Seed-Planted Bermudagrass?

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How good are seed-planted giant bermudagrasses? Do they hold up under hay production? Are they cold hardy? Is it easy to get a stand? Any disease problems? Can I buy seed? Folks are asking these questions since we published first-year yield results in the Georgia Cattleman a year ago. This article will give an update on our second year results with these grasses.

What's the problem?

Seed-planted giant bermudagrasses, if successful, offer a cheaper way to establish a hayfield than conventional vegetative sprigging of hybrid bermudagrasses. It is important to remember that we have a wide array of outstanding hybrid bermudagrass varieties differing in cold hardiness that fit a range of climates. In addition, principles of vegetative establishment are well worked out and experienced contractors with sprigging machines can do the job dependably and fast. Herbicides are available for weed control so hybrid bermudagrass varieties can establish rapidly and furnish one or more cuttings of hay the first year, thus reducing the cost of planting. In contrast, establishment techniques for seed-planted giant bermudagrasses are not well worked out and herbicides are not available for grass weed control. Thus, there is a much greater uncertainty in planting these grasses and the potential for failure is higher.

Our trials

In April 1994 we planted four seed-type bermuda varieties and two sprig-planted varieties in trials at the Northwest Branch Station near Calhoun, the Plant Sciences Farm near Athens, and the Central Georgia Branch Station near Eatonton. No herbicides were used in these trials so the sprig-planted hybrids had much lower yields than normal the establishment year. Crabgrass competition was severe and at Eatonton the stands of the seed-planted varieties were weak in spite of frequent mowing so they did not survive the winter. Stands of all varieties were established at both Athens and Calhoun. Russell, because of its rapid establishment, was the most vigorous competitor with crabgrass. After the establishment year, nitrogen was applied at 60 lb N/acre in April and after each hay harvest.

Experimental results

Forage yields at both Calhoun and Athens the first full season (1995) were good on all entries except Giant which had considerable winter stand loss and required time for recovery. At Eatonton, yields were low on both sprigged hybrids because of thin stands caused by crabgrass the previous year. The next year (1996), yields at Athens remained high on all entries except Giant. However, the highest yielders were Russell, Coastal, and Cheyenne. Yields on all entries at Calhoun in 1996 were much lower than the previous year, a result of a cool late spring, summer drought, and early cool weather in autumn. None of these conditions favored bermudagrass at this northern location. Yields at Calhoun in 1996 were similar for Coastal, KF CD194, Cheyenne, and Russell but much lower for Tierra Verde and Giant. At Eatonton, Russell was more productive than Coastal in 1996.

Forage yield of bermudagrass warieties at Calhoun, Athens, and Eatonton

Variety	Calhoun 1995	Calhoun 1995	Athens 1995	Athens 1996	Eatonton 1995	Eatonton 1996
	tons/acre					
Sprigged						
Russell	8.54	3.94	7.92	7.19	3.02	4.68
Coastal	6.93	4.62	4.67	7.11	1.92	3.32
Seed-planted						
Cheyenne	8.38	4.07	7.47	7.08		
KF CD194	7.52	4.38	6.19	6.49		
Tierra Verde	8.01	2.58	6.21	6.15		
Giant	7.48	1.01	4.13	4.04		

Results for two full years indicate that several of the seed-planted varieties were as productive as sprig-planted bermudagrass varieties. Stands of Cheyenne and KF CD194 came through the second winter in excellent condition even at Calhoun in northwest Georgia. Thus far, leaf diseases have not been a problem. Leaf diseases could be a problem in south Georgia where a longer warm season and more humidity might favor disease development. Forage yields will be harvested for a third year at Calhoun and Athens to ascertain longer term production and persistence under hay production. A substantial acreage of Cheyenne bermudagrass was seeded for pasture on a new farm of the Northwest Branch Station near Calhoun in April 1996. This excellent loam bottomland had previously grown corn. Good stands of Cheyenne were obtained and coverage was rapid, resulting in three hay cuts the establishment year. Crabgrass did not appear to be a big problem here.

Planting suggestions

Although no recommendations can be made until we have another year's yield data, some producers may wish to plant areas of seed-planted bermudagrass. Very limited amounts of Cheyenne are available. Areas to be seeded should be clean tilled and free of common bermudagrass. Fertilizer and lime should be applied according to soil test results. A cultipack seeder is ideal for planting. If only a cultipacker is available, then firm the ground with it, broadcast the seed, and cultipack again to provide a firm seedbed. Since bermudagrass seed are very small, seed are coated to make it about 30% heavier. About 10 lb/acre of the coated seed should be adequate. Planting should be done in April. If crabgrass competition is severe, all you can do is mow and mow and mow. If you are lucky, you'll have a stand and saved money; if not, you'll wish you had spent more money, sprigged hybrid bermudagrass, and controlled crabgrass with herbicide.