

## **Red Clover Seed Production Factsheet**

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### **Red Clover (*Trifolium pratense*)**

Red clover is a short-lived perennial, but often is treated as a biennial. It requires good drainage, but does tolerate more soil moisture and acidity than alfalfa. There are two general types. Single-cut red clover is relatively late maturing, late flowering, winterhardy and is grown almost entirely in western Canada and the northern districts of Ontario and Quebec. Double-cut red clover flowers earlier, is less winterhardy, and is seldom grown outside of eastern Canada and the milder regions of British Columbia, except occasionally on the prairies. It is not as long-lived as the single-cut type, and usually only one seed crop is taken from a stand.

#### **Seeding**

Early Spring seeding is preferred, but good stands can be established until late July provided the young seedlings are not exposed to excessive heat or drought.

Companion crops are commonly used with red clover, but better stands and increased seed yields occur if the clover is seeded alone. When companion crops are used, they should be seeded separately from the clover seed at about one-half the usual rate and in a 12 in (30 cm) row spacing. Recommended row spacings vary, but 6 to 18 in (15 to 45 cm) spacing are common. Seeding rates range from two to four lbs/acre (2.2 to 4.5 kg/ha) and planting depth should be one-half to one in (1.25 to 2.5 cm). In eastern Canada, seeding rates are often as high as five to eight lbs/acre (5.6 to 9 kg/ha), but are probably excessive if good seeding practices are followed. In Manitoba good success in establishment has been seen with seeding of single cut Red Clover with a cereal cover crop in alternating rows, with seed production in year 2.

#### **Yields**

Double Cut - 200 lb/ ac average, 500 lb/ac high yield

Single Cut - 300 lb/ ac average, 500 lb/ac high yield

#### **Prices**

Average \$.90/lb for double cut, \$.35/lb. for single cut

#### **Fertilizers**

A common practice is to apply 25 lbs/acre (28 kg/ha) of P<sub>2</sub>O<sub>5</sub> at seeding time. As with other seed crops, a soil test is recommended and deficiencies of phosphorus, potassium, or sulphur should be incorporated before seeding.

#### **Pollination**

Bumble bees are the best pollinators of red clover and healthy native populations should be encouraged by providing nesting sites and Spring-flowering plants for sustenance wherever possible. Honeybees are not as effective as bumble bees because the nectar is difficult for them to reach. However, they are fairly effective pollinators, and at least one to three strong colonies per acre should be located near the field. Some recommendations even suggest three to five colonies per acre for maximum pollination. Leafcutter bees can also be used to pollinate red clover, especially the single cut types.

In areas with a long growing season, the first crop of double-cut red clover is often cut for hay and the second crop is then harvested for seed. In some regions, the stand is clipped about June 15. This delays flowering, and fosters better pollination because pollination conditions are usually more favourable weather later in the season and resident bee populations are likely to be higher.

### ***Insect Control***

Problem insects for red clover include leafhoppers, root borers, lygus bugs, thrips, clover seed chalcids and the clover seed midge. Treat with an insecticide if necessary. The only control for the clover seed chalcid is field sanitation by burning or removing the crop residue after harvest.

### ***Harvesting***

Methods of harvesting vary widely. In many areas the crop is chemically desiccated and straight combined when the heads are black and the seed ripe. Other growers swath or cut with a mower equipped with a windrowing attachment when the seed is approximately 35% moisture. At this stage the heads are brown and most of the seeds ripe or tinged with purple. The swaths or windrows are left to dry for 7 to 10 days before being threshed. A concave clearance of  $\frac{3}{32}$  to  $\frac{3}{16}$  inch (0.23 to 0.47 cm), and a cylinder speed of 900 - 1400 r.p.m. are suggested as starting points for the combine setting.

If swaths are likely to be blown about by wind or if the crop is heavy and green, a chemical desiccant is recommended.

### ***Seed Cleaning***

Top screen  $\frac{1}{15}$ ; bottom screen 6 x 22 or 6 x 24.

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