

No-till Interseeding into Existing Forage Stands

Productivity of low yielding forage stands can be improved through interseeding. Interseeding is the introduction of a legume or grass into an existing forage stand by no-till seeding. Interseeding a legume into a grass stand should increase yield, improve forage quality and reduce the need for nitrogen fertilizer. The successful introduction of a productive grass into a thin unproductive grass stand should improve yields. In practice, the results of interseeding are somewhat inconsistent. No-till interseeding seems to work best when the stand is more open and there is not a heavy sod. To increase the likelihood of success the following points should be considered.

Site Selection

No-till seeding works best on well drained silty loam soils. Less favourable results are often seen on poorly drained clay soils. A representative soil sample should be taken to determine soil pH and soil nutrient levels. Most no-till forage seeders do not have fertilizer attachments so early seedling growth is usually dependent on the existing soil fertility. Sites low in pH, potassium and phosphorous are usually not successful. Soil pH should be in the range of 6.0 to 6.5 and potassium and phosphorous levels should be M+ or higher to help ensure ample nutrients for seedlings establishment.

Control Competition from Existing Stand

Interseeding is best done in early spring just as growth begins. Growth of the existing stand must be controlled by clipping or grazing. Excessive top growth (more than 8-10 cm high) will shade-out the new seedlings. Excessive top growth is the most common reason why new seedlings fail to establish. A late summer seeding done in mid-August in a more open stand may also be successful. Again, pastures should be grazed closely prior to seeding to reduce competition from the existing stand.

Seeding Rates and Mixtures

If the grass component of the stand is good, interseeding with a legume should increase yield, improve forage quality and reduce the need for nitrogen fertilizer. Red clover is the most shade tolerant and easiest to establish particularly when sown into tall growing grasses such as orchardgrass, brome grass, and timothy. Alfalfa should germinate well when drilled but the seedling will be shaded-out if the top growth is allowed to grow too high for too long. White clover works well, but again grass growth needs to be controlled if the clover is going to have a chance at getting established.

When the grass stand is thin a legume/grass mix is best. Orchardgrass, meadow fescue, tall fescue, perennial ryegrass and timothy are best suited for no-till seeding. Brome grass, reed canarygrass and kentucky bluegrass are less suitable.

Table #1. Recommended Mixtures and Seeding Rates

Mixture	Seed Rate Kg/ha
(A) - Red Clover	6
Timothy	8
(B) - Alfalfa	8
Timothy	6
(C) - Alfalfa	8
Orchardgrass	7
(D) - Meadow fescue	12
Timothy	5
White clover	3

No-till Seeder Tips

Seeding depth is critical when seeding into an existing sod. In general, seed placement should be as shallow as possible yet enable good seed to soil contact. The recommended seeding depth for alfalfa, clovers and grasses is ¼” to ½” (6-12 mm) deep. Seed should never be sown deeper than ¾ “(20 mm). With the “Tye” no-till seeder depth control is best accomplished by first adjusting the clevice where the drill attaches to the tractor so that the drill is slightly nose up. This will prevent the front coulter from cutting too deeply. The front coulters should only cut down ¾” to 1”. The front coulters determine seeding depth so be sure the double disc openers are follow directly in line with the front coulters. Seeding depth can also be adjusted using the hydraulics to float the drill. On the “Tye” no-till seeder the end wheels can be hydraulically controlled to partially raise the drill to help ensure good seed placement. Spacers can be put in the arms of the hydraulic cylinder to ensure repeatable precise depth control. Tension on the packing wheels needs to be set to ensure that the soil is firmed over the seed. To ensure a proper seeding rate be sure to calibrate the drill before you start.

Field Management During the Season

Under favourable weather conditions the seedling should be up and growing in 10 to 14 days. The new seedlings should be allowed to grow to 3 to 5 inches (8 -10 cm) before being clipped or grazed. The new seedlings require ample light to grow. Do not allow the growth of the existing stand to shade out the new seedlings. Grazing or taking an early cut of forage is the primary means for reducing this competition. Do not graze or clip too short (below 5 cm) as this will reduce the viability of the seedlings.

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