

Alternative Strategies for Pasture Renovation¹

C. G. Chambliss and M. B. Adjei²

Pasture renovation has been defined as the improvement of a pasture by partial or complete destruction of the sod, plus liming, fertilizing, weed control, and seeding, in order to re-establish desirable forage plants. In Florida, pasture renovation usually means complete destruction of the existing plants or sod and replanting with a new or improved perennial grass species. A producer may decide to simply replace an existing pasture grass with a new improved grass because of the higher yield and quality of the new grass, but most renovation is done because the existing pasture has deteriorated to the point that forage production is greatly reduced. Renovation provides opportunities to fill in bull holes, control weeds, incorporate lime if needed, and establish a superior forage.

Renovation programs are usually started in the spring or fall. Primary cultivation should be done with a moldboard plow or a heavy cutting disk. Turning the soil with a moldboard plow may have an advantage in that it buries a lot of weed seeds deep enough that they cannot germinate and be a problem in the new planting. Secondary tillage can be

accomplished with a finishing disk and drag to level and smooth the soil surface.

Several strategies for pasture renovation can be followed:

1. A producer may choose to start in the fall by plowing and planting a cool-season annual forage and then establishing the new permanent pasture grass the next summer. Planting and growing an annual grass is expensive; therefore, a producer should plan to use the forage for stockers, heifer development, or as a supplement for calves in an early-weaning program. Plowing deep, disking, and seeding of the winter annual, followed immediately by firm-rolling may all be done on the same day. The purpose of these practices is to bury the old sod and weed seed while preserving soil moisture for successful establishment of the winter crop. The winter annual will also smother germinating warm-season weeds in early spring but provide residual fertilizer to the next crop. As production of the winter annual declines in spring, the field is disked about four times during April and May before planting the new

1. This document is SS-AGR-174, one of a series of the Agronomy Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. First Published August 2002. Revised June 2006. This publication is also part of the Florida Forage Handbook, an electronic publication of the Agronomy Department. For more information you may contact M. B. Adjei (mba@ufl.edu). Please visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. C. G. Chambliss (deceased), associate professor, Agronomy Department; M. B. Adjei, associate professor, Range Cattle Research and Education Center--Ona, FL; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition.

- permanent pasture grass at the beginning of summer rains in June.
2. Another strategy for seedbed preparation that is especially useful in peninsular Florida is to plow and disk during the months of April and May--usually a dry period. Most of the existing plants can be killed through desiccation. Three or four diskings spaced over two months may be necessary to kill all of the old plants. When the summer rains start, the new permanent pasture grass can be planted.
 3. When planting some forages, it is desirable to plow the old sod in the fall (November-December) and then plant in late winter or early spring. This practice is useful for the establishment of sprigged bermudagrasses or perennial peanut and for early plantings of bahiagrass or rhodesgrass. With this practice there may be some concern for soil loss due to wind erosion if there are prolonged periods of dry weather. Disking could be delayed until close to the planting date in order to reduce wind erosion. Often there is concern about bahiagrass seeds that are in the soil and the possibility that bahiagrass might invade the new planting, which may be especially important when attempting to establish a pure stand of an improved bahiagrass such as Tifton-9 or a hybrid bermudagrass for hay production.
 4. Farmers might choose to plant the area with cultivated row crops or vegetables for one or more seasons, which helps eliminate bahiagrass seeds as well as the old established plants and builds up soil fertility.
 5. A forage producer may choose to plant an annual forage crop in order to accomplish the same purpose. Pearl millet or sorghum-sudan hybrids can be planted in the spring or early summer. In the fall the land could again be disked and planted to a cool-season forage crop such as ryegrass or rye. Two annual crops with accompanying cultivation for seedbed preparation should put the land in fine shape for the establishment of the new pasture the following year.
 6. Some producers may choose to use herbicides in their renovation program. In order to kill the old sod, herbicide should be applied while the plants are green and growing. Roundup® or a similar herbicide may be especially useful where there are spots of common bermudagrass. Common bermudagrass can be especially difficult to control. If all of the vegetative growth is killed, there may still be seed in the soil to re-infest an area. Some producers who have a solid stand of common bermudagrass have simply chosen to fertilize and graze it. Before deciding to use a herbicide in a renovation program, a producer must consider the cost.
 7. After the lifting of grass sod or moderate mole cricket damage, a closely grazed or mowed bahiagrass pasture can be successfully regenerated by rotovating to distribute remaining sod followed by firm-rolling. In south Florida, this is best done between February and March when cool temperatures prevent rapid desiccation of the field and some rains are normally expected. The field is fertilized as soon as sprouting occurs.