

# I Can't Keep Clover in Pastures

Carl S. Hoveland

Crop & Soil Sciences Dept., Univ. of Georgia, Athens, GA

Failure of clover to stay in pastures year after year is a common complaint among cattle producers. Ladino and red clovers do not seem to survive very long in tall fescue pastures. Crimson and arrowleaf clovers often fail to naturally reseed in bermudagrass or bahiagrass pastures. Some people have given up on clovers as too undependable and switched over to just applying ammonium nitrate or liquid nitrogen fertilizers on their grass pastures.

## Why grow clovers?

With all the problems in keeping clover in pastures, then why keep trying to grow them? Most people agree that clovers save money by fixing atmospheric nitrogen, varying between 50 and 150 lb N/acre annually. This amounts to about \$15 to \$45 worth of free nitrogen fertilizer each year. Clovers offer additional benefits. Annual clovers such as arrowleaf, crimson, subterranean, or berseem extend the grazing season and provide very high quality forage in bermudagrass and bahiagrass pastures. Ladino and red clovers improve forage quality of tall fescue pastures but also greatly reduces the toxicity problem of this grass. Overall, clovers improve animal performance.

## What can and is being done to solve the problem of clover undependability?

(1) The easiest thing to do is simply quit trying to grow clovers and stick to nitrogen fertilization of grass, either with synthetic nitrogen or broiler litter. This costs more unless one has a cheap source of broiler litter. If one is in the tall fescue areas of middle and north Georgia, nitrogen fertilization with no clovers often results in more problems with fescue toxicity in cattle.

(2) Buy and plant clover seed each year. Some cattle producers do this and feel the extra cost is a good investment that results in more clover in pastures. There is no question that planting clover seed every year or two can improve clover dependability provided that good management practices are used to favor the clover.

(3) Soil test and maintain adequate fertility for clovers. If soil pH is below 5.5, lime should be applied for good clover growth. On many pasture soils, potassium levels are too low for clover although grasses will survive. Grasses are better able than clovers to compete for potassium so this element must be kept at adequate levels or clovers will disappear. Potassium is critical to maintain clovers in pasture.

(4) Grazing management is important to maintain clovers. When tall fescue pastures containing red or ladino clover have heavy surplus growth in spring and are undergrazed, the grass dominates the legume. If it is not cut, shading may cause clover losses. Fencing off part of the pasture to concentrate animals on a smaller area will utilize more of the grass while ungrazed areas can be cut for hay to reduce the shading problem. Close continuous grazing of cattle will not harm ladino clover as it is tolerant of this treatment. However, red clover will not tolerate close grazing over long periods of time and stands will rapidly disappear after such treatment. Leave 3 or 4 inches of growth on red clover during summer.

Annual clovers (crimson, arrowleaf) in pastures are expected to naturally reseed in autumn from seed produced during spring. If crimson clover is grazed closely all spring, little seed will be produced for natural reseeding. Arrowleaf clover seed has very hard seed coats and will lie in the soil for many years, allowing seed to germinate over a period of years and not requiring that a seed crop to be made each year as is the case with crimson clover.

(5) Breed more dependable clovers. Unfortunately, clover varieties now on the market were not selected under grazing for their persistence in association with a grass. Progress is being made in this direction with perennial clovers at the University of Georgia and with annual clovers at the Texas A&M University Center near Overton, TX. Dr. Joe Bouton at the University of Georgia has been doing his selection of white and red clovers under close continuous grazing after which they are tested in tall fescue and bermudagrass sods under close continuous grazing. The extended drought of 1998 at the Central Georgia

Station, Eatonton, and the Redbud Farm, Calhoun provided severe testing of these selected clovers. Stands of commercial clover varieties were virtually wiped out but a new experimental white clover of his slated for release came through in remarkably good condition in both grass sods. It is expected that seed of this new small leaf white clover will be available to cattle producers in two or three years.

## Conclusions

Currently available clovers are not as dependable as desired. However, because of their desirability in pastures to supply N and also to improve forage quality, it is worth the effort of managing pastures to maintain stands. Soil testing and fertilizing to maintain adequate potassium, liming for a desirable pH are necessary for clover. Better grazing management to favor the clover is also necessary. Do not expect a clover planting to last forever - plant new seed every year or two. Better clover varieties are on the way that will be more persistent in pastures.

**HELPING YOU**  
*is what we do best.*

**FARM  
BUREAU  
GEORGIA**

**Georgia Farm Bureau  
Companies**

**Home Office:**  
**1620 Bass Road**  
**Macon, Georgia 31209**

•

**912-474-8411**  
**800-342-1192**