

IMPROVING FEED PRODUCTION WITH ANNUAL CLOVERS

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INTRODUCTION

Gains of 150 to 300 pounds of beef per acre can be consistently produced on annual-legume improved ranges. In "good bur clover years" this type of production is possible on bur clover alone. However, since good bur clover years do not occur every year, the introduction of subterranean, rose, and crimson clovers has been increasingly successful. Maximum profit per acre results from careful attention to adequate soil fertility, seeding adapted varieties, and good grazing management.

FERTILITY

Most lands planted to annual clovers are deficient in either sulfur or phosphorus, or both, so that adequate amounts of them must be added to produce a good initial stand and to maintain maximum forage and seed production.

SEEDBED PREPARATION

Some seedbed preparation is necessary to reduce competition and provide for seed coverage — usually a light disking is sufficient.

SEEDING METHOD

Seed can be drilled or broadcast by air or ground rigs. A broadcast seeding should be lightly covered by ring rolling or harrowing.

SEEDING DATE

Seeding should be done as close to the first fall rain as possible and before cold weather. Fall seedings in October and early November are much more successful than December seedings. If germinating rains do not come before cold weather, delay seeding until the following year.

GRAZING MANAGEMENT

Clovers stimulate the early growth of grasses and filaree. In the winter and early spring, clover-improved ranges should be grazed to use the grass and prevent the nonleguminous plants from crowding out the clovers. Reduce grazing while clover is blooming in order to allow an adequate seed set. Stands should be heavily grazed during the summer and fall to make use of the dry feed and to trample the seed into the ground. More stands of clovers have been lost by too light grazing than by overgrazing.

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VARIETIES TO USE

Crimson, rose, and subterranean are most commonly used and grow well together. Several varieties of rose and subterranean clovers mature over a wide range of dates from very early to very late spring. Some are better adapted to wet or poorly drained soils than others. Most fields to be seeded contain a variety of soils so that the seeding mixture should contain all three types of clovers. It should include both early and late maturing varieties that are adapted to a variety of sites to ensure good forage growth and seed production during very dry winters or springs, as well as under "normal" conditions. Here is a suggested mixture:

- 2 pounds Geraldton subclover (early)
- 1 pound Yarloop subclover (poorly drained soils - midseason)
- 2 pounds Woogenellup or Dinninup subclovers (midseason)
- 1 pound Clare, Howard, or Mt. Barker subclovers (midseason)
- 1 pound Hykon or Sirint rose clovers (early)
- 1 pound Kondinin rose clover (midseason)
- 1 pound Wilton rose clovers (late)
- 1 pound Dixie crimson clover (midseason)

You will want to consult your farm advisor for specific recommendations for your particular area.

INOCULATION

Clovers need to grow in association with certain soil bacteria (Rhizobia) to provide the nitrogen they need for growth. In most areas these required strains

of bacteria are not present in the soil and must be furnished by inoculating the seed with the right bacteria at seeding time. Well-inoculated clovers supply extra nitrogen to make the associated grasses grow better. The pellet method of inoculation is recommended. (See the University of California publication, AXT-210.)

ESTABLISHING ANNUAL CLOVERS

- (1) Select an area that can be disked.
- (2) Apply 400 to 500 pounds of single superphosphate per acre.
- (3) Prepare a seedbed by a light shallow disking, not over 4 inches in depth.
- (4) Seed 10 to 15 pounds of pellet-inoculated seed per acre before November 1 and roll or harrow to cover the seed.
- (5) Graze the stand lightly the first spring to keep the grass from crowding out the clover. Livestock should be put on the field as soon as it can be grazed without too much "punching."
- (6) Remove the livestock during April and May the first year to let the clover set a good seed crop.
- (7) Graze again during the summer or fall in order to remove most of the clover and grass residue and trample the seed into the ground.

GRAZING THE ESTABLISHED STAND

Graze any time during the fall, winter, or spring with enough livestock to keep the grass growth down. Adjust the cattle numbers to let the clovers bloom and set seed (during March and April in dry years, and April and May in a normal year). More stands of clover have been lost by too little grazing than by too much grazing.