

What's Growing On?

BASTROP COUNTY MASTER GARDENER ASSOCIATION

March 2021

Build Your Own Native Plant Database

By Howard Nemerov

Do you want a personalized list of plants that will grow easily and attract the most pollinators? Learn how to create this using online resources, from the comfort of your own home!

What's wrong with books?

Nothing: They're a good place to start. Many books discussing Texas native plants fall short in helping build the best pollinator garden possible. For example, a recent read regarding Texas native plants used by native butterflies for larval hosting was helpful, but insufficient for two main reasons:

- The authors featured only 100 plants out of thousands.
- A good portion of their suggested plants are not native to Bastrop county, making them less likely to grow well and attract local butterflies.

Not to derogate the research and hard work it takes to publish a book; authors deserve compensation for their time, effort, and expertise. Publisher's expectations, space limitations, and the need to focus subject matter all contribute to omitting valuable information. You can do what authors charge for, creating a more comprehensive and locally relevant list to produce a pollinator haven in your yard.

(Continued on page 2)

Hosted by the Bastrop County Master Gardeners

SPRING PLANT SALE

ORDER ONLINE MARCH 4-6

CURBSIDE PICKUP MARCH 13

Order online at <https://bcmga78602.company.site>

Curbside pickup by appointment at
 MAYFEST PARK

25 American Legion Dr. in Bastrop



Virtual Plant Sale Coming Soon!!!

Online orders: March 4 (tax-free day)
 March 5-6

Drive-through pickup (by appointment) on
 Saturday, March 13

Proceeds benefit Bastrop County Master Gardener Association educational programs. BCMGA is a 501(c)(3) non-profit organization and a Texas AgriLife Extension program.

Inside this issue:

Build Your Own Native Plant Database	2-6
Snakes on My Kumquat!	7

(Continued from page 1)

Performing basic search according to your needs

Let's say you live in Central Texas and want to find hardy native perennials for beds beneath the high shade of established trees that get some morning sun. First, navigate to the Lady Bird Johnson native plant database at <https://www.wildflower.org/plants>. (Links included in text to help you follow workflow.) Notice that you can select criteria below "Combination Search" to narrow your search. Select for plants native to Texas ("Select State or Province") that are herbs ("Habit"), which in this case means plants that don't form persisting woody stems like deciduous shrubs. Select "perennial" ("Duration")

because you want true perennials: plants that grow back from their roots each spring. Also select for plants that handle part shade and dry soil, because those are usually tough, low-maintenance plants. To narrow the search further, ask for plants that are 1–3 feet tall when mature (check the "1-3 ft." box under "Size Characteristics"). You're searching for understory plants that don't visually detract from stately trunks of established trees. Planning a perennial garden that offers beauty—and nectar—throughout the season is a win for all; include plants with varying bloom periods to reach this goal. Lady Bird's original "combination search" includes "Bloom Time" in its "Bloom Characteristics" section to help create a progression of nectar sources throughout the growing season. Select July and August to see which plants offer nectar during the hottest season.

(There are other search criteria on the page if you want to further refine your search.)

Clicking the "Search" box returns about 60 possible plants. That may seem like too many; this is why authors get paid to winnow down raw data into manageable, book-sized discussions. Your next step is to determine which of these plants are native to your county. For that, navigate to the USDA Plants Database at <https://plants.sc.egov.usda.gov/java/>. For each plant on your Lady Bird search results, copy and paste the botanical name into the search box in the upper left of the USDA database. In this search, the first plant is *Abronia ameliae*.

(Continued on page 3)

Volunteering

Master Gardeners volunteer in the community to teach others about horticulture. We follow the research-based recommendations of Texas A&M AgriLife Extension. Members who complete 50 hours of volunteer service in the year after training earn the designation "Texas Master Gardener." We use our title only when engaged in Texas A&M AgriLife Extension activities.

(Continued from page 2)

https://plants.sc.egov.usda.gov/core/profile?symbol=ABAM2

Abronia ameliae Lundell
Amelia's sand verbena

General Information

Symbol:	ABAM2
Group:	Dicot
Family:	Nyctaginaceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	L48 N

Legend: Native (Green), Introduced (Blue), Both (Orange), Absent/Unreported (White)

Click on the “Go” button to return information on this plant. USDA shows that *Abronia ameliae* is native only to Texas (left). On the map’s left is a zoom bar. If your mouse has a scroll wheel, rolling it forward while your cursor hovers over the map expands the map until county details appear. After zooming in, we see that *Abronia ameliae* is native to South Texas (below). Oops, next! Back to Lady Bird results.

https://plants.sc.egov.usda.gov/core/profile?symbol=ABAM2

Abronia ameliae Lundell
Amelia's sand verbena

General Information

Symbol:	ABAM2
Group:	Dicot
Family:	Nyctaginaceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	L48 N

Legend: Native (Green), Introduced (Blue), Both (Orange), Absent/Unreported (White)

Repeat the above USDA search until you find plants native to your county. For this lesson, skip down to *Achillea millefolium*. Categories aren’t always straightforward in these searches. The first result USDA displays is a list of the species, subspecies, and varieties of *Achillea millefolium* (below left). Select the species, conveniently first on the list. After clicking on it, you’ll see that the USDA considers *Achillea millefolium* both native and introduced in Texas. Fortunately, it’s native to many Central Texas counties (below right).

https://plants.sc.egov.usda.gov/jsp/nameSearch

Name Search

Results for Scientific Name = *Achillea millefolium*
28 records returned

Symbol	Scientific Name	Common Name	Photos
ACHM2	<i>Achillea millefolium</i> L.	common yarrow	(19)
ACHM4	<i>Achillea millefolium</i> L. var. <i>alpina</i> (Synb.) Garrett	common yarrow	
ACHM5	<i>Achillea millefolium</i> L. var. <i>fovea</i> (Synb.) G.N. Jones	common yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>arenicola</i> (A. Heller) Nobs	common yarrow	
ACHM4	<i>Achillea millefolium</i> L. var. <i>maritima</i> Jeps.	common yarrow	
ACHM5	<i>Achillea millefolium</i> L. var. <i>bonaria</i> (Bonp.) Fernald	boreal yarrow	(1)
ACHM3	<i>Achillea millefolium</i> L. ssp. <i>atropurpurea</i> B. Boivin		
ACHM2	<i>Achillea millefolium</i> L. ssp. <i>bonaria</i> (Bonp.) Fernald		
ACHM2	<i>Achillea millefolium</i> L. var. <i>fulva</i> B. Boivin		
ACHM5	<i>Achillea millefolium</i> L. var. <i>parviflora</i> B. Boivin		
ACHM4	<i>Achillea millefolium</i> L. var. <i>parvula</i> B. Boivin		
ACHM2	<i>Achillea millefolium</i> L. var. <i>californica</i> (Holland) Jeps.	California yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>gigantea</i> (Holland) Nobs	giant yarrow	
ACHM5	<i>Achillea millefolium</i> L. var. <i>magnocephala</i> (Rau) B. Boivin	coast yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>millefolium</i>	common yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>millefolium</i>	common yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>agrestensis</i> E. Mey.	common yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>occidentalis</i> DC.	western yarrow	(8)
ACHM4	<i>Achillea millefolium</i> L. var. <i>asplenifolia</i> (Vend.) Fernald		
ACHM2	<i>Achillea millefolium</i> L. var. <i>gracilis</i> (Raf.) Steud. & DC.		
ACHM2	<i>Achillea millefolium</i> L. ssp. <i>lanulosa</i> (Nutt.) Piper		
ACHM3	<i>Achillea millefolium</i> L. var. <i>lanulosa</i> (Nutt.) Piper		
ACHM2	<i>Achillea millefolium</i> L. ssp. <i>occidentalis</i> (DC.) Jeps.		
ACHM5	<i>Achillea millefolium</i> L. ssp. <i>patiboloides</i> B. Boivin		
ACHM2	<i>Achillea millefolium</i> L. var. <i>rossii</i> (Desf.) Torr. & A. Gray		
ACHM2	<i>Achillea millefolium</i> L. var. <i>rossii</i> (Desf.) Torr. & A. Gray		
ACHM2	<i>Achillea millefolium</i> L. var. <i>pacifica</i> (Synb.) G.N. Jones	Pacific yarrow	
ACHM2	<i>Achillea millefolium</i> L. var. <i>puberula</i> (Synb.) Nobs	common yarrow	

Achillea millefolium L.
common yarrow

General Information

Symbol:	ACMI2
Group:	Dicot
Family:	Asteraceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	AK N CAN I,N GL W HI I L48 I,N SPM I,N

Other Common Names: millenrama, milfoil

Legend: Native (Green), Introduced (Blue), Both (Orange), Absent/Unreported (White)

Returning to Lady Bird, click on the *Achillea millefolium* hyperlink to learn more about the plant, helping you decide if you want it in your landscape plan (https://www.wildflower.org/plants/result.php?id_plant=ACMI2). Lady Bird includes a general description, plant characteristics, and other criteria like

(Continued on page 4)

bloom color and time. Scrolling towards the bottom, Lady Bird includes relevant pollinator information: Under “Value to Beneficial Insects” we learn that *Achillea millefolium* offers “special value to native bees.” A native plant that offers “special value” to native pollinators is notable.

If it’s native to your county, record it in a table. Spreadsheet and word processing software are great organizing tools. Populating this list is your first step in the process. I usually include columns for botanical name, the link to Lady Bird’s page for this species, and bloom period.

Larval host plants create a full-time butterfly home

Other native plants offer larval hosting for butterflies and moths. Including host plants creates a garden that provides a home throughout their entire lifecycle. For example, the milkweed *Asclepias verticillata* is native to many counties in the eastern section of Central Texas (<https://plants.sc.egov.usda.gov/core/profile?symbol=ASVE>). As we all know, it’s a host plant for Monarch butterflies, making it worth cultivating in semi-shady areas. Better yet, we have native butterflies—living in Texas their entire lifecycle—that use milkweed to feed their young. This brings us to the next piece in your list-building process.

If butterfly gardening interests you, it will be helpful to familiarize yourself with Butterflies and Moths of North America (BAMONA) at <https://www.butterfliesandmoths.org>. As with Lady Bird and USDA, there’s a search box in the top right of their home page, enabling you to look up butterflies.

Perform an internet search of “butterflies milkweed” to obtain results including this University of Florida article, among other sources, that list butterfly varieties—Queen and Soldier—whose larvae need milkweed (<https://gardeningolutions.ifas.ufl.edu/plants/ornamentals/milkweed.html>). Obviously, searching for “butterflies/caterpillars [plant name]” would enable you to find butterflies that need a certain plant for larval hosting or not, as each case may be.

<https://plants.sc.egov.usda.gov/core/profile?symbol=ASVE>

Asclepias verticillata L.
Whorled milkweed

General Information

Symbol:	ASVE
Group:	Dicot
Family:	Asclepiadaceae
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	CAN N L48 N

Data Source and Documentation

Symbol: ASVE

Native Status: L48 AK HI PR VI NAV CAN GL SPM NA

<https://www.butterfliesandmoths.org>

Home About Get Involved Identify Image Gallery Maps and Data Species Profiles Donate

Butterflies and Moths of North America
collecting and sharing data about Lepidoptera

Search [input]

Log in Register

Butterflies and Moths of North America (BAMONA) is an ambitious effort to collect, store, and share species information and occurrence data. You can participate by taking and submitting photographs of butterflies, moths, and caterpillars.

Thank you!
We depend on donations to keep Butterflies and Moths of North America freely available. We want to express our gratitude to all who showed their support by making a contribution this year. You can donate to support this project at any time.

Donate

<https://www.butterfliesandmoths.org/species/Danaus-gilippus>

Thank you!
We depend on donations to keep Butterflies and Moths of North America freely available. We want to express our gratitude to all who showed their support by making a contribution this year. You can donate to support this project at any time.

Donate

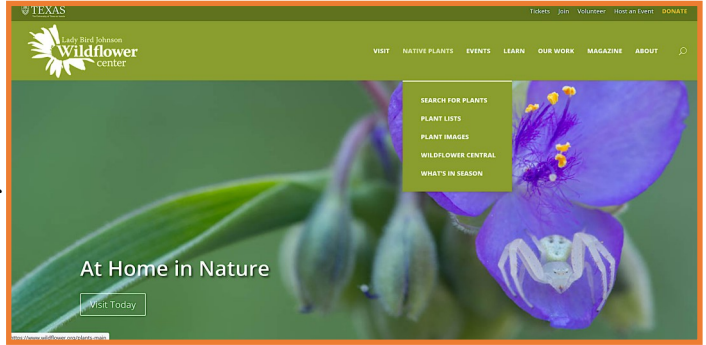
Family: Nymphalidae
Subfamily: Danainae
Identifications: Upperside is chestnut brown; black borders of forewings have 2 rows of white spots; black spots are scattered at the forewing apex. Underside of hindwing has black veins; black borders of both wings have 2 rows of white spots. Upperside of male hindwing has a black scale patch. Very similar to the Soldier (*Danaus eresimus*), but is more brown and has less defined wing veins on the upperside. Underside hindwing lacks band of pale spots present in the Soldier. Queens in the southwest (and sometimes in the southeast) have pale veins on the upperside of the hindwings, which are lacking in the Soldier.
Wing Span: 2.5/8 - 3.7/8 inches (6.7 - 9.8 cm).
Life History: To find females, males patrol all day. Females lay eggs singly on leaves, stems, and flower buds; which the caterpillars eat. Adults roost communally.
Flight: All year in Florida and South Texas, July-August in the north.
Caterpillar Hosts: Milkweeds and milkweed vines. Some of the milkweeds contain cardiac glycosides which are poisonous to the bodies of both the caterpillars and

Results for the Queen (*Danaus gilippus*, <https://www.butterfliesandmoths.org/species/Danaus-gilippus>) include general description, caterpillar hosts, and much more. Under “caterpillar hosts” you’ll see that Queen caterpillars also consume milkweed. BAMONA includes a zoomable map with historical reports of Queen sightings; generally, native host plants will attract native pollinators. You may also want to add a column in your chart to note what pollinators will visit each plant on your list.

(Continued from page 4)

Quicker way to build pollinator plant lists

Fortunately, Lady Bird Johnson Wildflower Center offers lists for various pollinators. From their homepage, hover your cursor over “Native Plants” to produce a dropdown list that includes “Plant Lists.” Click on that to navigate to the “Plant Lists & Collections” page (<https://www.wildflower.org/collections/>). At the top of the page are “Recommended Species by State.” Texas is a huge state with many climate and soil zones, each with its own list of native plants adapted to those conditions, so it’s fortunate that Lady Bird links to a list of “Texas – Central” plants to narrow your search for likely winners (https://www.wildflower.org/collections/collection.php?collection=TX_central).



The Central Texas page includes the same search parameters discussed above, so you could search for an annual or perennial that prefers sun or part-shade; one that prefers moist or dry soil. You can narrow your search further by selecting criteria like bloom time and size. You can check the resulting list against the USDA plant database to verify that a plant is native to your county, but Lady Bird’s list will contain a higher percentage of those; a timesaver.

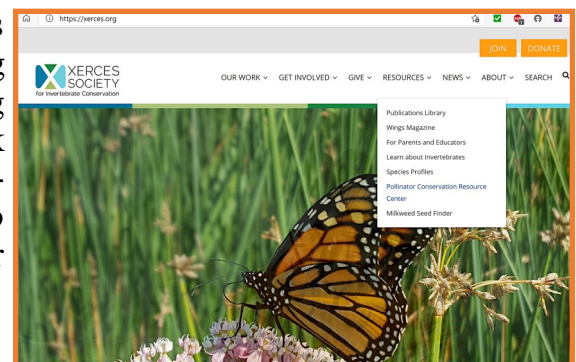
Scrolling down, Lady Bird offers a collection of lists entitled “Plants for Central Texas”. Here, you could look at specialized lists for Central Texas milkweeds, pond plants, drought resistant plants, and others. For example, clicking “Drought Resistant Plants for Central Texas” returns a list of “commercially available native plants that perform well during extreme drought.” (https://www.wildflower.org/collections/collection.php?collection=centex_drought)

Scrolling farther down, you arrive at the “Plants for Pollinators” section. Clicking on “Butterflies and Moths of North America” returns a list of nectar and larval hosting plants (<https://www.wildflower.org/collections/collection.php?collection=bamona>). Again, you can cross-reference these plants against the USDA plant database to compile a list of those native to your county. The good news is that if a plant is native to your county, there are butterflies and moths visiting it. As with other specialty pages, you can narrow your search by selecting criteria like light requirements, soil moisture, bloom time, and height.

Lady Bird also provides special collections for other pollinators, including native bees and bumble bees. Clicking on any of these links returns a page offering the same features of narrowing your search via cultural criteria like light requirements and height, as discussed above.

Other resources available

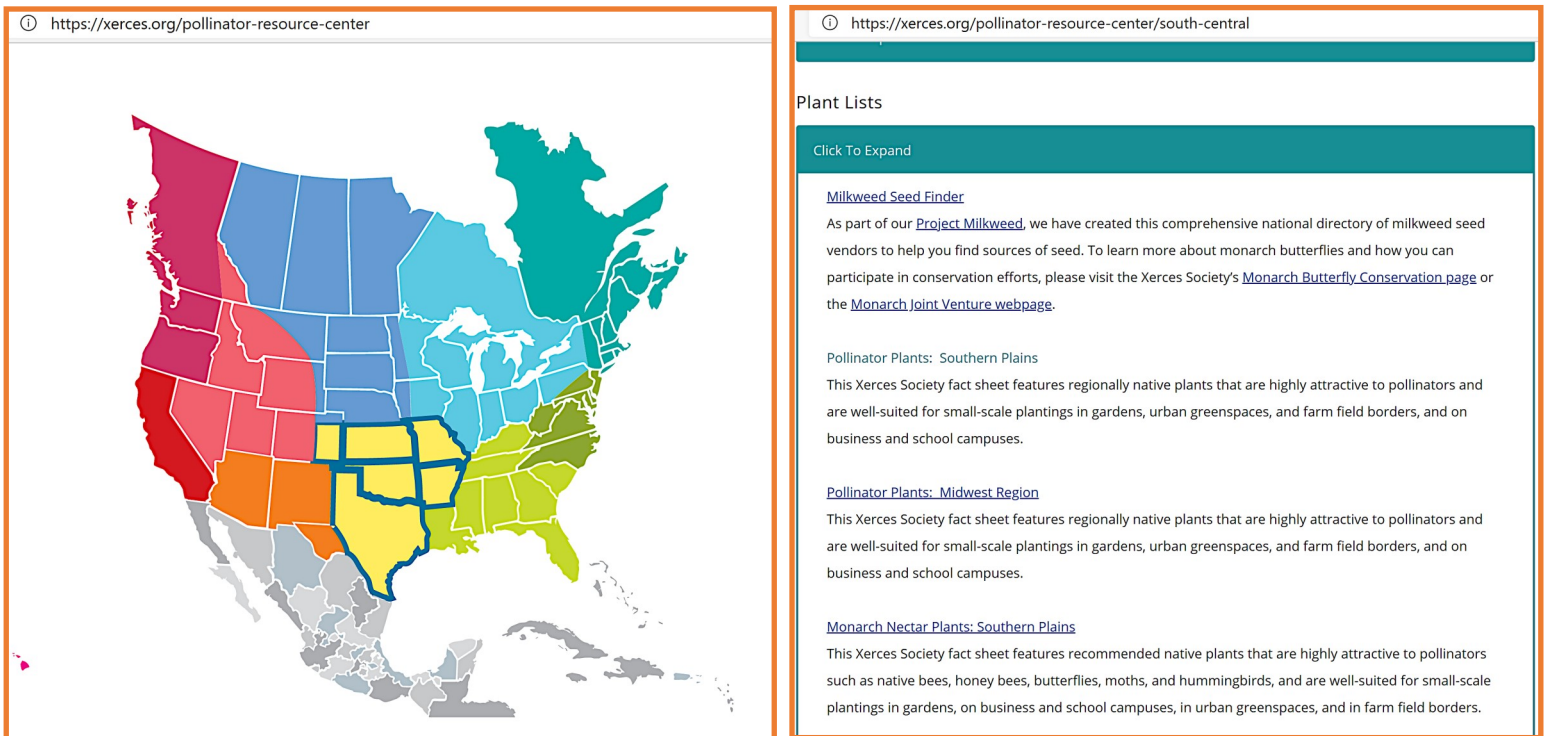
Consider one final resource here: The Xerxes Society also offers lists of pollinator-friendly plants (<https://xerxes.org>). Hovering your cursor over “Resources” produces a dropdown list including “Pollinator Conservation Resource Center”. Clicking that link brings you to a page containing lists of “region-specific collections of publications, native seed vendors, and other resources to aid in planning, establishing, restoring, and maintaining pollinator habitat...” (<https://xerxes.org/pollinator-resource-center>)



(Continued on page 6)

(Continued from page 5)

The page includes a map where you can click on the region including Texas (below left). Clicking there returns their resource page that includes many resources like habitat assessment and native seed and plant vendors (<https://xerces.org/pollinator-resource-center/south-central>). It also includes plant lists. Clicking the blue-green “Click to Expand” box opens links to documents and resources. Clicking on “Pollinator Plants: Southern Plains” (below right) navigates to a page containing the document entitled “Monarch Nectar Plants: Southern Plains” (<https://xerces.org/publications/plant-lists/monarch-nectar-plants-southern-plains>). There, you can download a list of nectar plants, organized by criteria like blooming season and water needs. Since this list is for the Southern Plains, you’ll need to cross-reference the USDA plant database to determine if a plant is native to your county.



Clicking on “Pollinator Plants for Texas Conservation Practices” returns another document published by the Natural Resources Conservation Service (NRCS), which offers a “list of pollinator friendly plants for use in conservation practices in Texas...” (https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/txpmctn8222.pdf) It contains alphabetized lists of herbaceous and woody species that you can cross-reference with Lady Bird and the USDA plant database to produce another list of best-performing plants for your garden.

Rather than letting others limit your garden design—and pollinator visitors—accessing these resources and following this process empowers you to create a design using native plants to attract pollinators for the most attractive, low-maintenance garden possible.



New Website Features

Check out our website, which features project slideshows, a new photo gallery section, and an events calendar to check out upcoming activities. Find news articles and our newsletters. Thanks to Kathleen Newton for keeping the info timely for us <https://txmg.org/bastropcounty/>

Snakes on My Kumquat!

By Monterrey Williams

Have you ever made a rash decision about an insect and later, after learning more about it, realized your first impression was wrong? That is exactly what happened to me, and in the process of the experience I learned about the largest butterfly in North America.

On a Sunday afternoon, September 20, 2020, I was standing on the deck behind my house. About five feet away was a kumquat tree I planted the previous fall. It had been in a pot for several years without producing fruit since the purchase year. I hoped by replanting it and providing proper fertilizer, I would see some fruit again. I noticed there were four slender stems, spiking out about two feet from the main bush. Thinking I had new growth, I went for a closer look. Something had munched off every leaf on the stems and left behind a jagged, shard-like bit of leaf at the junction where the leaf grew from the main stem (leaf axil).



I continued to look at the citrus plant, pulling apart the stems to look inside. There were four grey, mottled, fat, snakelike caterpillars laying on the striated stems. My first impression was I had “mini snakes” on the kumquat tree! I had never seen such a thing and was intrigued to find out what they were. Upon researching, I discovered the caterpillars were Orange Dog caterpillars (Papilio cresphontes). This is the larval stage of one of the largest swallowtail species in North America.¹ I had observed these large butterflies in my yard on several occasions getting nectar from the plumbagoes or Pride of Barbados, but I knew nothing of their life cycle.

My experience with the Orange Dog Caterpillar taught me the importance of correct identification. Instead of thinking of them as just an ugly threat, I appreciate and feel privileged to better understand the fascinating cycle of life of the beautiful Giant Swallowtail Butterfly.

¹ H. J. McAuslane, “Giant Swallowtail, Orangedog, Papilio cresphontes Cramer (Insecta: Lepidoptera: Papilionidae)”. University of Florida Extension. Accessed February 2021. <http://edis.ifas.ufl.edu/in134>

