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Rhizoma perennial peanut for drier flatwood soils of Florida

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Rhizoma perennial peanut (RPP) is one of the few perennial tropical legumes adapted throughout Florida. Introduced from Brazil in 1936, this legume has excellent cold tolerance, has survived to temperatures of < 10 °F, has excellent persistence (> 15 yr), but requires dry soil. One problem with RPP is slow establishment. Broadleaf weeds are also a problem, especially goatweed (*scoparia dulcis*) in central Florida. Herbicides that control goatweed will also kill the peanut. Chemicals that are safe on the peanut, will not control goatweed. Once established RPP has excellent drought tolerance. Plants have a moderate soil fertility requirement of 0-30-60 lb/acre N-P2O5-K2O plus 1.5 lb/acre elemental Zn, Cu, Mn, and Fe (sulfate form) plus 7.0 lb/acre S. Rhizoma perennial peanut is sometimes called Florida's Alfalfa, because of its good quality.

Little RPP has been grown on flatwood soils in central Florida. Studies were conducted to monitor dry forage yield, nutritive value, root mass, and peanut persistence, when grown on drier flatwood soils over four years. Seven peanut entries (Ecoturf, Plant introduction (PI) 262826, PI 262839, PI 262833, Florigraze, Arbrook, and Arbrook Select) were established on an Ona fine sand soil. Half of the entries were mowed to 1 inch and the other half to a 4 inch stubble. Harvesting the peanuts to a 1 inch stubble during the first year out yielded the 4 inch stubble by 95% (4.0 vs 7.8 ton/acre); however, following the third and fourth harvest year no difference in yield was observed between stubble heights averaging nearly 5.0 ton/acre. Underground root mass was measured after 4 yr of harvest and indicated plants mowed at the 4 inch stubble had nearly 80% more roots and rhizomes when compared with the 1 inch stubble. This would indicate the 4 inch stubble plants were physiologically stronger/healthier than plants clipped to 1 inch stubble. Arbrook and Arbrook Select produced the highest yield during the initial harvest year averaging 8.3 ton/acre. However, yields decreased considerably after the initial year

for Arbrook and Arbrook Select resulting in all entries averaging ~ 5.0 ton/acre during the third and fourth harvest years. Entry PI 262833 tended to develop slower than the other entries, but shows more tolerance to wet soils. This does not mean the entry should be planted on wet soil, but indicates it can withstand more moisture if a tropical disturbance produced excessive rain.

Forage nutritive value of RPP is generally excellent. Crude protein ranged from 16 to 19% and in vitro organic matter digestion (IVOMD) averaged 69% over a three year period. Even when peanut forage is allowed to mature for 11 to 13 wks CP and IVOMD averaged 13 to 14% and 67 to 68%, respectively.

Rhizoma perennial peanut is a warm season legume, producing 95% of its forage from May through September. Normally about three forage peanut crops (May, July, and October) can be grown during the warm season. Generally the May and October harvests can be dried for high quality hay. Because of excessive summer rains the July crop can be harvested as haylage or grazed. Perennial peanut will persist well under grazing and produce high quality forage during the warm season which can best be utilized by replacement beef heifers and the dairy industry.

In conclusion RPP can be continuously grown on the drier flatwood soils of Florida, provided standing water does not persist beyond 12 hours. Perennial peanut will produce 3 to 6 ton/acre dry matter during the warm season, averaging 17% CP and 69% digestibility. Maintaining a 4 inch stubble allows plants to be physiologically strong with greater root mass and increased ground cover when compared with a 1 inch stubble.