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Establishing Carpon Desmodium and Shaw Vigna in Bahiagrass

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Carpon desmodium and Shaw vigna are two perennial legumes that are very compatible with bahiagrass and are very practical for use in pastures in central and south Florida. Unlike annual legumes, these two are persistent and reliable, and they do not depend on unpredictable rain in order to re-establish themselves each summer. Like all legumes, they offer the potential of providing much needed protein for cows and calves in late summer when nutritive value of bahiagrass declines. We had a group of calves this year that averaged 586 lb at weaning from a bahiagrass-carpon-Shaw vigna pasture at Ona. This was a 10-acre pasture stocked with 17 pairs from May through September. Calves averaged 287 lb at the start.

Many ranchers are discouraged by problems of getting and keeping legumes in pastures. Faced with high seed cost and past failure, they are afraid to put much effort into legumes today. Two major problems which limit establishment of summer legumes in Florida are rainfall and competition from bahiagrass. If legumes are sown in April through early June, most likely there will not be enough rainfall for the plants to establish. Pastures may receive enough rain to promote germination during this period, but seedlings often fail after the soil dries out in the long stretches between rain events. If legumes are sown after June, there is a risk of too much rain. Neither carpon nor vigna will germinate or establish well on saturated soil. As for competition, once the rainy season starts, bahiagrass grows so fast that it provides too much shade for legumes to establish, and it is difficult in summer to keep the grass canopy low enough with grazing to reduce the shade problem. My rule of thumb is if bahiagrass leaves are an inch or more above the toe of your boot, there is too much grass cover to ideally establish legumes. Some cattlemen

prefer to sow legumes in a clean-tilled seedbed, but my experience has been that these seedbeds result in conditions that are too hot for rapid seedling growth. Grass seedlings can tolerate the + 100o F heat of an open seedbed, but legume seedlings do better with a little grass cover.

So, what is the alternative? Burn the bahiagrass pasture in early February, and sow carpon and Shaw vigna shortly thereafter. When bahiagrass regrows, restock the pasture with cattle to keep the grass short. Simple as it may seem, this procedure works. I have done it at the Range Cattle REC many times over the years, and I have not had a failure.

What are the particulars? Get as much grazing from the bahiagrass as you can over the winter, but leave enough grass to carry a fire. Sow carpon at 3 lb/ acre and Shaw vigna at 1 lb/acre. Shaw spreads by runners and roots at the nodes, so these plants can really spread from scattered plants. I have drilled seed with a no-till planter, but this is not necessary, and if you are not careful, you will place these seed too deep in the soil. When broadcasting seed, the main problem will be coverage because it is difficult to get such a small amount of seed uniformly over the land. The way around this problem is to mix the seed with dry fertilizer, use a Terragator and apply the seed as a liquid suspension, or seed by airplane. These are tiny seed, and they will work their way to the soil and germinate under cool temperatures. Do not disk the pasture because you will loose soil moisture. There should be sufficient soil moisture that results from winter fronts, and February and March often provide additional rain to keep the seedlings growing. April to early June is the real drought period, but if you sow seed in early February, your seedlings will have a good root system to get through the dry season.

Here are a few more do's and don'ts. Do allow these legumes to go to seed occasionally (once in 3-4 years), especially in the first year. Even for ranchers who have been successful with legumes, few have managed legumes to maintain a strong soil seed bank which allows for their regeneration from seed. We at the University of Florida have not emphasized the importance of this aspect of management. So, remove cattle in early September, allow seed-set, and restock before frost in mid-December. Seed of these legumes will pass through cattle, and they will help spread the seed. Don't undergraze bahiagrass pastures that contain these legumes. If you vacate a pasture for most of the summer, the bahiagrass will slowly crowd-out these legumes. Keep in mind that bahiagrass can not be grazed to the point you will hurt these legumes. The closer bahiagrass is grazed, the closer to the ground these legumes will grow. This is a real strong advantage, and one reason they are so practical for Florida conditions.