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Planting Pines in Bahiagrass Pastures

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High cost of land, higher taxes, increased production costs are forcing cattlemen to consider methods for increasing net returns from their ranches. Combining the production of pines and beef on improved pastures, a type of agroforestry, offers an opportunity for multiple product yields. This may increase profitability and help buffer year to year variability in income through the sale of forest products and increased opportunities for sale of hunting leases brought about by the creation of wildlife habitat. The idea is not new and was pioneered in the Southeast by Mr. Cliff Lewis (now retired), whose long-term research in Florida and Georgia showed that integrating pines and pastures was not only possible, it could be very practical as well. I became interested in his research in the 1980's and wanted to see how it would work at the Range Cattle REC.

In December 1991, I planted bare-rooted, south Florida slash pines in a 40-acre Pensacola bahiagrass pasture at Ona. Pines came from the Florida Division of Forestry and cost \$25/1000 seedlings. We planted 450 trees/acre in a 4' x 8' x 40' configuration made popular by Mr Lewis. We had double rows of pines, 8' apart with 4' between pines in the row. Double rows were 40' apart, and this provided sunlight needed to maintain the grass and provide grazing. It took two men 30 hours with a tractor-drawn planter to do the planting. To suppress bahiagrass, Round-up herbicide was sprayed on the row area in October 1991 in 6'-wide strips at a rate equivalent to 3 quarts/acre. The legume, carpon desmodium, was seeded over the entire area in 1993.

Mr Lewis' research indicated that cattle need to be excluded from newly planted pines for 2 to 3 years, but I could not do this, so our cattle were kept off the pasture for 14 months. Up to this point I had practically 100% pine survival. In March 1993 (and every year since), about 50 cow-calf pairs were rotated off native range onto the 40-acre pine and

bahiagrass pasture along with 2 bulls and molasses lick tanks. Cows were rotated between this and another bahiagrass pasture until late September. Between March and June 1993 and 1994, too many cows, not enough grass, plenty of molasses and bulls looking for target practice spelled trouble for the young pines. By 1995, I had 51% tree survival with 230 trees/acre remaining. However, in the past 5 years few pines have been lost. Today there are about 225 trees/acre, and they are 20' tall and 5" in diameter (chest height). Growth of pines in south Florida compares poorly with those grown in north Florida, but our pines look good and will provide some return eventually.

If I had waited until July or August and put cows on pasture without bulls or molasses, I believe that I could have grazed the pasture the second summer after planting pines without receiving heavy damage. Research has shown that pines can take a great deal of damage from cattle and grow into a valuable product.

Over all, I think the project has been successful and has potential for cattlemen interested in improvements that yield a return over many years. There are other rewards too, not measured in dollars. I have enjoyed watching the pines grow, and I see deer and other wildlife in the pasture where there had been none before.