

## GUIDE FOR ESTABLISHING PERENNIAL PEANUT AS A LANDSCAPE GROUNDCOVER

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**Abstract.** Rhizomal perennial peanut (*Arachis glabrata*, Benth) originated in tropical South America and is adapted to subtropical and warm temperate climates. Perennial peanut was first introduced to the USA from Brazil in 1936 and has recently shown promise as an ornamental groundcover due to its high resistance to drought, nematodes, insects, diseases, and its minimal fertilizer needs. Cultivars 'Ecoturf' and 'Arblick' are available cultivars for landscape use. The cultivar 'Florigraze' released for use in pastures also appears to be suitable for landscape use. Several systems can be used for planting perennial peanut in a landscape setting. Plants can be established from solid set sod, sod strips, sod plugs, or from plants grown in nursery containers. Comparison of cost when planting solid set sod and containers on 12 to 18-inch centers found solid set sod to be advantageous. Sod provides instant 100% groundcover. Planting strips, plugs, and containers require up to two years to achieve 100% ground cover.

Rhizomal perennial peanut is not new, but has recently shown promise as an ornamental ground cover. Perennial peanut was introduced into the USA from Brazil in 1936 (French and Prine, 1991) and since that time no insect, disease, or nematode pests have been identified that cause economic loss (French et al., 1993). It is not only beneficial to the environment since it requires no supplemental nitrogen or phosphorous fertilization, and remains green requiring less water to keep than traditional ground covers. It also has yellow flowers that add a benefit of being aesthetically pleasing and can withstand walking traffic.

The perennial peanut (*Arachis glabrata*, Benth) evolved under tropical conditions and is adapted to subtropical and warm temperate climates similar to Florida. In the northern hemisphere, this would include locations below 32° north latitude that have a long, warm growing season. Perennial peanut is used as a forage legume for grazing (Saldivar et al., 1992), as a high-value hay crop, and as a cover crop in citrus grove row middles (Mullahey et al., 1994; Rouse and Mullahey, 1997; Rouse et al., 2001). A select number of cultivars are available for use in home landscapes in south Florida.

Rhizomal perennial peanut has several potential advantages over grass in the managed landscape. As its name im-

plies, perennial peanut is long-lived and does not require replanting once established. It is well adapted to drought and the infertile sands in Florida. It is a legume that, in association with *Rhizobium*, fixes atmospheric N. This means that it requires no applied external nitrogen source (Beltranena et al., 1981). Phosphorus applications may be unnecessary in Florida sands rich in P. It is highly resistant to plant and soil pests.

### Growing Environment

Rhizomal perennial peanut grows best in full sun and will persist in partial shade after once established. Perennial peanut will not thrive in full shade and will not normally spread under trees or other shade areas. Because rhizomes are underground stems perennial peanut does not spread over concrete or paved areas. Perennial peanut is easily contained by use of certain herbicides.

### Planting Material

*Cultivars.* 'Ecoturf' and 'Arblick' are available cultivars for landscape use. Both 'Ecoturf' and 'Arblick' were selected for landscape application, due to their lower growth habit and profuse flowering. Planting material for 'Ecoturf' and 'Arblick' is available in limited supply. 'Florigraze' was released in 1978 for use in pastures and has been used recently in citrus groves and along roadways. 'Florigraze' also appears to be suitable for urban landscape use along landscape berms, canal banks, and roadways, and has found favor in some lawn landscapes and golf courses.

*Source.* Perennial peanut is propagated vegetatively using rhizomes (modified underground stems) that concentrate in a 1.5 to 3.0-inch thick mat, just below the soil surface. Cut sod, rolled mats of sod, and nursery containers are available forms in which perennial peanut are available for landscape planting.

### Planting Methods

The most desirable system of planting perennial peanut groundcover in the landscape is solid set sod because it provides complete and instantaneous cover. However, several systems can be used for planting perennial peanut in a landscape setting. In addition to planting solid set sod, sod strips, sod plugs, and usually one-gallon nursery containers can be used. With these methods the planting density can be adjusted to reduce the time required for the plants to fill in between planted material. Strip planting can be done using sod strips as they are delivered or cut into narrower strips, but strips should not be less than eight to ten inch widths. Rows could be 12 but not more than 18 inches apart. Sod plugs can be cut from the delivered sod pieces into smaller squares and planted in a checkerboard layout. Sod plugs should be planted on centers no more than 12 to 18 inches apart. Peanut in one-gallon nursery containers can be planted the same as sod plugs. One additional method is to obtain the loose rhizomes and plant them directly in the soil. This can be done with one of two methods. One is to spread the rhizomes in a solid layer and cover with a layer of soil. The soil should then be covered

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with one to two inches of composted mulch to help maintain soil moisture and reduce weed growth. A second direct rhizome planting method is to place the rhizomes in furrows and cover with soil and mulch. If this is tried the rhizomes should not be placed more than 1.5 to 2.0 inches deep. The distance between planted rows of rhizome material is best kept to no more than 12 to 18 inches and coverage time (fill-in) usually will increase as distance between rows decreases. Planting should be followed by a packing-roller that leaves the ground leveled, preserves soil moisture and achieves good rhizome to soil contact. Irrigation should follow planting and roller packing. It was observed that rhizomes can take up to two growing seasons to fill in while sod pieces placed corner to corner provide an instantaneous ground cover. Planting strips and plugs take less time to fill than rhizomes.

### Irrigation

Although once established, rhizomal perennial peanut does not require irrigation for survival (French et al., 1993), irrigation is required following planting during establishment. Irrigation may be required during dry periods in early Spring and Autumn to maintain a thick canopy cover. Soil-plant moisture status should be carefully monitored during dry months. Water, fertilizer and weed control are all important inputs that can maximize plant density during the first growing season.

### Weed Control

Weed control is the major management practice during establishment and for continued management. Eliminating tall weeds competing for sunlight ensures greater survival during the dry months prior to summer rainfall and allows the plants to grow and spread more rapidly (Rouse and Mullahey, 1997). Keeping the perennial peanut canopy clear for maximum sunlight penetration is critical to proper development and speeds establishment of the peanut cover crop.

Mowing has been found to be the least expensive weed control method. Mow the peanut whenever necessary to reduce weeds and mow at a level just above the foliage of the peanut during establishment and at three to four inches for continued maintenance. Mowing should be done whenever weeds are shading the peanut. Other weed control methods do not appear to reduce establishment time (Rouse and Mullahey, 1997). For grassy weeds such as crabgrass, bermudagrass and bahiagrass, Fusilade®, Poast®, Select®, and Prism® herbicides are cleared for use during establishment. Basagran® and Cadre DG® are effective for control of yellow nutsedge as

well as a few other select broadleaved weeds. Herbicide recommendations in this report are contingent upon their continued registration by the Environmental Protection Agency. If a registration is canceled, the herbicide will no longer be recommended. The use of product trade names does not constitute a guarantee or warranty of the products named and does not signify approval to the exclusion of similar products.

### Mowing

Appearance will be enhanced with mowing although it is not required with the lower growing varieties like 'Ecoturf'. Mowing stimulates new vegetative shoots making a thick canopy and encourages flowering. Mowing at three to four inches every three to four weeks is usually adequate.

In conclusion, perennial peanut is a suitable landscape groundcover in central and south Florida. It is drought tolerant, requires no supplemental N or P, and is environmentally friendly. Perennial peanut may suppress weed growth, reduce nutrient leaching and add nitrogen and organic matter to the soil. As with other cover crops, perennial peanut has the potential to compete with trees for water and nitrogen if allowed to grow around the base of plants.

Perennial peanut isn't invasive. Since its introduction, it has not spread into natural areas or become a nuisance plant in unimproved properties. Rhizomal perennial peanut does not reproduce by seed; therefore, it can't be carried by birds or wildlife.

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