

Selecting the Correct Plant

Samuel E. Hand, Jr. & Edwin R. Duke



FLORIDA A&M UNIVERSITY
**COOPERATIVE
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Are you a gardener or a plant collector? A gardener knows his or her garden – the soil, the light levels, the microclimates – and selects plants that will thrive in the growing environment. A plant collector often makes purchases based on impulse. Many nurseries rely on these impulse buyers who make purchases without planning ahead. Unfortunately, many of these plants fail to thrive or even die because they are not the right plant for the right place.

A good garden begins with a good plan. The plan should take into account the goals of the garden. The goals are set after evaluating the needs, wants and desired uses for the new landscape. Plant selection follows the planning and evaluation. There are two basic principles which should be followed when selecting plants: “Does the site provide for all of the needs of the plant?” and “What species of plant creates the intended aesthetic to fit the plan?”

Site Characteristics

When the initial plan was made, the intended garden site was evaluated as to what permanent and seasonal characteristics would be present. Plant selection should conform to the site’s characteristics.

Space

A very important characteristic is available space, both above ground and below ground. Accurate measurements of the site is essential. Above ground space must be considered three dimensionally. The chosen plants must fit within that space when they have grown to their mature size. Knowledge of what a plant will become in future years is essential. A good estimation of a plant’s potential size is often given on the plant label. Do not make the mistake of underestimating the plant’s potential. Plants are living organisms and will, if properly cared for, continue to increase in size throughout their life.

Below ground space is every bit as important as above ground space. The average woody tree or shrub has just

as much mass in the root system as in the canopy, and that root volume increases yearly in proportion to the above ground growth. The majority of plant roots are found in the upper 8 to 10 inches of soil to allow for adequate oxygen exchange. The roots of an average tree will extend out from 2 to 4 times the width of the tree canopy – for example, a tree with a 30 feet canopy spread could potentially have roots spreading out 60 to 120 feet. (Fig. 1)

Environment

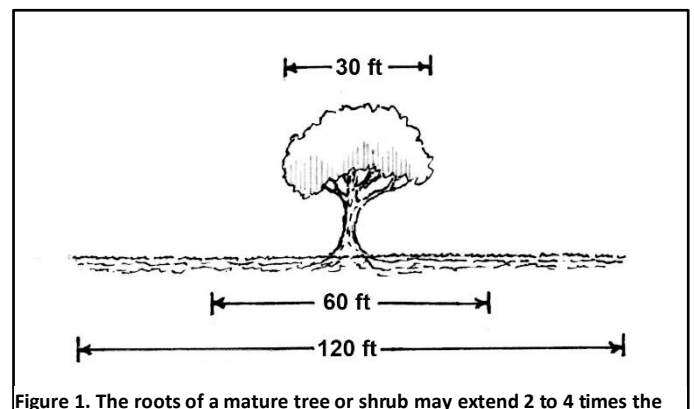


Figure 1. The roots of a mature tree or shrub may extend 2 to 4 times the width of the canopy (or 2 to 4 times the height of the canopy if the tree is taller than wide). The majority of roots are found in the upper 8 to 10 inches of soil.

Plants should match the environment of the site. The plant label is a good source for information on the conditions that a particular plant requires.

Climate. Be sure that the plant is suitable for your growing zone. The US Department of Agriculture has a zone map to help identify the zone you are in and the minimum temperatures you can reasonably expect. Please keep in mind that local microclimates will affect the temperatures you actually experience. For example, the north and east sides of a building typically will be cooler than the south or west sides.

Moisture. The amount of water retained in an area is affected by the soil type and by the terrain. Sandy soils drain faster and retain less water than soils with a higher

Samuel E. Hand, Jr., Associate Professor and Director of Industry Credentialing Training Programs, FAMU Cooperative Extension, Tallahassee, FL 32307. Edwin R. Duke, Associate Professor, College of Agriculture and Food Sciences; FAMU Cooperative Extension, Tallahassee, FL 32307.

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clay content. Organic soils hold onto water, and added organic matter and organic mulches aide in moisture retention. Due to Florida's warm and moist climate, added organic matter will rapidly decompose and will need to be reapplied on a regular basis.

Light. All plants need light to grow, but different plants need different light levels. It is important to understand the light levels on the intended planting site. Does it receive full sun (at least 6 hours of sunlight each day), partial sun, or shade (no direct sunlight)? Is it shaded by an adjacent structure or by trees overhead? The plant label and reference sources will give a good indication of what light levels a particular plant requires. Some plants have a range of light levels that they can grow in and others have more specific requirements. Plants not receiving the proper amount of light (too much or too little) will not thrive and will be prone to insect and disease problems.

Soil

Texture. It is important to understand the soil characteristics in the intended growing site. Soil composition (amount of sand, silt, clay), and texture and amount of organic matter will affect characteristics like drainage, water retention and compaction. Sandy soils tend to drain well, resist compaction, but retain less water than soils containing some clay. Sandy soils typically have a lower ability to retain plant nutrients, making careful monitoring of fertilization a necessity. Clay soils drain poorly but tend to hold water and nutrients better than sandy soils. However, clay soils are more prone to compaction. Organic soils have high nutrient contents and have a higher water-holding capacity. As stated, organic matter in soils in Florida breaks down rapidly and must be applied on a regular basis.

pH. The pH of a soil is a measurement of the alkalinity or acidity of that soil. How high or how low the pH will affect the ability of the soil to retain and provide essential plant nutrients. It is important to know what the pH of the soil in the growing site is. Accurate measurements can be obtained by submitting soil samples through the local county extension office. Most plants grow best in soils that are slightly acidic. Lime may be added to raise the pH of soils of acidic soils, but is seldom needed in most parts of Florida. Organic matter

addition is an excellent way to lower the pH of alkaline soils.

Plant Function

After the site has been assessed, then determine what function each plant is expected to perform. Is the plant going to be used to screen views? Then dense evergreen plants might be a good choice. Is the plant going to provide a focal point? If so, brightly colored flowers or foliage might be appropriate. Is it going to be used to provide summer shade to reduce temperatures? What about in the winter? Deciduous plants provide summer shade and winter warmth. Will the plants be used to attract wildlife? Plants which have edible fruit or berries are useful. Will they be used for directing traffic to or away from a location? Dense and/or thorny plants will function. Will they be used for erosion control? Plants with extensive root systems like grass make a good choice. There are numerous questions which need to be considered. Notice that at this point no specific plant species were even mentioned. Often numerous species can and will meet the requirements.

Plant Aesthetics

Plant aesthetics, or the look or character of the plant, is one of the last factors to consider when making the final selection. The plant choice may be influenced by the site - building, neighborhood characteristic, etc. - and finally by the personal preference of the owner of the garden.

When a particular plant species is finally decided upon, an individual plant may be selected. It is recommended that the plants be obtained from a reputable nursery or plant supplier that will stand behind the plants that they sell. Ask where the plant was grown. In general, plants grown in a climate similar to the one in which it will be planted will adjust more quickly and perform better.

Select a plant that is vigorous and healthy with no visible signs of insects or disease on foliage or roots. Select a plant that is in proportion to the container in which it is growing. The largest plant may not be the best. An oversized plant may be a sign that the plant has remained in the container too long and has become root bound.

In summary, plant selection follows an organized process. Following the process will result in a landscape that is both functional and appealing.