

# Windbreak Plant Species for Florida Citrus Groves

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| Common name | Scientific name | Plant type <sup>a</sup> | Region <sup>b</sup> | Rate of growth <sup>c</sup> | Spacing | Ht. at 2 yrs <sup>a</sup> | Mature ht. | Availability <sup>d</sup> |
|-------------|-----------------|-------------------------|---------------------|-----------------------------|---------|---------------------------|------------|---------------------------|
|-------------|-----------------|-------------------------|---------------------|-----------------------------|---------|---------------------------|------------|---------------------------|

Casuarina sp. **ALL species are PROHIBITED from use in Florida (FDEP). Note, however, that legislation was signed into law in 2008 permitting restricted propagation of Casuarina cunninghamiana. The law allows only vegetative propagation of Florida sources of male Casuarina cunninghamiana plants for use as windbreaks in citrus groves in only Martin, St. Lucie and Indian River Counties. The Florida Department of Agriculture and Consumer Services, Division of Plant Industry, is the rule-making and regulatory authority. For legislation details, see:**

[Click here for Legislation details](#)

## FOUNDATION SPECIES

|                         |                             |   |      |   |            |                   |        |              |
|-------------------------|-----------------------------|---|------|---|------------|-------------------|--------|--------------|
| Eastern Red cedar       | <i>Juniperus virginiana</i> | T | R, F | S | 4 to 6 ft. | 6 ft              | 40 ft. | G            |
| Southern Red Cedar      | <i>Juniperus silicicola</i> | T | R, F | S | 4 to 6 ft. | 6 ft              | 40 ft. | G, NPN       |
| Slash pine              | <i>Pinus elliottii</i>      | T | R, F | I | 3 to 6 ft. | 8-10 ft.          | 80 ft. | G            |
| Sand pine               | <i>Pinus clausa</i>         | T | R    | I | 3 to 6 ft. | 6 ft.             | 70 ft. | G            |
| Silk oak                | <i>Grevillea robusta</i>    | T | F    | F | 6 ft.      | 10 ft.            | 40 ft. | Very limited |
| Longleaf pine           | <i>Pinus palustris</i>      | T | R    | I | 3 to 6 ft. | 6 ft.             | 80 ft. | G            |
| Eucalyptus              | <i>E. grandis</i>           | T | R, F | F | 3 to 6 ft. | 15 - 20 ft.(1 yr) | 90 ft. | L            |
| Bamboo 'Buddha's Belly' | <i>Bambusa ventricosa</i>   | C | R, F | F | 4 to 6 ft. | 20 ft.            | 40 ft. | L            |
| Bamboo 'Oldham'         | <i>Bambusa oldhamii</i>     | C | R, F | F | 6 ft.      | 30 ft.            | 60 ft  | L            |

## FOUNDATION PARTNERS

|                   |                               |   |      |       |            |            |              |        |
|-------------------|-------------------------------|---|------|-------|------------|------------|--------------|--------|
| Walter's viburnum | <i>Viburnum obovatum</i>      | S | R, F | MF    |            | 6 - 10 ft. | 20 ft.       | G, NPN |
| Sweet viburnum    | <i>Viburnum odoratissimum</i> | S | R, F | F     | 6 ft.      | 6 - 10 ft. | 20 ft.       | G      |
| Saw palmetto      | <i>Serenoa repens</i>         | C | R, F | S     | 3 ft.      | 4 ft.      | 6 ft.        | G      |
| Crape myrtle      | <i>Lagerstroemia indica</i>   | S | F    | I     | 3 to 6 ft. | 10 ft.     | 30 ft.       | G      |
| Wax myrtle        | <i>Myrica cerifera</i>        | S | R, F | F     | 6 ft.      | 6 - 10 ft. | 10 to 15 ft. | G, NPN |
| Simpson's stopper | <i>Myrcianthes fragrans</i>   | S | R, F | S - I | 3 to 5 ft. | 6 ft.      | 20 to 30 ft. | G, NPN |

## OTHER

|                          |                              |   |      |   |            |            |              |        |
|--------------------------|------------------------------|---|------|---|------------|------------|--------------|--------|
| Loblolly pine            | <i>Pinus taeda</i>           | T | R, F | I | 4 - 6 ft.  | 6 - 8 ft.  | 100 ft.      | G      |
| Black cherry             | <i>Prunus serotina</i>       | T | R    | F | 6 -10 ft.  | 8 ft.      | 60 ft.       | G, NPN |
| East Palatka holly       | <i>Ilex x attenuata</i>      | T | R, F | I | 5 - 8'     | 10 ft.     | 25 to 40 ft. | G      |
| Dahoon holly             | <i>Ilex cassine</i>          | T | R, F | S | 8'         | 6 ft.      | 30 ft.       | G      |
| Redbay                   | <i>Persea borbonia</i>       | T | R, F | I | 6 - 10 ft. | 8 ft.      | 30 to 40 ft. | G, NPN |
| Sugar cane               | <i>Saccharum officinarum</i> | C | R, F | F | 2'         | 15'        | 15 ft.       | G      |
| Winged elm               | <i>Ulmus alata</i>           | T | R, F | F | 12 -15'    | 6 - 10 ft. | 40 ft.       | G      |
| Magnolia 'D D Blanchard' | <i>Magnolia grandiflora</i>  | T | R, F | S | 20 ft.     | 5-6 ft.    | 50 ft.       | G      |
| Southern Magnolia        | <i>Magnolia grandiflora</i>  | T | R, F | I | 10'        | 6'         | 70 ft.       | G      |

<sup>a</sup>T=tree; S=shrub; C=clump

<sup>b</sup>R=Central Florida Ridge; F=flatwoods

<sup>c</sup>F=fast; I=intermediate; S=slow

<sup>d</sup>Response to commonly used herbicides in citrus groves: T=tolerant; S=susceptible or significant damage.

<sup>e</sup>Growth under natural conditions, i.e. without irrigation and fertilization. Entries in *ITALICS* indicate response under culture.

<sup>f</sup>G=generally available; L=limited availability; NPN= native plant nurseries.

## Notes on the Principal Decision-Characteristics of Windbreak Plants

(Click on any plant name to see related literature)

**FOUNDATION SPECIES** - Some of these species can be used by themselves or in conjunction with other species.

### [Eastern Red Cedar](#)

Excellent plant that is grown throughout Florida; readily available in nurseries; easy to establish; grows anywhere citrus is grown, good wind tolerance; plants are foliated top to bottom; can be planted in single or double rows in a one-plant design; *BUT, grows slowly.*

### [Southern Red Cedar](#)

Same as Eastern red cedar. This is the **preferred plant** among the two species and the one often available in nurseries. Botanists sometimes do not make distinctions between the two species. Any botanical differences are not likely to be important in their function as a windbreak.

### [Slash pine](#)

Excellent, sturdy plant widely grown in the flatwoods and on the Ridge. Intermediate growth rate. Plants benefit from irrigation and fertilization especially with P in deficient soils. Use only Southern slash pine; plant container-grown seedlings with caution throughout the year, but bare-root seedlings only in the dormant, winter season. *BUT, not suited for sites with pH above ~ 6.5, thus, avoid planting in Chobee, Florida, Manatee (usually have calcareous subsoil) and Bradenton/Parkwood, Hilolo/Winder, Pople, Boca, Hallandale (always have calcareous subsoil). As the trees grow, branches and foliage occur mostly in the upper parts of the canopy. A lower story companion (Foundation Partner) plant is required to provide wind blockage.*

### [Sand pine](#)

Intermediate growth rate; retains foliage from top to bottom for many years; seedling plants generally available; use the same precautions in planting sand as with slash pine. Probably suitable for use in a one-plant design. *BUT, can only be used in Ridge or dry places and the plants are less wind-sturdy than slash pine trees.*

### [Silk oak](#)

In addition to Eucalyptus, this is the other fast-growing species that is best suited for coastal flatwoods. This evergreen tree is suited to most soils except very calcareous or chronically wet conditions. It can be used by itself in single rows. *BUT, it is described as being susceptible to mushroom root rot if grown in wet sites and the trees become brittle as they age. Branch loss can be expected from wind damage. Also, the species is not very cold hardy. Thus, until further experience is gained in Florida, Grevillea is only recommended for the warmer, coastal areas of the citrus industry.* This species is used extensively in Brazil and less so in other parts of the world where citrus is grown.

### [Longleaf pine](#)

A good species of pine probably suited only for the Ridge. Inexpensive seedlings are generally available and are planted in the so-called "grass stage" in which the plant first develops a root system then a shoot bolts up to start the canopy 6 to 12 months later.

### [Eucalyptus](#)

There are two species: *E. grandis* and *E. amplifolia*. Seedlings of each species are fast growing, relatively easy to establish, but differ in their suitability for sites within the citrus regions of Florida. Selections of *E. grandis* have been made based on their performance in Florida trials. Clones are being established, but at the moment, seedlings are the sources of plants for windbreaks. Click [here](#) for a detailed information about Eucalyptus.

### [Bamboo \("Buddha's Belly"\) \(Bambusa ventricosa\)](#)

Bamboos of the clumping type, of which this is one selection, are the best choice among bamboo options. This selection is fast growing, can be used by itself in a single row, and is easy to establish. The plants are cold hardy and suitable for most environments. They respond very well to irrigation and fertilization and can be topped. *BUT, the plants are generally available only in specialized or ornamental plant nurseries and in containers at costs that may preclude their use, at least on a large scale. Also, while clumping types are recommended, the plant clumps do slowly expand and may require management. Bamboo also flowers occasionally and leaf loss or plant death may occur.* Therefore, if choosing to use bamboo, there may be justification for mixing several selections or species when planting.

### [Bamboo 'Oldham'](#)

See 'Buddha's Belly.'

### [Bambusa multiplex](#)

This is a basic, ordinary clumping bamboo; a dense plant useful in a two-species windbreak with this bamboo as the lower story species. In full sun it grows densely to about 15-20 feet; in partial shade it produces slightly less dense growth reaching 25-30 feet. 'Alphonse Karr' is a commonly available selection.

### [Bamboo 'Maling' \(Bambusa malingensis\)](#)

Produces many medium-sized culms each year. Tolerates salty sea breezes and temperature well below freezing. Forms tight erect clumps. Very long internodes. May grow 30 feet tall.

FOUNDATION PARTNERS - The usefulness of these plant species in windbreaks is unknown, but they have potential as lower story species in conjunction with Foundation Species.

- [Walter's viburnum](#) A shrubby, hardy plant suited for most sites regardless of soil, drainage, or pH. Not particularly salt tolerant. Mature size can range from 8-25 feet tall by 6-10 feet wide. Grows in full sun to part shade. Available mostly in native plant nurseries. Moderate rate of growth. Few pest or disease problems.
- [Sweet viburnum](#) A commonly available ornamental plant similar in characteristics to Walter's viburnum. Benefits substantially from irrigation in the first 2 years. **Walter's** might be the **preferred** plant of these two viburnum options.
- [Crape myrtle](#) This very popular ornamental plant is untried as a windbreak species, but produces a hardy shrubby to small tree-sized plant with excellent drought and heat tolerance. It is not salt tolerant and has low water and fertilizer requirements, but is responsive to culture. Plants are readily available in nurseries, but there are many cultivars. Inexpensive ones may be the best choice. The plants are vigorous and can easily be pruned if damaged or replaced.
- [Wax myrtle](#) A very tough native plant that grows virtually anywhere and tolerates most everything. It forms shrubby, mostly spherical plants that quickly grow 10 feet tall. It is primarily available in native plant nurseries.
- [Simpson's stopper](#) Another tough native plant that grows everywhere in virtually all conditions. It grows in full sun or deep shade and is most useful where the soils contain shell, marl, or lime rock (alkaline soils). This plant will tolerate wet soils but is also drought tolerant. It shears well and has a high salt tolerance. It is primarily available in native plant nurseries. *Specimens can be observed at the entrance to main building of the Southwest Research and Education Center, Immokalee.*

OTHER - Most of these plant species have unknown potential for use in windbreaks and represent a higher risk than the FOUNDATION PARTNERS

- [Black cherry](#) A pioneer species of fast-growing native tree that provides fruit for wildlife. *Not shade tolerant* and best suited for Ridge locations. *Deciduous*.
- East Palatka holly This native plant discovered near Palatka, Florida, in 1927, is hardy and easy to establish. It grows quickly in full sunlight. Its upright growth when planted close is suitable for a windbreak. Prefers acid soils.
- Dahoon holly
- [Redbay](#) A native evergreen tree species that can be grown in all areas of the state; very adaptable plant, provides fruit for wildlife. May have brittle branches, but responds well to pruning.
- [Sugar cane](#) Temporary windbreak perhaps best used for "internal" locations rather than perimeter sites or with new plantings.
- [Winged elm](#) Select mildew-resistant forms. DECIDUOUS.
- [Southern Magnolia](#) Southern Magnolia will thrive in a moist organic soil in full sun and hot conditions once established. It prefers acid soil but will tolerate a slightly basic, even wet or clay soil. **Light requirement:** full sun, partial sun or partial shade.
- Magnolia 'D D Blanchard'