

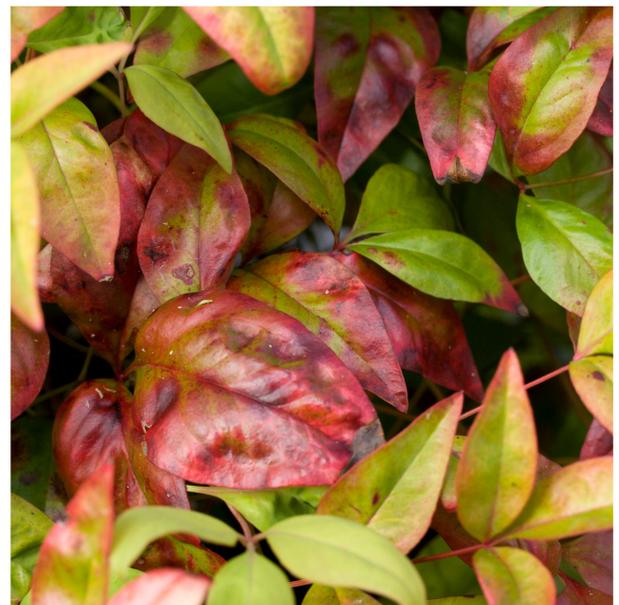
HORTICULTURAL TERMS OFTEN USED, BUT NOT ALWAYS UNDERSTOOD

By Nancy Hammer, Master Gardener Volunteer

PH: When discussing the growing requirements of plants, in addition to sun/shade and water needs, we refer to the pH of the soil in which the plant will thrive. In The Florida-Friendly Landscaping™ Guide to Plant Selection & Landscape Design, landscape plants are categorized in part by what pH they will tolerate. Soil pH is the measure of the acidity or alkalinity of soil. A scale of 0-14 is used to express pH, with 0 being the most acidic, 14 being the most alkaline, and 7 being neutral. pH is important because it can affect the ability of a plant to take up various nutrients from the soil and fertilizers you might apply. A simple, low-cost soil test at our Manatee County Extension soil lab can determine the pH of your soil. For more information on soil pH, go to <https://edis.ifas.ufl.edu/publication/SS480>.

NATIVES, NON-NATIVES, INVASIVES, AND AGGRESSIVE PLANTS:

There can be some confusion even amongst gardeners about these terms. It is generally agreed that a **native** in this country is a species that originated in and adapted to its surrounding habitat before European contact in the Americas. A **non-native** (also called an *exotic*) is a plant that originated somewhere else and has been introduced intentionally or accidentally to a new place or new type of habitat. Not all non-natives are invasive. An **invasive** plant is a non-native that disrupts or displaces native plant communities or ecosystems. An important distinction is that a native can be considered **aggressive** (may readily spread), but as a native it is by *definition* not an **invasive**.



NANDINA PLANT: NON-NATIVE & INVASIVE

Photo: UF/IFAS Blogs - Tyler Jones

GENUS, SPECIES, VARIETY, CULTIVAR, HYBRID: The classification and nomenclature of plants can also be cause for confusion, and the terms are often misused.

Genus, which is a noun, is the generic word for a group of plants that have more common characteristics than the larger family from which they come. The genus is always capitalized and *italicized* or underlined. The genus is often the first name listed on a plant tag. For example, *Ilex* is the genus name for hollies.

Species, usually an adjective, and the second word in the scientific name, refers to certain characteristics such as color, place of origin, or the person given credit for its discovery. The species (or specific epithet) is *italicized*, but not capitalized. For example, *Ilex vomitoria* (yaupon holly)

Variety may be a third name in the sequence. Varieties are naturally occurring variations from the species that reproduce those variations without human involvement. Varieties are either italicized or underlined. The abbreviation var. is not italicized or underlined. For example, *Ilex vomitoria* var. *pendula* (weeping yaupon holly).

Cultivars, short for “cultivated varieties,” are varieties that are developed by humans through controlled breeding (divisions, grafting, tissue culture) and do not occur naturally. Propagating by seed will often lead to differences. Cultivars are always capitalized with a single quotation mark around the name, or by the unitalicized abbreviation, for example, cv. *Ilex vomitoria* ‘Will Fleming’ (a cultivar discovered by Will Fleming). If you’ve been paying attention, you would say that a cultivar cannot be “discovered.” Some cultivars are mutations or sports on plants, or even hybrids of two plants.

Hybrids are crosses between two species or distinct parent lines using sexual means (crossing pollen of one plant with the ovum of another). They can be created by humans and in nature. For example, *Ilex x attenuata* ‘Sunny Foster’ is a natural hybrid between *I.opaca* and *I.cassine*, that has been further refined by humans into a cultivar with bright yellow leaves.

For more information, refer to: ‘Classification and Naming of Plants’ by Anne E. Streich and Kim A. Todd, University of Nebraska, Lincoln; and ‘Understanding Botanical Plant Names, University of Illinois, Life Sciences, <https://www.life.illinois.edu/ib/335/commonlyused.html>



WOODY VS HERBACEOUS PLANTS: The primary difference between woody and herbaceous plants is that ‘woodies’ have strong stems which are not easily bent, while herbaceous plants have softer, more flexible stems. Also, woody plants are perennial, whereas herbaceous plants can be perennials, biennials, or annuals. In parts of Florida, some herbaceous perennials can become woody because of continuous growing conditions.

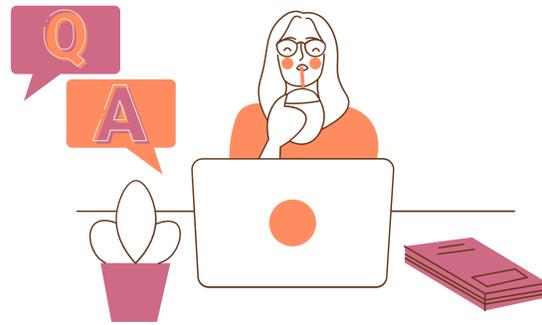


GRAPEVINE - WOODY PLANT

Photo: UF/IFAS Blogs - Tyler Jones

Saving the easiest for last... **RHIZOMES VS STOLONS:** Rhizomes are modified-stems that run horizontally underground. They send roots down and stems upward. Zoysia is an example of a grass that spreads by rhizomes. Stolons are stems that run horizontally on the ground surface. It sends roots downward, and stems upward. St. Augustine grass spreads by stolons.

ASK A MASTER GARDENER VOLUNTEER



Q

I am having an issue with my pitch apple hedge. Some of the leaves are turning brown. I have attached pictures of the leaves and part of the hedge. The hedge is about 25 feet long but only about 6 feet of it have the diseased leaves. My property is in Holmes Beach on Anna Maria Island. Any advice would be greatly appreciated.



PITCH APPLE HEDGE

Photo: Resident Submission

A

I see that the hedge has been recently trimmed. I believe some of the leaves are sunburned as opposed to diseased. This can happen when the leaves that were previously sheltered from sun by upper leaves are exposed. Water sitting on leaves can also magnify the sun and cause burn spots, so irrigation water should be directed at the soil rather than the foliage. You can remove the damaged leaves to give the hedge a tidier appearance.

The following link is to information about your *Clusia rosea* 'Nana' for your reference.

<https://www.south-florida-plant-guide.com/dwarf-clusia.html>

Master Gardener Volunteer **Karen Holleran** answers your questions sent to manateemg@gmail.com. Or visit the **Manatee County Extension Plant Clinic** weekdays (except Wednesdays) from 9:00 A.M. to 4:00 P.M. at 1303 17th St W, Palmetto, or call us with questions @ 941-722-4524.



Master Gardener Volunteer Amy Stripe & Joy Dersken, Co-Editors
Contents reviewed & edited by
Alyssa Vinson, Extension Agent





WHAT'S THIS?: FLORIDA BEARD LICHEN

By Kathy Oliver, Horticultural Program Assistant



FLORIDA BEARD LICHEN

Photo: Kathy Oliver

Have you strolled through oak woods and marveled at all the plant life clinging to the trees? Grey Spanish moss, *Tillandsia usneoides*, is the most obvious, but look around for a delicate, light green mossy plant that resembles elfin hair. This is old man's beard or Florida beard lichen, *Usnea* sp. The two species are unrelated and not mosses, but the resemblance of Spanish moss to *Usnea* is reflected in its scientific name.

Lichen has a special place in the natural order. It is two organisms - a fungus and an alga - living together and helping each other, sometimes including a bacterium as well. Lichens may be flat, leafy, or hair-like (fruticose) in shape. Beard lichen is a fruticose type with tendrils and small umbrella-like structures.

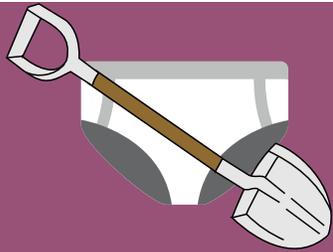
Beard lichen is soft and absorbent with a bit of elasticity to the fibers. In days gone by, people used it to dress wounds in the field and to treat infections and gangrene. Think of it as nature's first aid gauze. More recently, manufacturers added it to lotions, mouthwashes, and other personal care products. According to an article in the Journal of American Herbalists Guild, usnic acid in the lichen has antibacterial and antiviral properties.



SOURCES

Spanish Moss, Ball Moss, and Lichen – Harmless Epiphytes
<https://edis.ifas.ufl.edu/publication/ep485>

Brian Kie Weissbuch, Medicinal Lichens: The Final Frontier. Journal of the American Herbalists Guild, Volume 12 Number 2. 2014



SOIL YOUR UNDIES

By John Dawson, Master Gardener Volunteer



There is a vast living world beneath our feet called the rhizosphere, a region of soil in the vicinity of plant roots in which the chemistry and microbiology is influenced by root growth, respiration, and nutrient exchange. The health of life in this region, also known as the soil food web, determines soil health. Soil health is defined by the United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) as the capacity of the soil to function as a vital living ecosystem that can sustain plants and animals, including humans. The healthier the soil, the healthier the plants will be growing in that soil. Healthy soil contains billions of microbes (living creatures seen only under a microscope). These microbes include bacteria, fungi, protozoa, beneficial nematodes, and micro-arthropods. It is estimated that one teaspoon of healthy soil contains more microbes than all living humans on Earth. Healthy soil also contains larger, visible creatures such as earthworms, arthropods, crustaceans and insects.

That is true in part, but the absence of earthworms does not necessarily mean poor soil and adding earthworms to poor soil will not improve it.

By now, you are probably wondering about the title of this article. Well, one easy way to check the health of your soil is to take the “Soil Your Undies Challenge”

(<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/soils/health/?cid=nrcseprd1470410>). In 2018, with the sponsorship of the USDA-NRCS in Oregon, a group of Oregon farmers planted 100% cotton underwear in their fields at root depth. If your soil is healthy, you should be able to bury a pair of cotton underwear, come back in two months, and dig up nothing but the elastic waistband (microbes only decompose organic matter). If you still have a large portion of cotton still not decomposed, you should take steps to improve your soil (<https://edis.ifas.ufl.edu/publication/SS664>).



SOIL YOUR UNDIES CHALLENGE

Fungi and bacteria are important in breaking down organic matter and storing nutrients. Following the demise of these organisms, the stored nutrients are released and become available to plants. In exchange, plant roots deposit carbohydrates into the soil which feed the microbes. This symbiotic relationship, when in balance, promotes good soil health. There are many tools that scientists use to determine soil health (<https://edis.ifas.ufl.edu/publication/ss657>), but most homeowners usually guess the health of their soil by the success or failure of their plantings. Only after failures do they wonder if the soil is at fault. Some may have heard that finding earthworms in your soil is a sign of good soil health.

How healthy is the soil at Extension? See for yourself.



6/4/21

8/6/21

JOHN DAWSON BURIES AND DIGS UP A PAIR OF UNDERWEAR TO TEST SOIL

Photo: John Dawson

BLOOMING BOTTLEBRUSHES

Photos: Jan Hinz

By Robert Hinz, Master Gardener Volunteer

If you are seeking a beautiful tree or shrub as a specimen plant, the bottlebrush is an option. The shape of the flower gives the plant its name. Native to Australia, there are between 35 to 50 species with at least that many cultivars. But beware, some are invasive. Each species has a slightly different growth pattern and can grow as a shrub or a tree with training. Four species are common in Florida, all formerly of the genus *Callistemon*, now *Melaleuca*: *Melaleuca viminalis* (weeping bottlebrush), *M. rigidus* (red cluster bottlebrush), and *M. citrinus* (lemon bottlebrush). *M. quinquenervia* (white bottlebrush) is an invasive which has been prohibited from being planted in the United States since the 1970's. Weeping bottlebrush has been listed as "High Invasion Risk" by the UF/IFAS Assessment of Non-Native Plants in Natural Areas (<https://assessment.ifas.ufl.edu/>) and is no longer recommended.



**MELALEUCA (CALLISTEMON)
VIMINALIS FLOWER**



**BOTTLEBRUSH
SEED PODS**

The genus name *Callistemon* has been changed to *Melaleuca* in some databases, but not all. This can be confusing when looking up the plant by the scientific name. It may be best to check your local nursery to see which bottlebrush they have in stock and by what name it is labeled.

Red cluster and lemon bottlebrush have showy red flowers that resemble bottle brushes. They are evergreen and have woody brown seed pods that resemble beads on a rope. Both are highly drought tolerant and moderately salt tolerant. They grow in almost any soil: clay, loam, sandy yet acidic, and well drained. The plants do well in full or partial sun and can use an occasional dose of fertilizer. Do not overwater.

Minimal pruning is required to shape and keep bottlebrushes as trees or shrubs. These plants can be grown singly, in groups, or as a privacy barrier. Generally, they do not cause litter problems, and the fruit does not attract wildlife. On the other hand, the flowers draw in bees, butterflies, hummingbirds, and other pollinators. The trees are susceptible to witches' broom and mites; twig galls are also a potential issue.

Melaleuca quinquenervia (white bottlebrush, paper bark, punk tree) is an invasive plant on the Noxious Weeds list

(https://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/wra/melaleuca-quinquenervia.pdf). The tree was brought into Orlando as an "agricultural windbreak, soil stabilizer, and ornamental" and to forest the Everglades in 1936. Left on its own, it thrived and pushed out the native species.

The tree appears in six U.S. states. South Florida has a semi-tropical to tropical climate suitable for its growth. *Melaleuca* is a tall evergreen tree that can grow up to 80 feet with gray-green oval leaves 1-4 inches long. The bark is a whitish color and easily peels off like paper. Sweet-smelling white flowers bloom in spring and summer (occasionally in winter). Blooming trees can cause headaches, respiratory problems, and skin rashes for people with allergies. The fruit resembles that of the other bottlebrushes mentioned above.



**MELALEUCA
QUINQUENERVIA FLOWER**

 **MORE INFO**

<https://www.south-florida-plant-guide.com/red-cluster-bottlebrush.html>

<https://www.south-florida-plant-guide.com/dwarf-bottlebrush.html>

<https://www.south-florida-plant-guide.com/bottlebrush-tree.html>

<https://edis.ifas.ufl.edu/publication/ST110>

<https://edis.ifas.ufl.edu/publication/st111>

<https://www.fws.gov/fisheries/ANS/erss/highrisk/ERSS-Melaleuca-quinquenervia-FINAL-February2019.pdf>

MOSQUITO CONTROL MEASURES CUT FEMALE FEEDER LIFE SHORT

By Alyssa Vinson, Urban Horticultural Agent, Manatee County Extension Service



The Yellow-Fever Mosquito or *Aedes aegypti*, is a non-native mosquito that proliferates in urban areas and acts as a vector for several dangerous pathogens including Dengue fever, yellow fever, Zika and chikungunya. As with other mosquito species, the female mosquito feeds on animals to acquire a 'blood-meal' for her offspring. (Male mosquitos do not feed on animals and may aid in pollinating some plants.) Due to the prevalence of this mosquito in urban areas, and the possibility of viral transmission, campaigns of eradication exist in most central and south Florida communities.

An integrated pest management (IPM) approach to managing pests encourages the use of the most effective tools based on site/species conditions. These methods may be cultural, chemical or biological. Common methods of control for *Ae. aegypti* include educating the public, supplying predator fish species (gambusia fish), and application of

pesticides (larvicide and adulticide). Since this "mozzie" breeds most frequently in stagnant pooling water near urban areas, there are many cultural control steps that an individual can take to help mitigate their reproduction, such as emptying containers of water in the landscape. Commercial products such as 'Mosquito Dunks' can be applied to rain barrels and bromeliads, or any areas of standing water.

But, the use of the above cultural and chemical control methods has not adequately restricted the growth of this mosquito. Indeed, as parts of south Florida are developed, areas of mosquito breeding space have increased. A novel biological control method for controlling this mosquito population is in the testing phases in the Florida Keys.

Genetic modification may seem "otherworldly" or like science-fiction, but in the case of the Friendly™ *Ae. aegypti*

mosquito, it could be a life saver. A process has been developed which allows scientists to modify two genes within the mosquito: one to develop a color marker for easy identification in the wild, and the other to restrict the development of necessary proteins to limit the lifespan of the female mosquito. These 'friendly' mosquitos are released into areas of dense wild populations and as they interbreed, the females (that feed on mammals, including humans) can no longer reach reproductive maturity, thus limiting the overall population.

The main goals of this biological control program are to limit the spread of dangerous viral pathogens and to reduce the amount of pesticides applied to the environment.

COMMON QUESTIONS THAT ARE ASKED REGARDING THIS METHOD OF MOSQUITO MANAGEMENT ARE:

(Taken from <https://fmel.ifas.ufl.edu/general-information/gmm/#9>.)

Q: Is the *Ae. aegypti* mosquito native to Florida?

A: *Ae. aegypti* is not a natural part of the food chain in Florida. It is an invasive insect that was introduced to the U.S. several hundred years ago during European colonization. It is now found across Florida and in other parts of the country, including Texas, Arizona, Nevada, and California.

Q: Will the use of Oxitec *Ae. aegypti* mosquitoes reduce pesticide use?

A: Potentially, if the experiments are successful. In trials conducted in Brazil and the Cayman Islands, the Oxitec technology reduced the local *Ae. aegypti* mosquito population size by more than 90%. If this success could be reproduced in the Florida Keys, it could reduce the reliance on chemical pesticides in that area. Scientists favor integrated mosquito management (IMM) solutions for mosquito control, which means using multiple tools together to give them the best chance of eliminating mosquito populations.

Q: Will the GM *Ae. aegypti* mosquitoes released by Oxitec disturb the ecosystem?

A: This is not very likely. No animal relies solely on *Ae. aegypti* mosquitoes as a food source. Some animals (like bats, frogs, dragonflies and small fish) may feed on mosquitoes, but they also feed on many other insects. So, if there are fewer *Ae. aegypti* present in an area, animals will eat other insects. Additionally, independent tests have also shown that there is a negligible risk of the modified genes in the Friendly™ *A. aegypti* being transmitted to other animals or the environment.

Q: Can bites from the released GM *A. aegypti* mosquitoes make people sick?

A: No. Only male mosquitoes will be released. Male mosquitoes are not capable of biting people or animals. Instead, they feed on nectar and other sources of sugar and may even play a role in pollination.

October Calendar of Events

DATE	TIME	EVENT
Thursday 10/07/21	11:00AM	Palms 101: Master Gardener Volunteer Amy Stripe provides an overview of palms species suitable for Central Florida. Learn the best palm selections for our climate and conditions, planting and maintenance tips, and answers to frequently asked questions. https://ufl.zoom.us/j/91243420649?pwd=V24zbytac2FheCtnOHo2NGFXdzJYZz09
Saturday 10/09/21	9:00AM	Palms Tour at Extension Office: Tour the Extension grounds with Master Gardener Volunteer Amy Stripe to learn palm species, characteristics, and suitability for Central Florida landscapes. Limit 12 participants. Free. https://www.eventbrite.com/e/palms-tour-tickets-170314564447
Saturday 10/23/21	11:00AM	Happy Houseplants!: Join us for a fun, in-person, hands-on Houseplant class where you will learn all about the art and science of successful houseplant care. After the workshop you can walk away with your very own beautiful, easy-to grow plant in a sub-irrigated container. \$35 per person/ plant. Strict limit of 30 participants due to limited supplies. https://www.eventbrite.com/e/happy-houseplants-join-us-for-a-fun-in-person-hands-on-houseplant-class-tickets-161101582169
Friday 10/29/21	2:00PM	Rose Growing in Central Florida: MGV Tom Eckert covers Florida-Friendly practices for growing roses, with emphasis on what has worked in our rose demonstration garden and roses that perform well in Central Florida. https://ufl.zoom.us/meeting/register/tJEqceuvrTooH9KQOBgR-Zn6wVbRMxxzyLHj

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