Forage News

MISSISSIPPI STATE UNIVERSITY EXTENSION SERVICE

Perennial Peanut as a Forage Crop

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Most perennial warm-season grasses are usually not capable of supporting weight gains by young, growing animals in the lower portion of the southern USA. Perennial peanut (or rhizoma perennial peanut) is a productive warm-season legume that has great forage quality attributes, no bloating potential, but with limited winter hardiness. The leaves of perennial peanut are similar to those of annual peanut but it produces almost no seeds in comparison to annual peanut. Perennial peanut can grow from ½ to 1 ½ feet tall and produce an extensive root system.

Establishment

Perennial peanut is usually established by using rhizomes (underground stems) that are dug from a nursery field. One acre of well-established perennial peanut nursery should yield enough rhizomes to plant 20 - 30 acres at a planting rate of 80 bushels/acre. Perennial peanut is well adapted to dry, sandy to sandy loam soils in the southern portion of the Gulf States with a pH ranging from 5.8 to 7.0 (**Fig. 1**). It has been reported that perennial peanut can survive low temperatures ranging from 5 to 16 °F. It is recommended for locations below 31° to 32° latitude. In Mississippi, the coastal plain will be the best zone of adaptation and it can be planted from March to June when rainy conditions are more favorable. The disadvantage of a mid-summer planting in Mississippi is that the chances of complete stand failure are higher due to drought conditions.

On heavy sod or compacted soils, bottom-plowing followed by disk-harrowing is recommended. A firm seedbed will increase the changes of establishment. Rhizomes should be planted as soon as possible after digging at a rate of 80 to 100 bushels/acre (900 to 1200 lb/ac). Rhizomes should be placed at a depth of 1 ½ to 2" for sandy soils and 1" for clay soils. Rhizomes with a diameter of 1/8" or greater and a minimum length of 9" will result in good emergence and survival. Rhizome inoculation is not required. Rhizomes cannot be stored for more than 5 days without deterioration. They should be stored under shady and cool conditions and should be covered with black plastic or a tarp to prevent drying while still allowing for sufficient aeration.

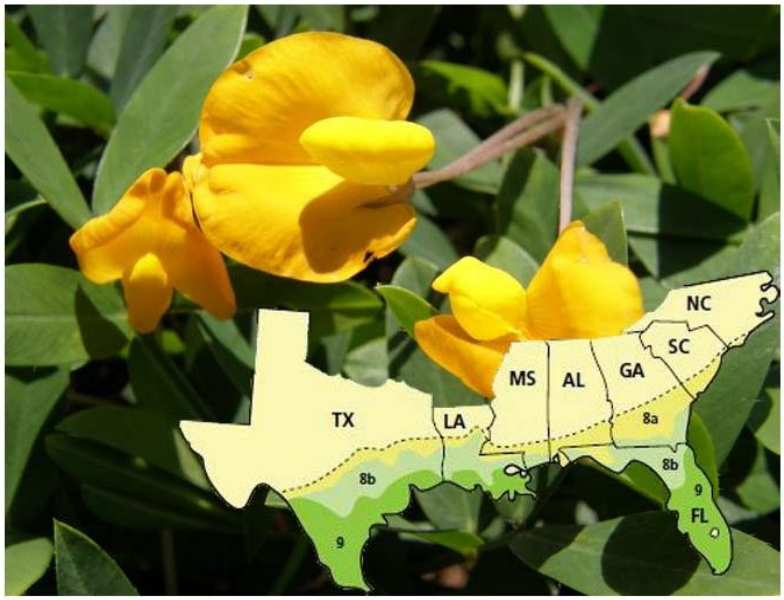

Figure 1. Potential Perennial Peanut Growing Zone for the Southern USA (Northern production limit is defined by the dashed line. Commercial production areas include zones 8a, 8b, and 9. Source: US Government Printing Office, USDA Misc. Publication 1475.

Weed control constitutes the major management practice during the first and possibly the second growing season. It is an important part of establishing perennial peanuts especially in low managed weedy areas or old pastures. These areas might require preparation at least six months prior to planting to achieve proper weed control and optimum fertility levels. Contact your County

Extension Office or Extension Weed Specialist for herbicide recommendation and restrictions and always follow the label directions. **Keep in mind that products labeled for use in annual peanut production are not labeled for forage use and cannot be legally applied to perennial peanut.**

Fertility requirements are usually similar to those recommended for common or annual peanut, but following soil testing recommendations is advised. Perennial peanut requires no pesticides for control of insects or diseases. In spite of the nutritional value of perennial peanut, most producers are not willing to plant it for traditional livestock operations due to the high cost and slow rate of vegetative establishment. It might require 2 to 3 years for complete coverage. Also, defoliation during the year after establishment greatly reduces rhizome production; therefore utilization needs to be deferred until stands are completely established.

Cultivars

Perennial peanut is a forage crop that could be grown as a monoculture of mixed with warm-season grasses. There are several cultivars ('Florigraze' and 'Arbrook') that have been selected for forage production for their high yield, quality, persistence, disease resistance and drought tolerance. 'Arblick and 'Ecoturf' are more recently available varieties being considered for landscape use due to their lower growth habit. 'Arbrook' is usually favored over 'Florigraze' on excessively drained soils and under drought conditions and it has early spring growth. On the other hand, 'Florigraze' has less upright growth, it has faster ground cover after establishment, and it is more cold and grazing tolerant. There have been differences in nutritive value between the two cultivars with 'Florigraze' having higher crude protein and digestibility.

Cost of Establishment

The cost of establishing perennial peanut can vary from $200 to $500 per acre. The cost is usually affected by the number of acres planted, rhizome source, equipment, labor, and fertility requirements. Compared to other forage crops, the cost of establishing perennial peanuts can be higher and this could be associated with the level of management and the long-term return in the stand. The cost is approximately $3.00 per bushel and custom sprigging is approximately $275.00 per acre plus the delivery cost ($2.50 per loaded mile).

Forage Utilization

Figure 2. Established Field of Perennial Peanut in the Florida Panhandle.

Production patterns of perennial peanut suggest that two cutting per year might be feasible with an eight-week growth or three cuttings can be obtained with five to six-week growth, respectively. No cutting is recommended at least 5 to 6 weeks before a killing frost. Yield potential ranges from 3 to 5 tons/acre in a well-established stand and with favorable climatic conditions (**Fig.2**). Perennial peanut can be grazed or feed to a wide range of livestock animals (horses, dairy and beef cows, goats and sheep), but caution should be taken when feeding it to horses. Because of the high nutritive value, mature horses tend to gain excessive weight when feeding a full diet based on perennial peanut. It can be fed as hay, silage or green chop and could be an ideal substitute for alfalfa. When used as silage, perennial peanut can be substituted for up to 70% of corn silage while maintaining milk production and it could be more profitable than corn diets when substituted for up to 50% of the diet. The protein and digestibility values are comparable with alfalfa. Crude protein ranges from 13 to 20% and in vitro digestibility ranges from 60 to70% depending on the stage of maturity. Average daily gains of 1.7 lbs on steers grazing perennial peanut has been reported when compared to 1.0 lb daily gains on bahiagrass. Rotational grazing with grazing periods lest than 10 days and with at least three weeks of rest is recommended. If continuous grazing is used, stubble height should be maintained at 4 to 5 inches. No bloating issues have been reported with perennial peanut.

For more information on obtaining rhizomes, please visit the Perennial Peanut Producers Association (PPPA) website at http://www.perennialpeanuthay.org/about.php

Upcoming Events:

August 24-25: Pasture and Forage Short Course. Starkville, MS. Visit http://msucares.com/crops/forages/shortcourse/index.html for registration information and agenda.

November 17: Mississippi Forage and Grassland Conference, Starkville, MS

2010 Mississippi State University Pasture and Forage Short Course

August 24 and 25, 2010
Bost Conference Center
Mississippi State University Campus

Program Topics:

- Nutrient cycling in pastures
- Weed management
- Economics of grazing systems
- Legume management
- Hay production and quality
- Grazing Systems
- Animal nutrition
- Fencing demonstrations
- Sprayer and drill calibrations
- On hand demonstrations
- Trade show and more...

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Ms. Tammy Scott, (662) 325-2701
Visit: http://msucares.com/crops/forages/shortcourse/index.html

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