

Crimson Clover



TEXAS AGRICULTURAL EXTENSION SERVICE
J. E. Hutchison, Director, College Station, Texas

Crimson Clover

E. M. TREW, *Extension Pasture Specialist*
The Texas A. & M. College System

Reseeding crimson clover is excellent for winter grazing, silage and soil improvement in East Texas and the upper Coast Prairie.

Description

Common crimson clover, *Trifolium incarnatum*, is native to southeastern Europe and southwestern Asia Minor and was introduced first into the United States in 1819 from Italy. It is an annual, cool-season true clover that is known by its crimson colored spike-like seedheads. Seedheads contain 75 to 125 florets and are borne at the ends of leafy stems. Bees are necessary for good pollination, for the flowers are self-fertile, but are not self-pollinated. The plant grows 1 to 3 feet high, has a central tap root supported by many fibrous roots and the stems and leaves are hairy. Hulled seed weigh 60 pounds per bushel, and 1 pound contains 120,000 of the yellow to greenish-yellow seed.

Only reseeding varieties that produce volunteer stands year after year with good management should be planted. A high percentage of hard seed is necessary for volunteer stands. Hard seed in the soil do not germinate until fall, while soft seed sprout with summer rains and the young plants die. Common crimson clover has a low hard-seed content and does not reseed well. Reseeding crimson clover is a term used to describe any variety or strain that has a high hard-seed content and that has produced volunteer stands for several years. The first reseeding strain was found in Alabama in the late 1920's and was a natural selection from Common.

Auburn, Autauga, Dixie and Talladega are reseeding varieties most often brought into Texas. Talladega, Autauga and Dixie are the most popular.

PASTURES ARE A

Chief is an adapted variety recently developed in Mississippi. In seed-yield tests at College Station, there was little difference in seed production among the five varieties. Autauga was the first to mature, followed in 7 to 10 days by Auburn, then Dixie, Chief and Talladega. Under Texas seed certification standards, crimson clover is not certified as to variety, but simply as "reseeding crimson clover." Growers should buy only certified seed or seed known to have come from a field that had volunteer stands for 3 or more successive years.

Adaptation

Crimson clover does best on well-drained, sandy loam soils in East Texas and the upper Coast Prairie, where the annual rainfall is 40 inches or more. Production is not satisfactory on poorly drained, highly alkaline or very poor soils.

The clover is seeded alone, with oats or ryegrass or in a Bermudagrass sod. It is used for grazing, silage, seed production and soil protection and improvement. Crimson clover provides excellent grazing for beef and dairy cattle and hogs.

Establishment

Crimson clover should be planted in late September or in October, following good fall rains. Stands often are lost during hot, dry periods in early fall. Ample soil moisture is necessary for good stands. Research shows that the seed need to be in contact with moist soil 3 to 4 days for good stands to be obtained.

The clover should be seeded into a clean, firm seedbed. The land may be fallowed during the summer, weed growth controlled by light disking and the soil allowed to settle with fall rains. The soil should be scratched lightly just prior to seeding. Seed should be inoculated with true clover inoculant at two to three times the commercially recommended rate. A small amount of syrup aids in sticking the bacteria to the seed. The seed should not be exposed to the sun and should be planted immediately after inoculation.

Fifteen to 20 pounds of hulled seed are drilled or broadcast per acre for pure stands. The clover must be planted alone if highest seed yields and easiest seed harvesting are desired. When the clover is seeded with oats or ryegrass or in a sod, 10 to 15 pounds of seed per acre are planted. The seed should be covered $\frac{1}{4}$ to $\frac{1}{2}$ inch and the soil firmed with a cultipacker or some other roller-type implement. When crimson clover is to be planted in a sod, the grass should be mowed or clipped closely, the sod disked lightly, the clover seeded and the soil firmed by rolling. Planting in sod is more risky than on a clean seedbed because the grass often is still growing and competes with the young clover plants for moisture, plant food and light. Sod seedings should be made after October 15. Crimson clover should not be planted on land that usually has good volunteer stands of burclover, white clover or vetch, and other legumes should not be seeded with it.

Proper fertilization is necessary for establishment and good production. Phosphate, potash and lime levels should be checked carefully on old fields before seeding crimson clover. A soil test is the best means of determining the grade and amount of fertilizer and the amount of lime needed for good growth. Many successful growers put down fertilizer at the rate of 15-60-60 for new plantings and for volunteer stands. In addition to the phosphate and potash, about 15 pounds per acre of actual nitrogen are necessary for successful establishment. Acid soils need liming for best growth.

Management

Crimson clover grows rapidly with favorable conditions and can be utilized best for grazing with a rotation grazing system. In such a plan, pastures are divided into four or more blocks, one being grazed while the others rest. This permits utilization of most of the grazing produced, less loss from trampling, use of excess forage for silage and ease of management in seed production. When pure stands of crimson clover are grazed, the usual pre-

cautions against bloat should be observed. Bloat usually is not a problem when oats or some other grass is growing with the clover or when plenty of dry Bermudagrass is present.

Common Bermudagrass comes in naturally after two to three crops of crimson clover are grown in old fields on sandy loam soils. Properly fertilized and managed, the clover "builds" the soil to the point that it supports a good growth of the grass. The grass may be utilized in the late spring and summer and the clover in the winter and early spring. To make conditions favorable for a volunteer stand of clover, the grass should be grazed or clipped closely in the fall, the fertilizer put down, the sod disked lightly and then rolled. The grass should be fertilized before it begins growth in early spring. With favorable weather conditions, proper fertilization and good management, this grass and clover combination may be kept indefinitely.

Topdressing crimson clover one or two times with 30 pounds per acre of actual nitrogen results in increased grazing and seed yields. The extra nitrogen probably will not pay when extra grazing is not needed and seed are not to be harvested. Nitrogen topdressings are more profitable on new stands than on volunteer stands.

When crimson clover is to be harvested for seed, grazing should cease 60 days before the probable harvest date for best yields. The seed crop is ready for harvest when the heads are easily stripped from the stems and 70 to 80 percent of the seed may be hulled by rubbing in the hand. For best results, the stems and leaves should be dry. A special crimson clover combine screen is used, the beater bars are set close and very little air is used. When seed are harvested with a combine, enough seed are shattered for a good volunteer stand. An average seed yield is 200 to 300 pounds per acre.

Crimson clover growing with Bermuda, ryegrass, oats, or other grasses may require a slightly different seed harvest method. Running a large amount of green material through the combine makes threshing difficult and results in trashy seed that are more likely to heat. The growth may be

mowed a few days before direct combining would begin, allowed to dry in the swath and then threshed with a combine equipped with a pick-up attachment. Disadvantages of this method are that it is more expensive and seed loss from rain is more likely.

Virtually all pollination of crimson clover appears to be done by honeybees. Seed production at College Station was 297 pounds per acre when bees had free access to the clover and only 59 pounds when bees were caged out. One colony of honeybees per acre appears sufficient for good pollination.