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### **USING CARPON DESMODIUM IN BAHIAGRASS PASTURES**

by W.D. PITMAN

*Ona AREC, IFAS  
University of Florida*



For questions or comments regarding this publication contact [Robert Kalmbacher](#)

Recent experiments at Ona with yearling steers grazing bahiagrass pastures illustrate the value of even small amounts of carpon desmodium. With a range of zero to five percent of the forage from carpon desmodium, positive responses in daily gain to the legume were obtained over the summer. Although its digestibility is typically no better than bahiagrass, crude protein of carpon desmodium leaf is generally greater than 15 percent compared to around seven percent for bahiagrass.

A major limitation of carpon desmodium is low vigor and slow establishment of seedlings. Seedlings are especially vulnerable to moisture stress. Early summer plantings may be lost due to inadequate moisture when several days without rainfall occur immediately following germination. Plantings made later in the summer are susceptible to loss from excess water, since carpon desmodium seedlings are not tolerant of flooding even for a few days. By contrast, established carpon desmodium plants are well adapted to flatwoods sites subjected to short-term waterlogging.

Results of attempts to establish carpon desmodium in bahiagrass pastures have shown that the degree of seedbed preparation, fertilization, and other expensive inputs are not generally the controlling factors in flatwoods pastures. Either moisture or plant competition is typically the controlling factor. In a bahiagrass pasture, plant competition can be minimized by heavy grazing pressure through the summer of establishment. The risk of stand loss to moisture problems can be reduced by seeding in two or three consecutive years. This would certainly not be a cost-effective strategy if seedbed preparation were involved each year. However, carpon desmodium stands have been repeatedly obtained from overseeding bahiagrass pastures at low seeding rates when followed by adequate moisture and moderate to heavy grazing pressure. Often stands are

initially sparse or restricted to portions of the pasture where the most suitable moisture conditions were obtained, typically due to elevation. Stands of carpon desmodium can improve over a period of years.

Carpon desmodium seed can be broadcast at a rather minimal cost per acre, especially when mixed with fertilizer scheduled for spring or summer application. Since success is dependent upon unpredictable rainfall, a strategy to plant some pastures each year over a period of years or to split a reasonable seeding rate of six pounds per acre into two or three pounds per acre over two or three years will provide a hedge against adverse moisture conditions.

Carpon desmodium can enhance cattle performance on bahiagrass pastures, even when it is only a minor pasture component. Once established, this legume can also contribute nitrogen through biological nitrogen fixation (20 to 50 pounds per acre of nitrogen for a pasture stand under moderate grazing pressure; heavy grazing pressure will reduce nitrogen fixation). Once established, carpon desmodium typically becomes a permanent component of the pasture. This legume contribution to flatwoods bahiagrass pastures can be obtained at a rather low cost when moisture is available and plant competition is controlled by adequate grazing pressure. A rather large risk factor is involved due to lack of predictability of rainfall. However, the cost per acre at risk is low compared to the potential benefits when only the seed cost and broadcast application are involved.