



Establishment of Cool Season Annual Legumes

*Dennis W. Hancock,
 Extension Forage Agronomist,
 Crop and Soil Sciences Department*

Cool season annual legumes can either be established on a prepared seedbed or they can be overseeded on warm season perennial grass pastures. Planting with a drill (using the small seed box) or by broadcasting the legume seed can result in satisfactory stands. However, the seeding rate needs to be adjusted to compensate for the differences in these planting methods (Table 1). Information on broadcasting legume seed is detailed in the inset “Seeding Methods for Small-Seeded Legumes.”

When planting into dormant warm season grass sod, one or more legumes may be used to achieve a solid legume stand. When planted in a prepared seedbed, one or more of these legumes are often mixed with a small grain crop or ryegrass. Seeding rates for the legumes used in such mixtures need to be adjusted to minimize seed costs and prevent excessive competition (Table 2).

Planting too deep is not usually a problem when legumes are broadcast on dormant warm season perennial grass sod. However, when the legumes (especially small-seeded species) are being drilled or broadcast onto a prepared seedbed, special care should be taken to ensure that the legume seeds are not planted more than ¼ - ½ inches deep (see Factsheet CSS-F004: “Seeding Methods for Small-Seeded Legumes”). Large-seeded legumes such as lupine or common vetch can be planted up to 1 in. deep.

Table 1. Seeding rates for achieving a solid stand of selected cool season annual legumes.

Species	Solid Stand [†]	
	Drill	Broadcast
	(lbs of pure live seed/acre)	
Arrowleaf clover	5-7	8-10
Ball clover	---	2-3
Berseem clover	10-15	18-20
Crimson clover	15-20	20-30
Red clover	8-10	12-15
Rose clover	15-20	20-25
Subterranean clover	8-10	10-20
Vetch, hairy	15-20	20-25
Winter pea	20-25	30-35

[†]When only one legume is seeded and not in a mixture of grasses or other legumes (e.g., sod- seeding into bermudagrass).

Table 2. Seeding rates for selected cool season annual legumes used alone or in combination with other legumes in a mixture.[†]

Species	Single Clover in Mixture [‡]	Multiple Clovers in Mixture [§]
	(lbs of pure live seed/acre)	
Arrowleaf clover	6-8	5-6
Ball clover	2-3	1-2
Berseem clover	15-20	10-15
Crimson clover	15-20	10-12
Red clover	8-12	6-8

[†] Use lower seeding rates when planting into a prepared seedbed or no-tilled into existing sod (overseeding). Use higher seeding rates when seed is broadcast.

[‡]Winter annual clovers are typically grown with one or more winter annual grasses.

[§] Often two or more clover species will be grown with the grass. The seeding rate of an individual clover species can be reduced if multiple clovers are included in the mix.

Learning *for* Life

The University of Georgia and Ft. Valley State University, the U.S. Department of Agriculture and counties of the state cooperating. Cooperative Extension, the University of Georgia College of Agricultural and Environmental Sciences, offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.

An Equal Opportunity Employer/Affirmative Action Organization Committed to a Diverse Work Force

CSS-F003

January 2009

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, The University of Georgia College of Agricultural and Environmental Sciences and the U.S. Department of Agriculture cooperating.

J. Scott Angle, Dean and Director.