



Seed you can trust.

Frost Seeding Forage Legumes

Rejuvenating forages to restore productivity

- ✦ Inexpensive and effective way to boost productivity of pastures and forage stands
- ✦ Will continuously maintain a good pasture rather than allowing it to lower its production
- ✦ Requires very little equipment
- ✦ Easy improvement that can be made to a pasture

Broadcasting seed of forage legumes and grasses in early spring on frozen ground is called frost seeding. Timeliness is of importance as the technique is largely based on freezing and thawing of soil in early spring. As the ground freezes and thaws, it opens and closes allowing the seed to be incorporated into the soil. This keeps the seed from germinating until there is a good moisture supply in early spring.

Frost seeding is more suitable for forage legumes than grasses. Legumes germinate at lower temperatures so will begin growth early in the spring. Red and white clovers are easiest to establish by frost seeding. We have had less success in establishing alfalfa with frost seeding as alfalfa has an auto toxicity which will not allow new alfalfa to grow in the presence of a mature alfalfa plant.

Birdsfoot trefoil is generally used for frost seeding as it is a non-bloating legume that is established relatively well. Seeding rate for red clover is 6-10 lbs/acre, for white clover 2-3 kg/ha and 4-6 lbs/acre for birdsfoot trefoil.

Time of Frost Seeding

The ideal time to frost seed is in the very early spring. The ground should freeze and thaw 2-3 times after the seed has been broadcasted. Frost seeding on snow can be done and tracks in the snow help in identifying the areas already seeded.

Site preparation – Frost seeding works best in pasture, hay field or winter cereal with weakened and open vegetation.

- It is essential to reduce competition from the resident pasture species by close grazing or cutting the hay stand the previous fall.
- Herbicide may be needed to control troublesome weeds.
- Adequate soil fertility is essential for vigorous seedling growth.
- Legumes are heavy users of potassium and also require phosphorus for vigorous growth.
- Broadcast potash and phosphorus in May when seedlings have emerged.

Managing Stands

Young seedlings will thrive when competition from resident plants is low and grazing is controlled to reduce crop damage. This requires proper management and close monitoring of seedling development. The establishment of seedlings is dependent on vigorous frost action after the seeding, favourable growing conditions in spring, and low competition from the resident grass.

It takes up to a year for frost seeded clovers and grasses to become productive so these should be made a year before the existing plants die out.

Costs

Main cost in frost seeding is seed, operating the vehicle and cost of a seeder. Yield increases due to frost seeding range from 0.25 to 0.5 t/acre dry matter depending on success of establishment.

Bishop Seeds Frost Seeding Mixes

Frost Seeding Mix M-132

Coated Birdsfoot Trefoil	40%
White Clover	25%
Double Cut Red Clover	20%
Timothy	15%

BG-34 Frost Seeding Mix M-133

Coated Birdsfoot Trefoil	40%
White Clover	10%
Alsike Clover	15%
BG-34 Perennial Ryegrass	20%
Timothy	15%