra usually turns olive green). Stir and cook on medium low for about 10 more minutes. Finally, add jumbo lump crab meat. Turn off heat. Serve with rice, brown rice preferably, and French or sour dough bread. (This dish is ALWAYS better the second day, so don’t be afraid to stash a bit for tomorrow.)

Notes

No Mardi Gras feast would be complete without a good gumbo. This is a seafood gumbo with Andouille sausage, but chicken, chicken and sausage, or a host of other ingredients could be substituted. Duck and oyster gumbo is one of my favorites—the combination is excellent. Most Cajun gumbos are made from a roux, but this one isn’t. I usually cook with a roux, but this is my wife Carol’s (BeeZee’s) recipe, and it is really quick, light, delicious, and good for you. I like this gumbo recipe because it has no oil or flour, but ends up as thick and rich as if a roux were the base.

Recipe courtesy of Captain Bumpy Rhodes.
Aunt Henrietta’s Three Kings Cake

Ingredients

For the Pastry
• 1 Cup Milk
• ¼ Cup Butter
• 2 Packages Active Dry Yeast
• 2/3 Cup Warm Water
• ½ Cup White Sugar
• 2 Eggs
• 1 ½ Teaspoons Salt
• ½ Teaspoon Ground Nutmeg
• 5 ½ Cups All-Purpose Flour

For the Filling
• ½ Cup Golden Raisins
• ¼ Cup Jim Beam Bourbon
• 1 Cup Packed Brown Sugar
• 1 Tablespoon Ground Cinnamon
• 2/3 Cup Pecans (Chopped)
• ½ Cup All-Purpose Flour
• ½ Cup Butter (Melted)
• 1 Teaspoon Vanilla

For the Frosting
• 1 Cup Confectioners’ Sugar
• 3 to 6 Tablespoons Water (Or Bourbon)
• Green, Gold, and Purple Colored Sugar (For Sprinkling)

Directions

Scald milk in a saucepan, remove from heat, and stir in ¼ cup butter until butter is completely dissolved. Allow to cool to room temperature. In a large bowl, dissolve yeast in warm water (110 Degrees Fahrenheit) with 1 tablespoon of white sugar. Let stand for about 10 minutes, or until creamy and bubbly.

When yeast mixture is ready, add the cooled milk mixture. Whisk in eggs, and stir in the remaining white sugar, salt, and nutmeg. Beat the flour into the milk/egg mixture 1 cup at a time. When the dough has formed, turn it out onto a lightly floured surface, and knead for about 8 to 10 minutes, or until smooth and elastic. (If you wish, you may use a mixer with a dough hook for this process.)

Lightly oil a large bowl. Place the dough in the bowl, and turn to coat with oil. Cover with plastic wrap or a damp cloth, and let rise in a warm place until doubled in volume (approximately 2 hours). When the dough has risen, punch down, and divide in half.

Next, prepare the filling. First, soak raisins overnight in bourbon. The next day, while the dough is rising, combine the brown sugar, ground cinnamon, chopped pecans, flour, and raisins. Pour melted butter over this mixture. Add vanilla, and mix until combined. Set aside.
When dough is ready, roll dough halves out into large rectangles (approximately 10x16 inches or so), with the long sides facing you. Sprinkle the filling evenly over the dough, leaving about a one-half to one inch border along the top of the rectangle. Roll up each half tightly like a jelly roll, beginning at the bottom.

Brush top border with water, and seal. Place the seam at the bottom of the roll. Bring the ends of each roll together to form 2 oval shaped rings. (You can also make one big cake by forming a half-circle with each roll and joining the ends, or cut the recipe in half to make just one smaller cake.)

Place each ring on a greased cookie sheet (or one large greased cookie sheet if making one large cake). With a sharp knife, make cuts 1/3 of the way through the rings at 1 inch intervals. Let rise in a warm spot until doubled in size (about 45 minutes or so). Bake in a preheated oven (375 Degrees Fahrenheit) for 30 minutes. Remove from oven.

Mix 3 to 6 tablespoons water (or bourbon) with the confectioners’ sugar until sugar achieves desired consistency. While cake is still warm, brush cake with ½ to 2/3 of the glaze. Sprinkle with bands of green, gold, and purple sugar.

(To make colored sugar, mix about 2 tablespoons of granulated sugar with several of drops of food coloring to achieve desired color.) Drizzle remaining glaze over the colored sugar in thin strands. Before cake is served, lift cake and insert a small plastic baby into the bottom of the cake just deep enough that the cake sits flat on the platter (if you do not have a small plastic baby, a coin, bean, or a couple of pecan halves can be used).

Notes

Many, many years ago, when I lived in New Orleans, I came to enjoy the season of Mardi Gras (yes, Mardi Gras is a season, not just one day, beginning on the Feast of the Epiphany—also called Twelfth Night, or Kings Day—commemorating the day the Three Kings visited the Baby Jesus, and ending on Fat Tuesday, the day before Lent begins on Ash Wednesday).

One of my best friends, Mrs. Marie Bourgeois, whose family has lived in Louisiana since 1765, often invited me to celebrate Mardi Gras with her family. At the center of the celebration was her Three Kings Cake (sometimes simply called the King Cake). It was so delicious, I asked her to share her recipe with me, and I have been making this cake ever since (with a few variations of my own, of course). Not only did she share the recipe with me, but she shared a little bit about the history of the King Cake as well.

According to Marie, her recipe for King Cake has been passed down in her family for generations. The cake is made in honor of the Three Kings who visited the Baby Jesus. It is usually shaped like an oval to represent the unity of faiths. The cake is decorated in the traditional Mardi Gras colors: Green symbolizing Faith, Gold symbolizing Power, and Purple symbolizing Justice. The Baby, hidden in the cake, is a representation of Jesus, whom the Three Kings searched for, and who all people of goodwill still search for today. In New Orleans, King Cakes are baked and enjoyed throughout the entire Mardi Gras season. According to custom, finding the Baby brings good luck, and the one who finds the Baby is responsible for bringing the King Cake to the next party or gathering. As you serve your Three Kings Cake, tell your guests the story of the King Cake, and ask them to look for the Baby in the cake before eating it.

Recipe courtesy of Mrs. Henrietta Witherspoons.
Invasive Plants: **Cogongrass**  
*Imperata cylindrica*

**Center for Aquatic and Invasive Plants University of Florida, IFAS**

**Introduction**

Cogongrass is an aggressive, rhizomatous, perennial grass that is distributed throughout the tropical and subtropical regions of the world. It has become established in the southeastern United States within the last fifty years, with Alabama, Mississippi, and Florida having extensive acreage of roadway and pasture infested with cogongrass. Cogongrass first appeared in the area around Grand Bay, Alabama as an escape from Satsuma orange crate packing in 1912. It was intentionally introduced from the Philippines into Mississippi as a possible forage in 1921. Cogongrass was introduced into Florida in the 1930s and 1940s as a potential forage and for soil stabilization purposes.

However, it was revealed that cogongrass was of little economic (forage) benefit and could become a serious pest. Consequently, it was placed on the noxious weed list, which prohibits new plantings. Unfortunately, cogongrass was spread by illegal plantings and inadvertent transport in forage and in soil during roadway construction. It does not survive in cultivated areas but becomes established along roadways, in forests, parks, and mining areas. It is now found throughout Florida from the panhandle region well into south Florida.

**Description**

Cogongrass is a perennial grass that varies greatly in appearance. The leaves appear light green, with older leaves becoming orange-brown in color. In areas with killing frosts, the leaves will turn light brown during winter months and present a substantial fire hazard. Cogongrass grows in loose to compact bunches, each 'bunch' containing several leaves arising from a central area along a rhizome. The leaves originate directly from ground level and range from one to four feet in length. Each leaf is 1/2 to 3/4 of an inch wide with a prominent, off-center, white mid-rib. The leaf margins are finely serrated; contributing to the undesirable forage qualities of this grass. Seed production predominately occurs in the spring, with long, fluffy-white seedheads. Mowing, burning or fertilization can also induce sporadic seedhead formation. Seeds are extremely small and attached to a plume of long hairs. Although the seeds can be carried long distances by wind and animals, the spread of cogongrass by seed is questionable and still under investigation.

Rhizomes are responsible for the survival and short-distance spread of cogongrass. Established stands may produce over 3 tons of rhizomes per acre. The specialized anatomy of the rhizome allows for water conservation. The rhizome can also penetrate to a depth of 4 feet in the soil, although the majority of rhizomes remain in the top 6 inches. The sheer mass and persistence of rhizomes is not the only factor contributing to the ability of cogongrass to dominate an area. It has also been reported that these rhizomes exude allelopathic substances, which inhibit growth of other plants. As the density of cogongrass increases, all other vegetation may be excluded and normal succession of species will not occur.

**Impacts**

Cogongrass is native to southeast Asia and infests nearly 500 million acres of plantation and agricultural land worldwide. It is found on every continent, although it does not tolerate cool temperatures. In the United States, cogongrass extends as far north as South Carolina and west to Texas. In Florida, cogongrass infests ditch banks, pastures, road sides/right-of-ways, golf courses, and forests. In central Florida, monocultures of cogongrass have become established on hundreds of acres of reclaimed phosphate mining areas. Cogongrass thrives on fine sand.
to heavy clay and does well on soils of low fertility. Attempts at finding natural pests of cogongrass have met with limited success. Pathogens have been isolated but none have been developed for effective control. Cogongrass does not tolerate dense shade. In Asian rubber plantations, cogongrass dies back upon canopy formation. However, reports of invasion into old growth forests in Florida suggest that a more shade-tolerant ecotype has developed.

**Management**

**Preventative**

Extensive research has been conducted in Africa, southeast Asia and the United States for the control of cogongrass. Burning, cultivation, cover crops, and herbicides have been used with varying degrees of effectiveness. To eliminate cogongrass, the rhizomes must be destroyed to avoid regrowth. Cultivation and herbicides have been the two control strategies used most often. One of the oldest and most successful methods is to deep plow or disk several times during the dry season to desiccate the rhizomes and exhaust the food reserves. It is essential to cut to a depth of at least 6 inches to ensure that most, if not all the rhizomes have been cut. Results from these practices are evident when observing cogongrass growing up to the edge of a cultivated field with no evidence of spread into the field itself.

**Chemical**

The use of herbicides for control of cogongrass began in the 1940s. Today, only a few of the hundreds of herbicides tested are effective against cogongrass. In non-crop areas such as rights-of-way and fence rows, the so-called soil sterilants such as prometon (Pramitol), tebuthiuron (Spike), and imazapyr (Arsenal) will give excellent control; however, areas treated with these materials will be free of any vegetation for 6 months to a year. Often these conditions promote erosion and are unacceptable.

In other areas, current chemical control alternatives are very limited. Glyphosate (Roundup, etc.) applied at 3-4 qt/A will substantially reduce cogongrass stands but multiple applications are needed. However, Roundup is a non-selective herbicide and will control/injure all vegetation present at the time of treatment. Subsequent to application, crops can be planted immediately because glyphosate has little or no residual soil activity. If high rates (4-5 qt) of Roundup are used, slight soil residual may exist in Florida soils; therefore, a 10-14 day waiting period should be observed before revegetating with tender seeds or seedlings. Fluazifop (Fusilade DX) provides moderate suppression of cogongrass. Fusilade is a selective grass herbicide that provides more flexibility when desirable broadleaf species are present for revegetation. For exact rates and times of herbicide application, consult the herbicide label for most current legal information.

Although tillage and herbicides will provide some control and suppression of cogongrass, long-term eradication is seldom achieved. It has been shown that an integrated approach that combines burning, tillage (mechanical disturbance) and chemical applications provide the best solution for cogongrass management. Initially, cogongrass should be burned or mowed to remove excess thatch and older leaves. This initiates regrowth from the rhizomes, thereby reducing rhizome biomass. It also allows herbicides to be applied to only actively growing leaves, maximizing herbicide absorption into the plant. Ideally, burning should take place in the summer. A one-to-four month regrowth period has been shown to provide a sufficient level of leaf biomass for herbicide treatment. This targets herbicide applications to be made in the late summer/early fall - approximately 1 month prior to the average killing frost, depending on area. Once again, the herbicides glyphosate (Roundup, others) or imazapyr (Arsenal, Chopper) have been shown to provide the best control. If tillage can be incorporated, then a discing treatment directly following a burn is the best approach. This will further deplete the rhizome reserve through dessication and increase the number of shoots per given area. A one-to-four month regrowth period before herbicide treatment is also needed with this approach as well. Once good control of cogongrass has been achieved, it is essential to introduce desirable vegetation as quickly as possible to prevent cogongrass from re-infesting the area. Several species have been shown to colonize rapidly and tolerate the residual affects of imazapyr. A wider range of plant species can be used with glyphosate due to the lack of soil activity. However, cogongrass will eventually begin to re-infest, regardless of control. Therefore, diligence and persistence are essential to remove/treat re-infested areas before this grass regains a foothold.
Rose Rosette Virus (RRV)

**BASICS**
- Rose rosette (witches’ broom) symptoms were first observed in 1940 in Canada on wild Roses.
- Subsequently discovered in California in 1941 and many other states in the U.S.
- In 2011, the disease was confirmed to be caused by an Emaravirus. The virus was named Rose Rosette Virus (RRV).
- RRV is vectored by Eriophyid mite (Phyllocoptes fructiphilus).
- Rose multiflora (multiflora rose) is the most susceptible host for RRV.
- The disease and the presence of RRV was confirmed for the first time in Florida in November 2013 by the Plant Disease Diagnostic Lab, NFREC, Quincy. This was subsequently confirmed by the Division of Plant Industry-FDACS lab, Gainesville.
- All the infected plants belonged to the Knock Out® series.
- Three counties have confirmed cases of RRV as of Jan 15th, 2014.

**SYMPTOMS**

**Witches’ broom like appearance, small twisted leaves herbicide injury can cause similar symptoms**

**Rapid growth from certain sections of the stem, dying branches, thorn proliferation, unusual reddening of leaves that doesn’t change with age.**
Severe thorn proliferation is characteristic to rose rosette disease

Healthy plant (No thorn proliferation): This is normal

Distorted flower bud; leaf developing from flower bud tissue
Routine scouting and early identification. Submit samples for definitive confirmation.

Destroy infected plants. There is no cure for rose rosette disease. Detection will prompt a quarantine by DPI until cleaned up.

IPM: Cultural strategies (above) + Eriophyid mite management [Link](http://edis.ifas.ufl.edu/in999), [Link](http://entnemdept.ufl.edu/creatures/ORN/ph_fruitsphilus.htm)

Use of insecticides for Eriophyid mite management is recommended in early spring. Different Mode of Action insecticides should be rotated.

Additional resources: [www.roserosettedisease.com](http://www.roserosettedisease.com)

**Notes:** The Eriophyid mite species described as the vector for RRV is not known to be present in Florida. Thus mite management recommendations are protective in nature.

*Rosa multiflora* is not common in Florida, but needs to be monitored, and destroyed if symptoms are noted.
DIAGNOSIS OF ROSE ROSETTE VIRUS

For diagnosis send samples to:

Mathews Paret
Assistant Professor, Plant Pathology
Director, Plant Disease Diagnostic Clinic
NFREC, University of Florida
155 Research Road, Quincy, FL 32351
850-875-7154, paret@ufl.edu
http://nfrec.ifas.ufl.edu/paret/u-scout/Lab_Profile.html

Carrie Harmon
Director, Plant Diagnostic Center
Department of Plant Pathology, University of Florida
Building 1291, 2570 Hull Road Gainesville, FL 32611-0830
352-392-1795, clharmon@ufl.edu
http://plantpath.ifas.ufl.edu/Clinic/index.shtml

Tim Schubert/ Carlye Baker
Plant Pathologist/Plant Virologist
Division of Plant Industry, Florida Department of Agriculture and Consumer Services
1911 SW 34th Street
Gainesville, FL 32608
(352) 395-4760; Timothy.Schubert@freshfromflorida.com; Carlye.Baker@freshfromflorida.com
http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry

If suspected plants are noted, send close-up pictures to paret@ufl.edu. Upon instructions submit a sample for diagnosis.

Phyllocoptes fructiphilus Keifer is a tiny eriophyid mite and cannot be seen without magnification. Photograph by USDA, Agricultural Research Service.

Feeding by the mite Phyllocoptes fructiphilus results in transfer of RRV to roses. Mites prefer to feed on tender new growth, and the virus modifies plant development. The mites are typically found in the apex of the rose shoots, where they feed and reproduce. Photograph by USDA, Agricultural Research Service.
March Checklist

Citrus: Remove graft freeze protection if threat of freeze is over. Fertilize program begins for lemon, orange, kumquat using citrus fertilizer. Follow fertilizer label for frequency (slow release is used less often). Fertilize Tea Olive using acid loving fertilizer. Fertilize loquat 2-3 times per year with citrus fertilizer. Check for citrus insects and disease, apply fungicide just at new leaf flush or after bloom drop.

Fruit: Apply general garden fertilizer to plum trees. Weed as needed. This is the time of year to prune muscadine grapes.

Flowers: Water as needed. Over-watering causes root and stem rot. Opt for drought tolerant plants such as purslane or periwinkle. Group your plants together according to their watering and light requirements. Bulbs will be in full bloom. To conserve plant energy, cut off the old seedpods after flowering. Fertilize perennials this month if you missed last month. Plant poinsettias in landscape during late March. Cut back plants to within 12 to 18 inches of ground level. Pinch back new growth every four weeks until September 10. Fertilize monthly from May to September. Ageratum, alyssum, amaranthus, asters, baby’s breath, balsam, begonias, browallia, calendulas, calliopsis, celosia, coleus, cosmos, cress, dahlias, dusty miller, exacums, gaillardias, gazania, geraniums, hollyhocks, impatiens, kalanchoe, lobelias, Marguerite daisies, marigolds, nicotine, ornamental peppers, pentas, phlox, rudbeckias, salvias, strawflowers, streptocarpus, sweet William, thunbergia alata, torenia, verbenas, periwinkles, and zinnias can be planted.

Herbs: Anise, basil, bay laurel, borage, caraway, cardamom, chervil, chives, coriander, culantro, cumin, dill, fennel, ginger, horehound, lemon balm, lavender, lovage, marjoram, Mexican tarragon, mint, parsley, oregano, rosemary, sage, savory, sesame, thyme and watercress can be planted now.

Roses: Continue spray program (every 7-10 days). Water as needed. March 15, apply liquid fertilizer. Check your micro irrigation system (leaks, dirt in system, timers)

Lawns: This is the last month to put out pre-emergent herbicides to manage summer weeds. Wait to fertilize when grass is actively growing and it has required two mowings. We suggest you start fertilizing after April 15th.

Shrubs: Prune and fertilize azaleas with acid fertilizer as soon as they finish blooming. Azaleas may be transplanted now as well. Overgrown shrubs can be cut back using selective pruning, avoid shearing these shrubs. Dr. Ed Gilman’s UF/IFAS publication on pruning shrubs and trees is an excellent source of information: http://edis.ifas.ufl.edu/mg087

Trees: Make sure younger trees maintain a straight trunk as new growth begins. Remove or prune all limbs competing with the central leader. Palms should have a “palm special” fertilizer applied over the root system under the spread of the fronds. The configuration should be 8-2-12-4 (N-P-K-Mg). Ideally this would also include manganese, boron, sulfur, etc. with appropriate formulations. Use a slow release fertilizer during the spring, summer and fall. Nutrient deficiencies may take months to recover so please use an appropriate palm fertilizer. Anything within 30-50 feet of the palm should just be getting palm fertilizer.

Vegetables: Have soil tested prior to planting. The pH and the nutrient content of the soil is an important factor in production of vegetables. This month’s choices for planting include snap beans, pole beans, lima beans, beets, cantaloupes, carrots, celery, collards, corn, cucumber, eggplant, endive/escarole, kohlrabi, lettuce, mustard, okra, bunching onions, parsley, English peas, Southern peas, peppers, potatoes, sweet potatoes, pumpkin, radishes, summer squash, winter squash, tomatoes, turnips, and watermelon. Be sure to use the Florida Vegetable Guide when selecting the best cultivars for our area: http://edis.ifas.ufl.edu/vh021.

Selected from Florida Vegetable Guide by JM Stephens, RA Dunn, G Kidder, D Short, & GW Simone, University of Florida and Month-by-Month Gardening in Florida by Tom MacCubbin
April Checklist

**Citrus:** Depending on citrus fertilizer label, apply fertilizer every six weeks or as directed. Check for citrus insects; apply horticulture oil if insects are detected. Check for diseases; apply fungicide just at new leaf flush or after bloom drop. Maintain 2-3’ unmulched area just outside the root ball (which would be 12-18 inches away from the trunk).

**Fruit:** Weed as needed. Apply Azalea fertilizer to blueberry shrubs, at 1/2 pound per 3’ of shrub. Granular fertilizer may require about 1/4 inch of water to allow the root to absorb the nutrients.

**Flowers:** Annuals to plant now include celosia, coleus, coreopsis, dusty miller, geraniums, hollyhocks, impatiens, kalanchoe, lobelias, marigolds, portulacas, rudbeckias, salvia, verbenas, zinnias. Groom to reshape perennials. Prune hard to correct growth problems. Divide overcrowded fall flowering perennials and bulbs. Bulbs to be planted now include achimenes, agapanthus, amaryllis, Asiatic lilies, begonias, blood lily, caladiums, cannas, crinum, dahlia, gladiolus, gloriosa lily and zephyranthes.

**Herbs:** Anise, basil, bay laurel, borage, caraway, cardamom, chervil, chives, coriander, culantro, cumin, dill, garlic, ginger, horehound, lemon balm, lavender, marjoram, Mexican tarragon, mint, nasturtium, parsley, oregano, rosemary, sage, sesame, and thyme can be planted now.

**Roses:** Begin watching roses for black spot fungus disease, small black spots on the leaves can quickly worsen. Continue spray program. Water as needed. April 15, apply granular rose fertilizer. Cut and remove spent blooms. Check for spider mites (wash underside of leaves with strong water pressure). Add mulch, 2-3 inches deep (oak leaves, cedar pine straw).

**Lawns:** Apply 15-0-15 or 16-0-8 on the 15th of this month. Water during early morning when the leaves curl and turn gray-green. Reduce fertilizers and pesticides during seasons of drought. Keep mower height at the highest setting for grass type. Apply no more than 1 inch of sand to uneven areas for leveling. Allow grass clippings to stay on the lawn as long as grass is healthy.

**Trees:** Most older trees and palms are fine and can exist with the seasonal rains. Look for aphid, borer, and scale infestations. Caterpillars may be extra heavy this month. Continue fertilizing palms as needed.

**Vegetables:** This month you can plant snap beans, pole beans, lima beans, cantaloupe, collards, corn, cucumbers, eggplant, kohlrabi, okra, Southern peas, pumpkin, peppers, squash, sweet potatoes, tomatoes, turnips, watermelon, and yams.

Selected from Florida Vegetable Guide by JM Stephens, RA Dunn, G Kidder, D Short, & GW Simone, University of Florida and Month-by-Month Gardening in Florida by Tom MacCubbin
Q: What can you tell me about the mushrooms growing out of one of my palm trees?

A: It is most unusual to see mushrooms up one whole side of a palm. I sent the photo to the University of Florida just to be sure I was on target. Guess what? I was correct; the mushrooms are the fruiting bodies of *Armillaria*.

*Armillaria* root rot is a disease that decays the root system of many common trees and shrubs. It is caused by several species of *Armillaria*, fungi that can be recognized by the clusters of yellow to honey-colored mushrooms that emerge during moist conditions. The disease is often lethal, and infected trees may have wilting branches, branch dieback, and stunted growth. Infected trees and shrubs should be removed and replaced with resistant species.

In Florida, *Armillaria tabescens* is the most common pathogenic species and is primarily an opportunistic pathogen, but it may kill seemingly healthy trees and shrubs in both urban and natural areas, particularly when host species are stressed. As with many landscape disorders, the most appropriate management technique is the avoidance of infection. Maintain healthy trees by using proper pruning, fertilization, irrigation, and pest management practices. One should commit to planting a more diverse landscape because they tend to better withstand pests, diseases, and even severe weather events.

Symptoms of *Armillaria* root rot often do not appear until 1–3 years after infection has taken place. Therefore, it is difficult, if not impossible, to save trees once they become infected. There are no fungicidal cures for *Armillaria*. Always disinfect pruning tools between plants to reduce the possibility of transmitting diseases. Some plants with only a small area of infected roots or root collar may be saved by exposing the area to aeration, drying the fungus, and halting growth.

Because *Armillaria spp.* can live in dead stumps and roots for years, an infected tree or shrub should be completely removed, including the stump and major roots. Removal of
other susceptible trees or shrubs near the infected plant may be necessary to prevent the disease from spreading over a large area. It is unfortunate for the palm as it will need to be removed, it will not be able to survive. 

http://edis.ifas.ufl.edu/ep478

Q: I found this insect on my sidewalk. It is mostly black but it had white legs. It looks like a wasp but it does not seem to have a stinger. Can you identify it for me?

A: I believe the insect is a black soldier fly. The black soldier fly, Hermetia illucens (Linnaeus), is a sleek looking fly often mistaken as a wasp. However, like most flies, the black soldier flies only have two wings (wasps have four). In addition, this fly, like other flies, does not possess a stinger. Although the loud buzzing they create when flying is enough to concern many people, adult soldier flies pose no danger.

The black soldier fly is often associated with the outdoors and livestock, usually around decaying organic matter such as animal waste or plant material. Since black soldier fly larvae consume decaying matter, they have been used to reduce animal manure in commercial swine and poultry facilities.

In the southeastern United States, the black soldier fly is abundant during late spring and early fall. Many are mimics of other flying insects, such as bees and wasps.

Black soldier fly adults have a wasp-like appearance and are black or blue in color. The adult black soldier fly is not usually considered a pest. In addition to being a good source of oil and protein for animal feed, black soldier fly larvae have the potential of improving organic waste into a rich fertilizer.

For more information, check out the publication from the University of Florida: http://entnemdept.ufl.edu/creatures/livestock/black_soldier_fly.htm

Q: Will you please print how to fertilize and prune lemon trees in the newspaper?

A: I am glad you wrote me and requested the information; I have had several phone calls on the same topic. I know you asked to be sure to have the answer printed in the newspaper; however I really have no control over whether things get printed. Fertilization should occur in March and go through September. No fertilizer should be applied October through February. Use 6-6-6 or 8-8-8 or 10-10-10 and sprinkle it all around the root area under the tree canopy. Apply water directly to the fertilizer to allow it to reach the root area; about ¼ inch should be sufficient. If you have purchased the spikes, crumble them up and sprinkle it all around the root area under the canopy. Don’t forget to water after the application of fertilizer ¼ inch, similar to the other fertilizers. I use a slow release general purpose fertilizer which is 10-10-10 and apply spring (March), summer (June) and fall (September). It makes it easier to remember and I will fertilize my palms at the same time. Pruning can begin in March but citrus really does not require a lot of pruning to fruit. Cut out any dead or dying limbs, which can be done any time of year. Any limbs growing toward the center of the tree should be removed and any rubbing limbs can be cut back. If the tree is too tall then consider taking a few years (3-5) to trim it back by using reduction cuts to take the tree down a foot or two at a time. You might consider calling a tree company to do it for you if the tree is excessively tall. No reason to put yourself in danger.
Nassau County is proud to provide you with this information. Horticulture News is a joint project with contributions by county agents and Master Gardener Volunteers.

Rebecca L. Jordi,
County Extension Director
Horticulture Agent III

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Garden Talk with Rebecca Jordi

Q: Will you identify this plant for me?

A: I appreciated the photo of this plant. I was totally unfamiliar with it as it appeared to be a tropical plant so I called another Extension agent to help me. Wendy Wilber from Alachua County recognized it immediately as Holmskioldia sanguinea ‘Chinese Hat Plant’ aka cup and saucer plant, or parasol flower. It can reach heights of up to 8 feet and form a small shrub. The flowers are orange and look similar to a hat – hence the common name – Chinese Hat Plant. It is best grown in zones 10 – 11, which is south Florida. Here it may last only one season unless it is grown in a much protected area. Chinese Hat Plant can tolerate most any type of well-drained soil but light requirements are best in part sun to part shade. It has not been a favorite of gardeners as it has a tendency to get leggy and somewhat weedy looking over time. If you decide to try it, it is suggested to use it behind other shorter plants. Look over the publication from the University of Florida for specific details.


For more “Garden Talk” questions answered by Ms. Jordi, see our website at nassau.ifas.ufl.edu/