

Rhizoma peanut: more than a 'lucerne' for subtropical USA

M.J. Williams¹, K.H. Quesenberry², G.M. Prine² and C.B. Olson²

¹USDA, ARS, Subtropical Agricultural Research Station, Brooksville, Florida, USA, Email: mjwi@mail.ifas.ufl.edu, ²University of Florida, Institute of Food and Agricultural Sciences, Gainesville, Florida, USA

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Introduction Rhizoma peanut (*Arachis glabrata*) was introduced to Florida from South America in the 1930s. Selections 'Arb' (PI 118457) and 'Arblick' (PI 262839) were released in the 1960s, but their use was very limited due to slow establishment and low productivity. The University of Florida released 'Florigraze' (PI 421707) in 1978 and 'Arbrook' (PI 262817) in 1986. These cultivars produced much higher dry matter yields. Thereafter, rhizoma peanut began to gain commercial acceptance. These cultivars are used throughout the Gulf Coast region of the USA for commercial hay production, pasture, creep grazing, silage, balage, and living mulch (French *et al.*, 1994). It is estimated that circa 8 Kha of rhizoma peanut have been planted (Quesenberry, 1999). 'Ecoturf' (PI 262840), an *A. glabrata* introduction that is gaining wide spread acceptance as a low maintenance turf or ornamental, is the latest development with rhizoma peanut breeding at the University of Florida. In 2002, perennial peanut was selected as the "Plant of the Year" by the Florida Nurserymen and Growers Association. Current estimates are that rhizoma peanut sales (mainly hay, but also includes planting material and ornamental production) exceed \$7M USD.

Major reasons for success:

1. The technology met a need: The US Gulf Coast region has a deficit in quality hay production. The state of Florida alone imports >\$100M USD of hay/year, mainly for the horse and dairy industry. Studies had shown that rhizoma peanut has a nutritive value similar to lucerne (*Medicago sativa*). As it costs less and has high palatability, it is easy to see why rhizoma peanut hay is displacing western USA-produced lucerne in the horse, goat, and dairy industries in this region.
2. The technology worked: As a hay crop, rhizoma peanut production readily fits into existing regional farming systems where the use of vegetative material for stand establishment, a necessity with rhizoma peanut, was understood. Equipment developed for the vegetative establishment of hybrid bermudagrass (*Cynodon dactylon*) was adapted for rhizoma peanut. Long persistence (>20 years), no requirement for nitrogen fertiliser, and relative freedom from pests are other factors that enhanced its adoption.
3. Rhizoma peanut production is profitable: Much land recently planted with rhizoma peanut was formerly in row crop production that had very marginal returns. Annual net profit from established rhizoma peanut hay can be >\$1000 USD/ha and current demand for hay exceeds production. Also, the lower growing, non-forage cultivars are being used increasingly for landscaping and production of material for ornamental planting is a growing source of income.
4. There was a critical partnership between stakeholders: Support of the research, extension and producer sectors all contributed to the commercialization of rhizoma peanut. The Florida Department of Agriculture and Consumer Affairs maintains a web site on rhizoma peanut (<http://www.fl-ag.com/peanuthay>).
5. Dedicated champions were crucial: The components of demand and production technology were present. However, thanks to enthusiastic support over the years from a select group of producers, researchers, and extension personnel, particularly the late EC "Tito" French III and Chuck Paarlberg, rhizoma peanut avoided the fate of many other new crops that never emerged into commercial production.

Conclusion Rhizoma peanut was not adopted initially because research efforts targeted cattle producers and its production costs were too expensive for this use. Commercial success depended on the realization that rhizoma peanut could be used as a cash crop. Future research aims to develop ornamental cultivars and forage types with a wider range of adaptation.

References

- French, E. C., G. M. Prine, W. R. Ocumpaugh, & R. W. Rice (1994). Regional experience with forage *Arachis* in the United States. In: P. C. Kerridge & B. Hardy (eds.). *Biology and Agronomy of Forage Arachis*. Centro Internacional de Agricultura Tropical (CIAT), Cali, Columbia, 169-186.
- Quesenberry, K. H. (1999). Value of UF/IFAS forage legume cultivars to Florida livestock production. *Soil Crop Science Society Florida Proceedings*, 58, 23-27.