

Landscaping with Ferns & Shade Gardening

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Landscaping with Ferns & Shade Gardening

- 1. History of Ferns
- 2. Parts of Ferns
- 3. Types grown locally.
- 4. How to Grow and Care for Ferns
- 5. How to Propagate Ferns
- 6. Shade Gardening Highlights
- 7. Plants that thrive in the shade

History of Ferns

- 1. One of oldest plants ever recorded. They predate even the dinosaurs. (Fossil evidence indicate they have been around 300million years)
- 2. Most early ferns have gone extinct. Newer varieties have evolved over the last 70 million years.
- 3. Ferns we see today are the second most diverse vascular plants on earth, next to flowering plants

Reference: American Fern Society

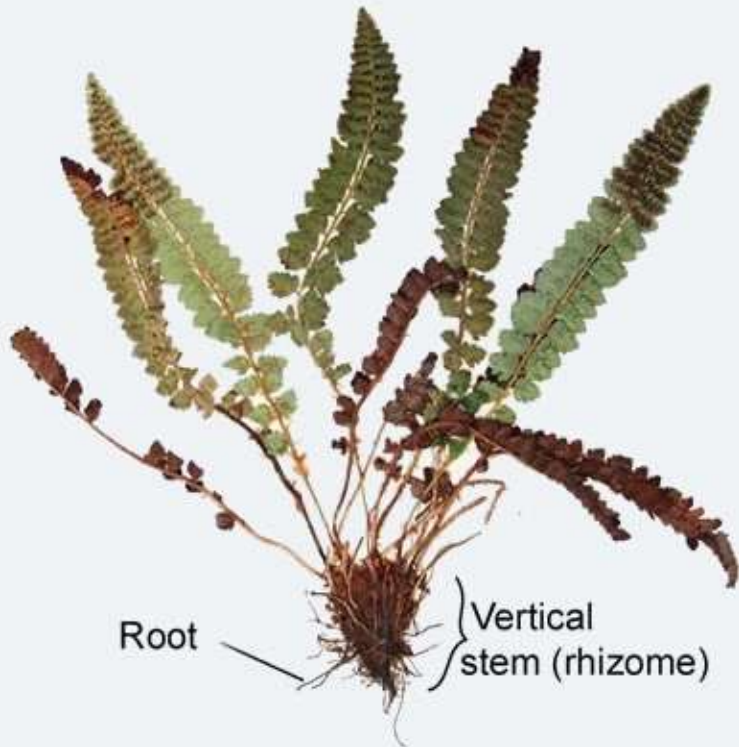
Fern Botany

- 1. **Roots** are underground rhizomes. There are three types: creeping, clumping and tuberous.
- 2. **Stems** grow from tip of an underground rhizome. The stipe is just above the ground and below the leafy part. The upper, leafy part is called a rachis.
- 3. **Fronds** are the leafy structure, a triangular blade, which are either simple (undivided) or compound (pinnae). As a new frond emerges from the crown, it is a tightly coiled fiddlehead.
- 4. **Reproductive Structures** are one cell units called spores, which are found in sac-like structures found on the underside of the frond. This is how the fern species are identified.
 - Reference: Pat Chadwick, Piedmont MGs, Abermarle County, VA

Key Types of Fern Root Systems

- **Fibrous Roots:** Most landscape ferns, such as native and non-native Sword ferns, rely on fine, hair-like, and wiry roots to absorb water and nutrients. These roots are generally shallow.
- **Rhizomes:** Often confused with roots, rhizomes are horizontal stems that grow just below or above the soil surface. They anchor the plant and spread to form new colonies.
- **Tubers & Nodules:** Some varieties—most notably the invasive Tuberous Sword Fern (*Nephrolepis cordifolia*)—produce small, round, underground tubers (or "bulblets") that store water to help the fern survive periods of drought.

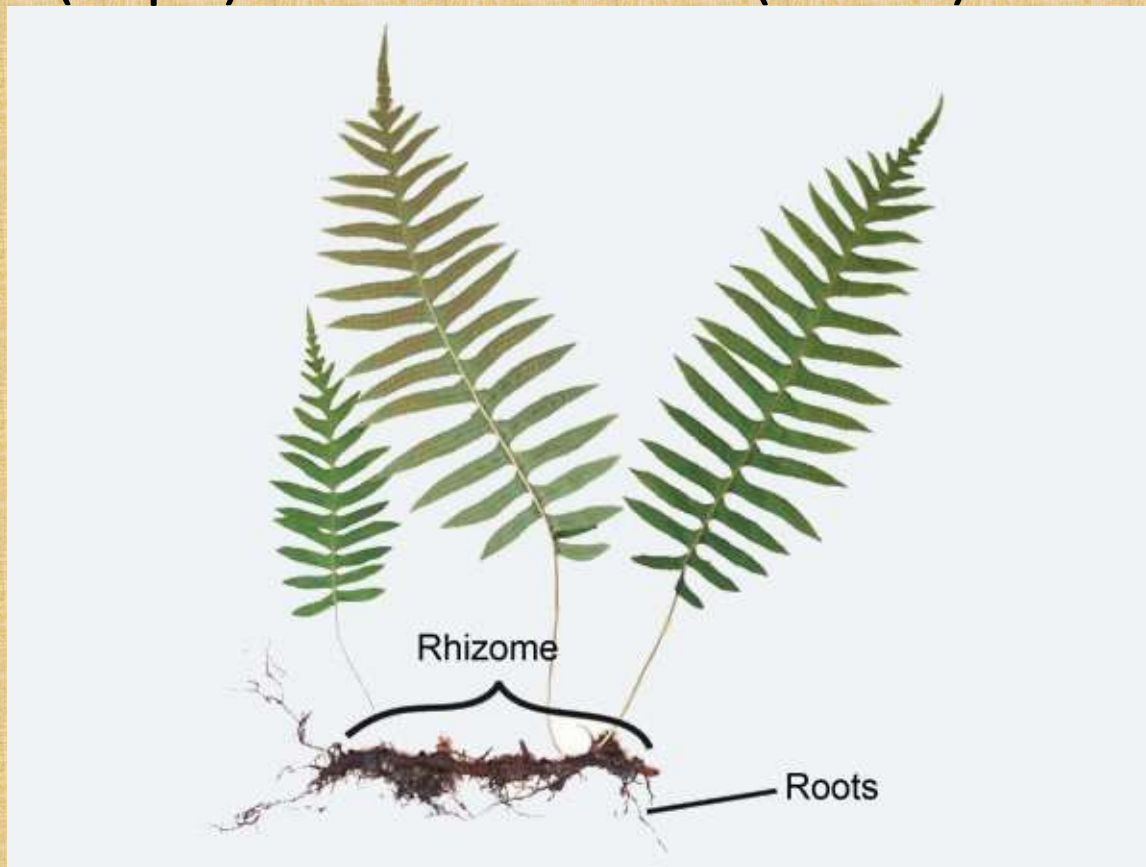
ROOTS



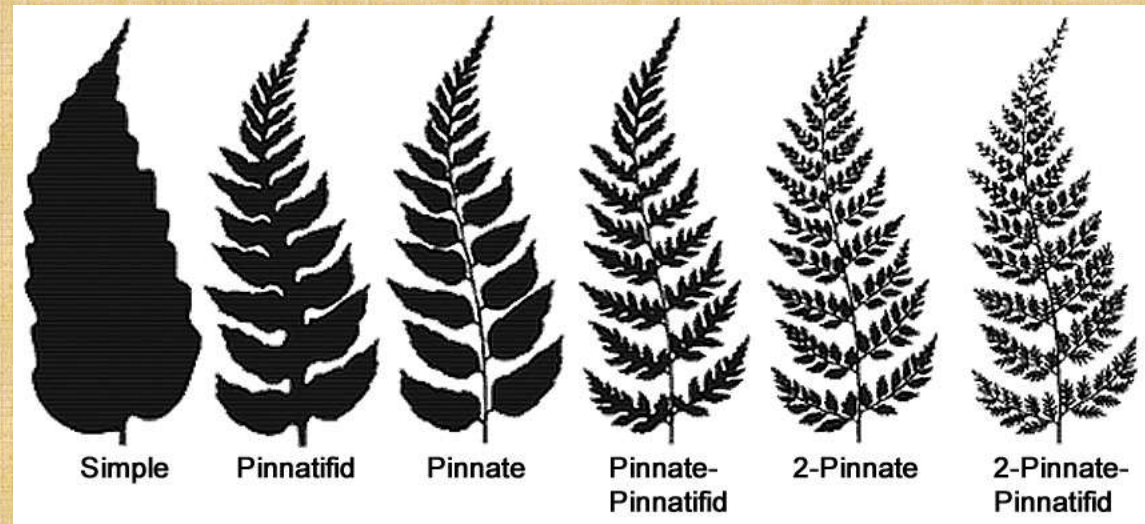
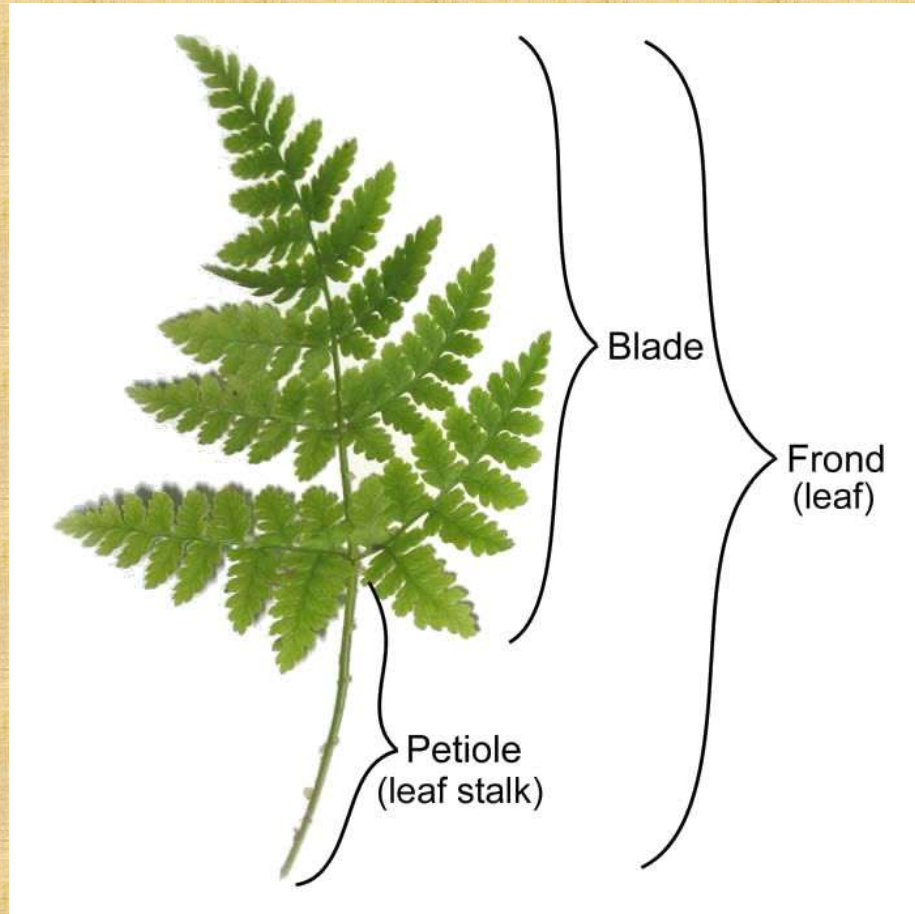
Tuberous roots on Boston Fern

Stems

- Their actual stems are typically creeping underground rhizomes, while what we see above ground are leafy "fronds" connected by a stalk (stipe) and central axis (rachis).



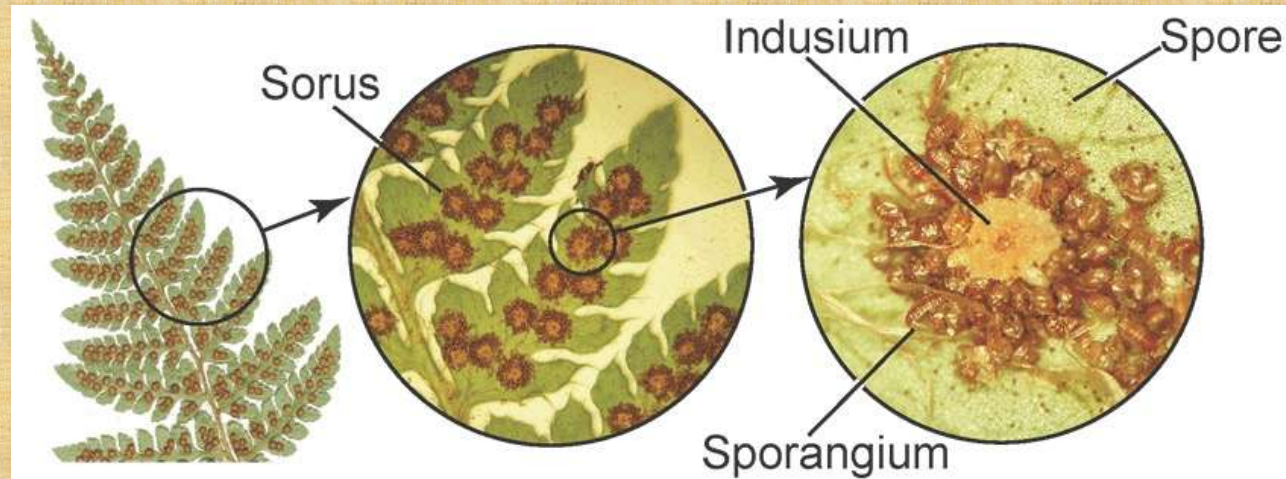
Fronds



National Forest Service

Reproductive Structures

- **Sori** (singular: **sorus**) are groups of **sporangia** (singular: **sporangium**), which contain **spores**. Sori are usually found on the underside of the blade. Young sori are commonly covered by flaps of protective tissue called **indusia** (singular: **indusium**).



Types of ferns grown locally – zones 8-9

Common Native Fern Varieties

1. Cinnamon Fern
2. Southern Maidenhair Fern
3. Southern Shield Fern
4. Royal Fern
6. Southern Wood Fern

Non-Native Fern Species

1. Holly Fern
2. Japanese Painted Fern
3. Lady Fern
4. Autumn Fern
5. Australian Tree Fern
6. Macho Fern

Invasive Sword Fern
(*Nephrolepis brownii*)

- Spreads all over by rhizomes
- Sandestin had an epidemic a few years ago. Hope its under control now.
- Identification by small circular, potato-like tubers on the root.
- Control by pulling, digging out roots or chemical treatment. The University of Florida IFAS Extension says foliage can be treated with Herbicides containing glyphosate or triclopyr



Cinnamon Fern
(Osmunda
cinnamomea)

1. Tall vase shaped fronds, with fertile cinnamon spikes in the fall
2. Found in moist woods in nature
3. Used in swales and edges of ponds and marshes
4. Dies back in winter



BKY



Osmundastrum cinnamomeum. Joy Weese Moll

Southern Maidenhair Fern (*Adiantum capillus- veneris*)

1. Easy to identify with its light green, fan shaped leaflets and contrasting black stems
2. Thrives in filtered light and constant moisture
3. Tuck into pockets near waterfalls, fountains or containers
- 4 . Won't tolerate drought or harsh afternoon sun



Southern Shield Fern (*Thelypteris kunthii*)

1. Vigorous, medium sized fern with arching fronds and spreads into soft colonies.
2. Excellent as a ground cover under trees or in rain gardens that may dry out between storms
3. Likes part shade with moist or average garden soil
4. Stays green through our winters



Royal Fern (*Osmunda regalis*)

1. Tall, regal fronds, almost like a small shrub
2. Loves moist soil and can be found in nature in bogs
3. Makes a great plant around water features and fountains
4. Dies back in winter



BKY

Southern Wood Fern (*Dryopteris ludoviciana*)

1. Star of North Florida Shade Gardens
2. Semi-evergreen to evergreen tall fronds
– stays attractive for much of the year
3. Can stand moderate landscape moisture
once established
4. Grows well under Pines, Oaks &
Magnolias
5. Can be grown in containers



Debra Nelson

Holly Fern

Cyrtomium falcatum

Can grow in almost total shade

Hardy in cold areas

Shiny fronds

Fills in like a low shrub



Japanese Painted
Fern (*Athyrium
nipponicum*)

- Has striking silver-gray fronds
- Grows 12- 18 inches tall
- Thrives in partial to full shade
- Likes organically rich, moist but well drained soil
- Will die back in winter, trim dead foliage to make way for new growth in spring
- Deer and rabbit resistant



Lady Fern (*Athyrium filix- femina*)

1. Bright green fronds, fine texture

2. Loves rich, moist woodland soil

3. Partial shade

4. Use to soften paths or fill in native wildflowers

5. Dies back in winter



Autumn Fern (Dryopteris erythrosora)

- Have multi-colored fronds. New growth emerges copper orange, turning to deep green
- They thrive in rich, moist soil and deep shade, and slightly acidic soil.
- Do not die back in winter



BKY

Australian Tree
Fern
(*Sphaeropteris
cooper*)

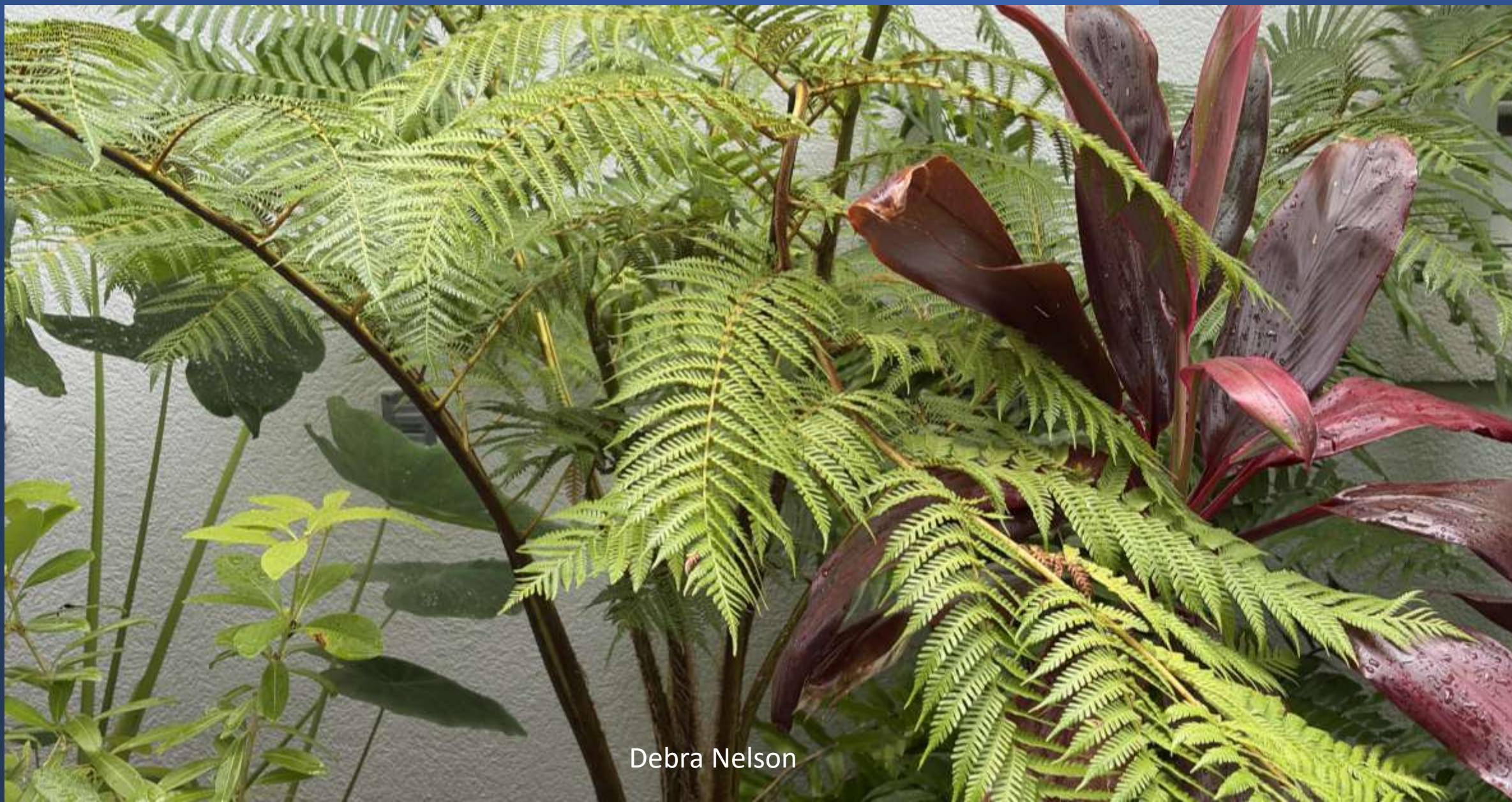
Likes high-humidity climates

Partial shade

Grows 20 feet high, 12 feet wide

Plant in spot with morning sun and
afternoon shade

Zones 10B – 11. In our zones, 8 - 9 you
must bring it in in winter



Debra Nelson

Macho Ferns

(*Nephrolepis biserrate*)

Massive arching fronds

Perennial in zone 9+

Likes shade to filtered light

Will cook in direct afternoon sun

Can grow to 3-4 feet tall and 5-6 feet wide



How to Grow and Care for Ferns

- 1. Soil – moist well-drained soil amended with organic material and can tolerate poor soil and a pH of 4-7.
- 2. Light requirements - partial to shade, but some like the royal fern can stand sun if the soil is moist.
- 3. Pests and diseases – slugs may attack, but ferns are usually easy to care for and deer, rabbits normally don't bother with them.
- 4. Spring care – divide and transplant ferns as soon as new growth appears. Divide the root and plant at same depth.
- 5. Summer care – provide extra water if there is a dry spell. Ferns will die back if soil dries out.
- 6. Fall care – after a killing frost, cut back the dead fronds to the ground.

How to Propagate Ferns

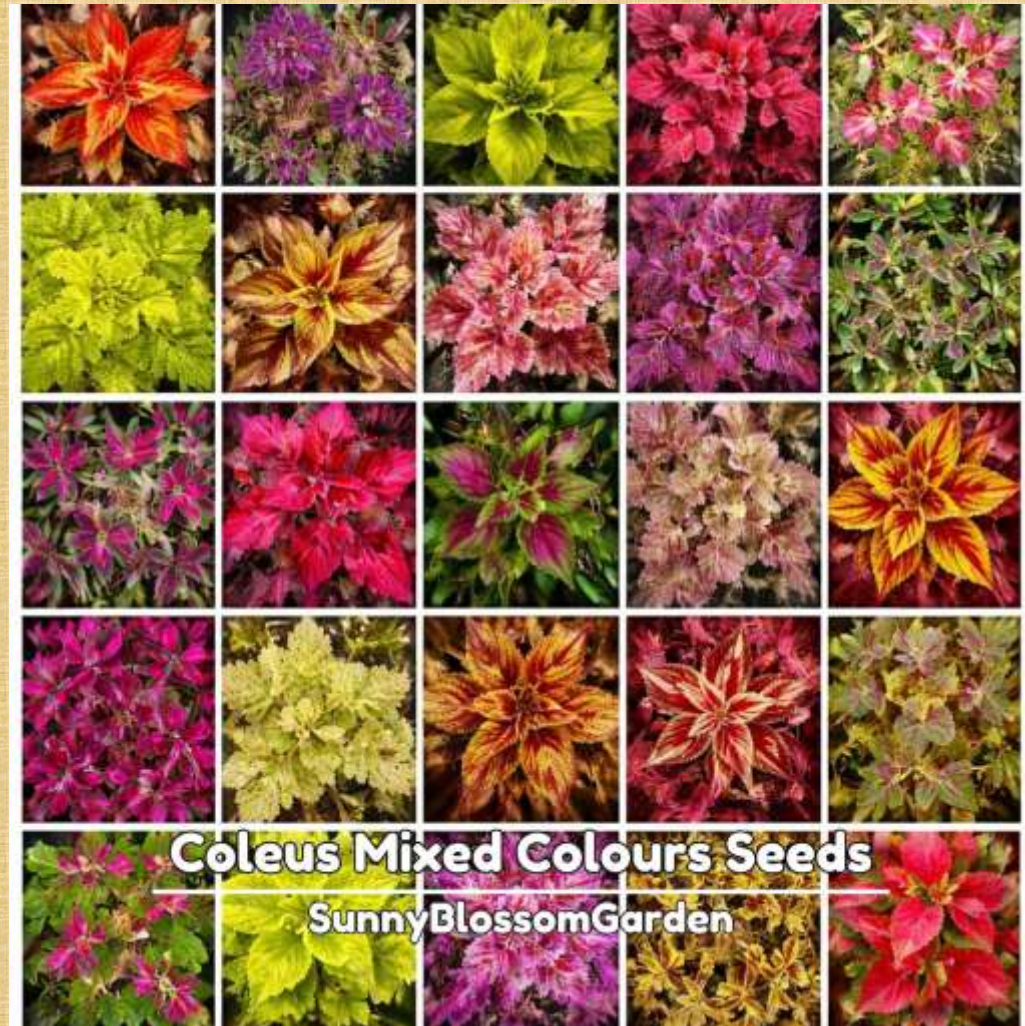
- 1. Division of rhizomes/roots - Dig up the entire plant, Carefully separate healthy sections by hand or cut through sections. Replant the sections with two or more new growth parts in new soil at the same depth as they were growing. **This is best done in late spring.**
- 2. Propagating from spores – **Advanced procedure:** remove a mature frond with spores attached on the underside. Place in envelope to dry for a few days so that the spores are ready to shake off the frond. Sprinkle spores (powder) in new, sterile, seeding soil. A plastic clam shell like baked goods come in at the grocery store will make a mini greenhouse for the spores. It will take several weeks before any green growth appears. It will be a month or more before any significant frond development take place and the plant can be planted in a pot.

Shade Gardening Highlights

- 1. Shade probably means you have trees with roots which rob the soil of nutrients. Tall fences and structures will make garden areas shady.
- 2. Shade means rain doesn't always make it to the ground.
- 3. Shade is dark, so lighter plants are standouts. Think pink, yellow, white and chartreuse!
- 4. Shady soil may be compacted, and containers may be a solution or amending the soil with compost. Containers need to be refreshed every couple of years, because the tree roots will enter the bottom drainage holes and clog them seeking water and fertilizer
- 5. Shade plants include **Ferns**, Coleus, Impatiens, Sweet Potato Vine, Begonias, Hostas, Cast Iron Plant, Creeping Jenny, Gingers, Hydrangeas, Caladiums and Bromeliads.....and more?

Coleus

1. Square stems, member of Lamiaceae, or mint family
2. Easy to grow, pinch off flowers/seed heads to promote more growth
3. Easy to propagate. Simply cut off a stem and root in water
4. Not cold hardy, but can be potted up and brought into the house as a house plant
5. Notice which colors will stand out on the shade
6. New ones called Sun Coleus which can take more hot sun



Impatiens

1. From the family Balsaminaceae family
2. Newer version is Sunpatiens for Sunny Areas
3. Love Shade and water
4. Easy to propagate by rooting a branch in water
5. Many color variations
6. Can grow in the ground or containers
7. Will seed and come back next year



Sweet Potato Vine

1. Ipomoea batatas
2. Easy to grow in partial shade
3. Loves rich fertile soil
4. Easy to propagate. Roots form in 3 days after stem is placed in water.
5. Will die back in winter, but if planted in the ground a tuber/potato will form and resprout in spring or can be dug up and stored



American Plant Exchange



Proven Winners

Begonias

1. Fibrous (Begonia semperflorens)

also known as wax begonias, smaller, more abundant flowers, very resilient, used as bedding plants or containers, can tolerate more sun than other begonias



2. Tuberous Begonias (Begonia tuberhybrida)

Large showy flowers, wide range of colors, ideal for hanging baskets, bedding and containers



3. Trailing begonias (Begonia boliviensis)

Have cascading habit, perfect for containers or hanging baskets



4. Rex Begonias (Begonia rex-cultorum)

Grown for striking foliage, come in various textures, colors or patterns, like high humidity and indirect light



5. Cane Begonias (Begonia coccinea)

Angle Wings, tall stems, produce clusters of flowers, thrive in containers prefer bright, indirect light



Hostas

1. **SunHosta TM 87153929** SunHosta™ (botanically known as *Hosta* 'HOST SUN 08' PPAF) is a breakthrough medium-sized variegated hosta patented for its ability to thrive in full sun and high-heat environments. Unlike traditional hostas that scorch in direct sunlight, this variety requires full sun to display its most vibrant white variegation. (Monrovia)

2. Here are some other varieties of *Hosta plantaginea*, or hybrids where it is a parent, to enjoy – who said you can't have a Hosta garden in the hotter parts of the country?

'Aphrodite' – a unique plant with large flowers that are double – many petals tucked inside the white trumpet of the bloom.

'Guacamole' – a lovely variety with chartreuse leaves making a mound up to 4 feet across.

'Honey Bells' – a large plant, but with narrower, wavy leaves than the original

'Stained Glass' – the golden yellow leaves of this plant have a broad green margin. Again, with white, fragrant flowers

'Summer Fragrance' – a bold clump, and the leaves have a thin white margin. The pale lavender tone of the fragrant flowers gives away its hybrid origin. (Tree Center Plant Supply)



Cast Iron Plant

Aspidistra elatior

The cast iron plant (*Aspidistra elatior*) is one tough plant, as its common name implies. It can grow in deep shade, is deer resistant, and can withstand drought. If that wasn't enough, it can also be grown indoors as a houseplant in low light.

Native to Asia, the cast iron plant is an evergreen perennial. It spreads slowly via rhizomes. The sword-shaped leaves grow upright to 2 to 3 feet tall. It is known for its foliage rather than its flowers, as the star-shaped flowers are hard to see at the base of the plant.

The cast iron plant is hardy in USDA planting zones 7 to 11. Plant it in dappled to full shade. If it receives too much sun, the leaves will scorch. It is not picky when it comes to soil type and will thrive in sandy, loamy, and clayey soils. However, it does not like wet soil. It can grow under trees in dry shade. It can withstand periods of drought but will benefit from occasional watering. Cast iron plants can be fertilized with a slow-release fertilizer like Plant-tone® or Osmocote® when needed.

Cut the leaves back to the ground one by one when they look weathered or cut back the whole clump every 2 to 3 years in late winter. The foliage will emerge again in spring. Divide plants when they are actively growing, in spring and early summer. Be sure the divisions have two or more leaves.

To grow a cast iron plant as a houseplant, plant it in a well-drained potting mix. Place it in a north-facing window or a low-light area away from south-facing windows. Water the plants when the soil is dry down 2 to 3 inches, allowing the water to drain from the pot. Do not leave water in the saucer. Fertilize indoor plants in the spring and summer with an all-purpose houseplant fertilizer. Monitor the leaves weekly for insects such as mites and scale.

Clemson University



The dark green foliage of the cast iron plant (*Aspidistra elatior*) is a backdrop for maidenhair ferns, tractor seat plants, and hostas in this garden.

Barbara H. Smith, © 2024 HGIC, Clemson University



My yard – notice difference in color?

Creeping Jenny

Lysimachia nummularia

Only a few inches in height, stems branch out and readily root where leaf nodes contact soil, forming a broad mat. It also spreads via a slender rhizome. It prefers moist areas such as wet meadows, seeps, swamps, banks of streams and ponds, roadsides, and ditches but also tolerates drier conditions. In some areas, it is considered an invasive weed and ecological threat, as its vigorous growth competes with native species.

Bright yellow cup-shaped flowers appear during summer along the stems, and the leaves are rounded and slightly ruffled.

Creeping Jenny can be used in containers, hanging baskets, or as a ground cover only where its invasive spread is not a concern. It is not a good choice for borders or near lawns as it spreads too aggressively and is difficult to control.

North Carolina Cooperative Extension



Hydrangeas

In Florida, you can successfully grow select hydrangeas in shaded or dappled light to prevent the hot afternoon sun from scorching their leaves. According to the University of Florida's [EDIS Gardening Solutions](#), the **Native Oakleaf Hydrangea** and **Bigleaf Hydrangea** are your best options for shade.

Top Shade Varieties for Florida

Oakleaf Hydrangea (*Hydrangea quercifolia*): Ideal for North and Central Florida, it features deeply lobed, oak-like leaves, conical white flowers that age to pink, and vibrant fall color.

Bigleaf Hydrangea (*Hydrangea macrophylla*): The classic mophead or lacecap variety. In Florida's acidic soils, they will bloom a stunning blue. It requires heavy morning shade in hotter regions.



Caladiums

Caladiums are ideal tropical plants for bringing vibrant color to Florida's shady areas. They thrive in partial to full shade, which keeps their colorful foliage from burning. To succeed with them, plant the tubers right-side up about 2 inches deep in rich, well-draining soil once temperatures reach 60°F.

The University of Florida (IFAS) specifically recommends a variety of caladium cultivars for shaded Florida landscapes:

Pink and Multicolored: *Passionista*, *Summer Pink*, *Tapestry*, and *Fiesta*.

Red: *Sizzle*, *Red Hot*, *Royal Flush*, and *Cherry Tart*.

White: *Cosmic Delight* and *Icicle*.

“Deer, squirrels, rabbits, and voles won't bother caladiums either.”



[Florida State University Grounds and Landscaping](#)

We have planted brightly colored Caladiums here at Mendenhall-B for a color accent. Caladium plants usually grow between 1 and 2.5 feet tall. The attractive leaves grow between 6 and 12 inches in length. The plants grow from tubers and will mature to full size in one season. All varieties die back naturally and become dormant in the winter. Most caladiums thrive in partial shade and only need two to four hours of direct sunlight per day is ideal for most. When grown in the shade the leaf colors tend to be more vibrant than if grown in full sun. This makes caladium an excellent option for shade gardens.

Bromeliads

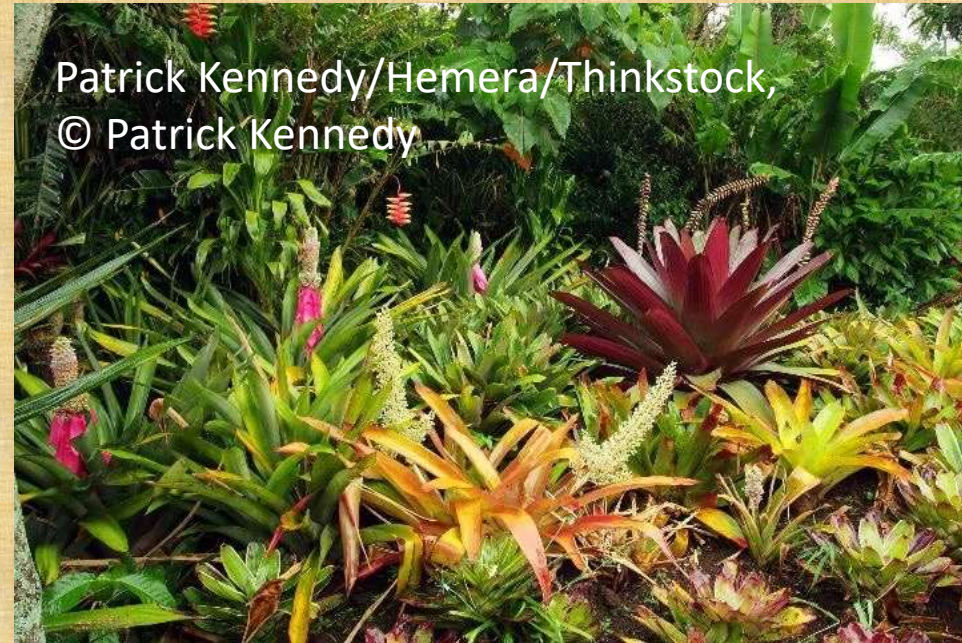
Bromeliads as Landscape or Container Plants

Most bromeliads are tropical or subtropical and thrive outdoors in Florida's warm, humid environment.

In north Florida, grow them in containers and move them indoors during freeze or frost events. Most prefer shade or partial shade, but some tolerate full sun. Even though they prefer moisture and humidity, they are extremely tolerant of low-moisture conditions and will survive prolonged periods of drought.

The sandy, well-drained soils found throughout most of Florida soils are suitable for growing bromeliads. Where heavy clay soils exist, amend them with 2 to 3 inches of organic matter (peat, leaf mold, compost, etc.) mixed into the planting bed. Potted plants need a light, porous potting mix.

Sydney Brown Park UF/IFAS





Who else has a favorite
shade plant?