

GROWING PLANTS IN SHADY PLACES

prepared by J.F. Garofalo

Gardeners often complain that they can't get anything to grow in the shaded part of the garden. Why won't plants flourish or even grow under a banyan or other dense tree, or sometimes even on the shady side of the house?

Some maintenance firms solve the problem with a "planned replacement" policy. They install some nice plant that they know won't survive for long, then replace it when it starts to look ragged.

We tend to blame everything on the shade, when in fact there are several factors involved in plant failure in shady spots. If we deal only with the shade problem, we never seem to solve the problem completely. Let's consider some of the problems associated with shady sites, and some possible solutions to these problems. This approach may lead to greater plant success in these challenging places, based on a better understanding of the situation.

LOW LIGHT.

Obviously, low light level is a big part of the problem. All green plants need light to carry on photosynthesis, the chemical reaction in which carbon dioxide gas and water are combined to form the many carbon compounds that make up the plant. Photosynthesis drives all the chemical reactions involved in plant growth and development. Without sufficient light to drive photosynthesis and these other chemical reactions, the carbon / energy factory in the plant would simply shut down, and plants cannot survive such conditions for long.

Possible solutions:

1. Sometimes pruning overhanging

branches or removing obstructions can increase the amount of light reaching the plants.

2. An alternative is to increase the reflected light by painting walls and fences white. It is usually impractical to use artificial lighting to supplement natural daylight. The lights would have to be very close to the plants, and the wattage needed would be too costly.

3. The most effective solution is to select plants that are naturally adapted to low-light conditions. Quite a few shade tolerant plants are available.

In the tropics, especially in tropical rainforests, there are many plants that have evolved under the low-light conditions on the forest floor. Survival of these plants depends in part on their ability to increase the area of their leaves in the shade. This enables them to catch enough light to survive and grow.

Shade-tolerant plants usually grow more slowly than their sun-loving cousins. Many of these plants will also grow in brighter conditions, but there they would develop "sun leaves," which are smaller and thicker than shade leaves.

WATER.

Lack of water is often an unrecognized problem in shaded areas, especially if the shade is created by trees or other large plants. In the first place, they can prevent rain from reaching the ground. But large plants will also quickly soak up what little rain does reach the ground.

Possible solutions:

1. An irrigation system is an obvious solution, as is 2. growing in containers. But you can also reduce the problem by 3.

improving the water-holding capacity of the soil. Incorporate organic matter as compost, and 4. apply it to the surface as a mulch. Evaporation will be reduced by covering the soil with several inches of mulch. If given sufficient water, plants like tree ferns will grow under as little as 10% daylight.

PLANT CHOICE: THE BEST SOLUTION.

Foliage plants for shade.

There is a wide choice of plants for growing under tropical shade conditions. Ferns and aroids are especially suitable. *Selaginella* is a genus of primitive fern-like plants that may be used as ground covers or as small shrubs.

The leaves of many begonias are variegated and just as attractive as flowers. Begonias also grow very well under low-light conditions. Plants in the prayer-plant family, like *Maranta*, *Calathea*, and others, also have attractive, patterned leaves. Almost any coleus can be grown in light to moderate shade.

A wide variety of hostas are available for more northerly locations. In north Florida they are short-lived, lasting only a few years; here in South Florida, they'll only survive a year or so. They have rosettes of leaves, often variegated and often with a pleasing bluish-green color. They also flower well under shaded conditions. Only a few types are ever seen in local gardens. It would be interesting to see results of trials of a number of varieties under our growing conditions.

Flowering plants for shade.

While many shade-tolerant plants provide interesting foliage, the range of those that produce brightly colored flowers is rather

limited. Impatiens is a reliable shade plant with bright flowers. It is in fact the most popular bedding plant. The flower colors and plant sizes and habits seem endless. And some begonias flower well in shade.

Also, there are a number of spectacular gingers available for tropical gardens, including species of *Hedychium*, *Costa*, *Curcuma*, *Kaempferia*, and others.

The nun orchid is one of several ground orchids that thrive in shade, as do most of the epiphytic orchids. Bulbous, lily-like plants can provide seasonal flowers. Examples include *Amaryllis* (*Hippeastrum*), rain-lilies (*Zephyranthes*), and *Crinum*.

There are also some bromeliads well suited to shade which have striking foliage as well as very long-lasting flowers and bracts in a wide range of colors. Some can be attached to logs or grown on tree trunks. Soil condition is of little importance because they use the water and minerals held in the base of the vase-like rosette of leaves, or they extract water and nutrients from the air. Larger shade plants include various palms which do well in shade.

Recommended plants that grow well in shade are listed in tables 1, 2, & 3. You may also wish to consult the references, which provide more extensive lists of shade plants, along with cultural information.

Above all, your most valuable asset in a shady garden is your imagination. Keep trying new plants you hear or read about. You can derive a great deal of pleasure from such a study, and you will have some original information to pass on to your gardening friends.

Table 1. Palms suitable for shade in South Florida.

Palms 20-30 ft when mature:

Archontophoenix alexandrae, *Calyptrocalyx spicatus*, *Chamaedorea woodsoniana*, *Howea forsteriana*, *Laccospadix australasica*, *Livistona chinensis*, *Neodypsis decaryl*, *Pritchardia pacifica*, *Trachycarpus fortunei*, & *Veitchia joannis*.

Palms 10-20 ft when mature:

Areca latiloba, *Butia capitata*, *Caryota mitis*, *Chrysalidocarpus lutescens*, *Cyrtostachys renda*, *Geonoma sp.*, *Howea belmoreana*, *Hyophorbe lagenicaulis*, *Licuala grandis*, *L. spinosa*, *Phoenix roebelinii*, & *Veitchia merrillii*.

Palms 3-10 ft when mature:

Chamaedora cataractarum, *C. costaricana*, *C. erumpens*, *C. microspadix*, *C. radicalis*, *C. tepejilote*, *C. seifrizii*, *Pinanga kuhlii*, *Rhapis excelsa*, & *R. humilis*.

Dwarf palms, about 3 ft:

Chamaedorea elegans, *C. geonomaeformis*, *C. metalica*, *Sabal minor*, *Serenoa*, & *Rhapido-phyllum hystrix*.

Table 2. Bedding pts (herbaceous perennials & annuals) for shade in South Florida.

The genera *Adiantum*, *Ageratum*, *Alocasia*, *Anthurium*, *Asplenium*, *Begonia*, *Caladium*, *Calathea*, *Coleus*, *Crinum*, *Crossandra*, *Cuphea*, *Dieffenbachia*, *Evolvulus*, *Hippeastrum*, *Impatiens*, *Lobelia*, *Maranta*, *Nicotiana*, many orchids, *Pachystachys*, *Peperomia*, *Saintpaulia*, *Zebrina*

Table 3. Other genera suitable for shade in South Florida.

Bromeliads:

The genera *Aechmea*, *Billbergia*, *Canistrum*, *Cryptanthus*, *Guzmania*, *Hohenbergia*, *Neoregelia*, *Nidularium*, & *Vriesea*.

Groundcovers:

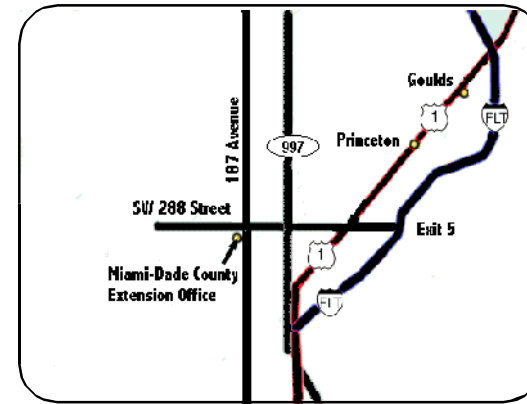
The genera *Achimenes*, *Ajuga*, *Asparagus*, *Asystasia*, *Dicondra*, *Chlorophytum*, *Columnnea*, *Disstotis*, *Episcia*, *Eranthemum*, *Erodium*, various ferns, *Fittonia*, *Hedera*, *Hemigraphus*, *Liriope*, *Ophiopogon*, *Peperomia*, *Pilea*, *Plectranthus*, *Polygonum*, *Rheo*, *Sedum*, *Selaginella*, & *Zephyranthes*.

Shrubs

The genera *Aglaonema*, *Aphalandra*, *Aspidistra*, *Ardisia*, *Barleria*, *Epiphyllum*, many gingeres, *Holmskioldia*, *Justicia*, *Malpighia*, *Monstera*, *Odontonema*, *Pellionia*, *Philodendron*, *Pilea*, *Pseuderanthumum*, *Sinningia*, *Spathiphyllum*, *Strelitzia*, *Tacca*, *Tradescantia*, & *Xanthosoma*.

Selected references.

1. Friend, D.. 1998. *Shady places in Hawaii*. Ldscp, Flor, & Ornam News No.3, Hawaii Coop. Ext. Ser.. pp 2-4.
2. Garofalo, J., and J. McLaughlin. 2000. *Groundcovers for shade*. *In-Writing* fact sheet no. 36, Miami-Dade Coop. Ext. Ser.. 16 pp.
3. Hensley, D.. 1998. *Words of wisdom for low-maintenance landscaping*. Ldscp, Flor, & Ornam News No.3, Hawaii Coop. Ext. Ser.. p 2.
4. Misitis, Mary. 1996. *Gardening in the shade*. Miami-Dade Coop. Ext. Ser.. 13 pp.



Special thanks to Phil Busey, University of Florida - Fort Lauderdale Research and Education Center, for reviewing this publication.

MIAMI-DADE COUNTY PROGRAMS ARE OFFERED TO ALL PERSONS REGARDLESS OF RACE, COLOR, RELIGION, NATIONAL ORIGIN, GENDER, AGE, DISABILITY, OR SEXUAL ORIENTATION. DISABLED INDIVIDUALS ARE REQUESTED TO NOTIFY PROGRAM AREA (305-248-3311) TWO WEEKS PRIOR TO PROGRAM IF AUXILIARY AIDES OR ASSISTANCE IS REQUIRED. DISABLED PARKING SPACE AND WHEELCHAIR RAMP AVAILABLE.

In Writing

Publications for the horticulture professionals of Miami-Dade County. Fact Sheet No. 34.
 prepared by: Joseph F. Garofalo,
 Extension Agent / Commercial Ornamentals.
 Miami - Dade County Cooperative Extension Service.
 3/2000, Rev 7 2002 jfg GrowPtsShade 4 2002

Miami-Dade County/University of Florida
 Cooperative Extension Service



UNIVERSITY OF
FLORIDA

EXTENSION

GROWING
 PLANTS IN
 SHADY PLACES