

No-Till Planting In Grass Sods, Success or Failure?

Carl S. Hoveland

Crop & Soil Sciences Dept., Univ. of Georgia

No-till planting in grass sods has sometimes been compared with gambling because of so many failures. This may seem to be true but it differs in that a farmer has a much better opportunity to stack the odds of winning in his/her favor by smart management. This article will cover some of the problems and how to improve the success rate of no-till planting in sod.

Why no-till plant in grass sods?

There are several reasons for spending money on no-till planting with a grassland drill. Bermudagrass and bahiagrass sods go dormant in autumn and are unproductive for 5 to 7 months of the year, depending on location in the state. Planting a cool season annual grass can extend the grazing season with high quality grazing. Planting an annual legume can also extend the grazing season and supply some nitrogen. For cool season grasses such as tall fescue, introducing a legume can improve nutritive quality, add nitrogen, and offset some of the toxic effects on livestock by the fungal endophyte.

Why are there planting failures?

The main cause of poor stands from no-till planting is too much grass residue which makes seed placement difficult and allows heavy grass competition for new seedlings. Old grass must be removed by close mowing or grazing prior to planting or stands will be poor. Failures also may result from planting at the wrong time of year, low soil fertility, and insects in the case of clovers. Drought is often blamed for no-till planting failures but generally the main reason is something else.

Sod preparation before planting

Get a soil test several months before planting and apply needed fertilizers at planting time. Old pastures or hayfields may be low in nutrients and cause poor establishment.

Remove old grass residue by close mowing or grazing prior to planting. This is especially important for small clover

seedlings but it can also reduce stands and growth of grasses.

Bahiagrass sods are especially dense and competitive so it is desirable to cut them with a disk before no-till planting with a drill.

No-till planting on bahiagrass and bermudagrass sods

Bahiagrass and bermudagrass should not be planted until the grass is going dormant. In south Georgia, this will be in November, while further north planting can be done in late October. In south Georgia, annual ryegrass is an excellent choice and will provide high quality grazing into May. Gulf or Marshall annual ryegrass seeding rates are 20 to 25 lb/acre. Marshall is more susceptible to rust than the Gulf variety but it is less of a problem when grazed closely. In two Alabama grazing trials, Marshall produced 52% more animal weight gain than the Gulf variety. Rye or wheat will terminate growth earlier than ryegrass and allow rapid spring recovery of the summer perennial grass. Seeding rates of 1.5 to 2 bushels/acre are adequate. Crimson clover (Tibbee, Flame, AU Robin varieties) at 15 lb/acre or red clover (Cherokee variety) at 10 lb/acre can also be no-till seeded in bahiagrass and bermudagrass sods.

The only tall fescue variety that will survive as a perennial in bahiagrass and bermudagrass pastures in the Coastal Plain area of south Georgia is Georgia-5. It can be planted at 25 lb/acre from November to mid-December. Bahiagrass sods should be disked before planting to reduce competition.

No-till planting on tall fescue sods

On tall fescue sods of north and central Georgia, red and ladino (white) clovers are best for no-till planting. Red clover (Acclaim, Cinnamon, or Redland III varieties) at 10 lb/acre or ladino clover (Regal, Osceola, or Will varieties) at 2 to 3 lb/acre can be drilled into sod from late September to February although October and November plantings generally give

more production the next year. However, with autumn red clover plantings in sod, we have found that disease losses from crown and stem rot can be greater than when planted in winter since the disease organism attacks the seedling only during autumn.

Broadcast planting of red and ladino clovers on tall fescue pastures is a cheap but less reliable method of establishment and generally gives poorer stands than drill planting. Our research on broadcast seeding at the Northwest Georgia Station, Calhoun during 3 years shows that red clover is the most dependable legume and stands are better if broadcast seeded in February rather than September.

Follow-up after planting

Nitrogen fertilizer is needed for no-till planted winter annual grasses on bermudagrass or bahiagrass sods. Apply 60 lb N/acre in autumn and 60 to 80 lb in mid to late winter.

Clover seedlings in no-till planted grass sods can be lost from pygmy crickets during autumn. These insects are very small and are often not seen unless you get on your knees and look carefully. Check pastures frequently for possible seedling damage. The first signs are small halfmoon shaped bites eaten from the new cotyledonary leaves of the clover plants. If this damage continues, apply granular Diazanone or Lorsban insecticide as crickets can rapidly destroy the leaves and kill the seedlings.

Autumn rain prospects

Good autumn rainfall certainly favors getting good stands from no-till planting. The climatologists tell us that autumn and winter rainfall this year should be good in the southeastern USA as a result of a strong El Niño ocean current off the coast of Peru and Ecuador. The

warmer ocean water from El Niño changes atmospheric winds so that cooler and wetter weather is moved southward over our region during autumn and winter. If so, this will make no-till planted pastures even more successful this year!