



Considerations for Direct Seeding Forages

Are you considering seeding forages? Direct Seeding is an excellent alternative to traditional forage seeding methods. However there are a few considerations that should be addressed.

Standing stubble provides an ideal environment for small seedlings to become established. Proper establishment is vital to attaining a successful forage stand. Thus spring is the preferred time for seeding forages because of the greater likelihood of good soil moisture conditions.

The first step, which is sometimes overlooked, is to know the pesticide history of the land. It must be determined if any residual herbicides have been used that could interfere with the forage establishment.

The second step is controlling perennial weeds. It is vital to plan ahead to ensure perennial weeds have been controlled prior to the seeding operation. Most direct seeders have found the cheapest and often most effective method of controlling perennial weeds such as quack grass, Canada thistle or dandelion, is through a pre-harvest treatment of glyphosate. It may also be necessary to control winter annual growth in that same fall, especially if seeding is expected to occur very early the next spring. In the spring, a pre-seed burn-off should be applied to control annual weeds and volunteer grains.

When seeding into last years' crop residues, it is critical that those residues be spread adequately. The goal is to provide a good seedbed for the forages. Accurate seed placement and seed-to-soil contact will be compromised by excess straw and chaff residues. Straw should be spread a minimum of 80% the width of cut (100% is ideal) or baled. Chaff should be spread at least 50% the width of cut and must be done from the back of the combine.

In general, direct seeding equipment that does a good job of seeding canola or canary seed may work well for seeding forages. Hoe-type openers have a superior ability to penetrate heavy residue cover. Many of the newer direct seeding disc openers can do a good job of seed placement as well.

The key actions for successful forage seeding are ensuring a firm moist seedbed, seeding shallow (1 to 2 cm), packing the seed and finally, being able to calibrate an appropriate seeding rate.



Figure 1. Direct seeded forage grass seedlings emerging in wheat stubble.

One of the greatest difficulties with seeding forages is seeding lightweight grass seed such as meadow brome grass. Bridging in the seed tank and flow-ability through the metering system are the two main problems encountered with air seeders. Consequently, mixing seed with other materials such as 11-52-0 fertilizer, cracked grain, whole grain, or vermiculite increases the density and volume of the seed mixture ensuring uniform flow through the metering system.

When seeding alfalfa/grass combinations, a couple of low cost and simple methods have proven successful. Lorne Klein, Rangeland and Forage Agrologist with Saskatchewan Agriculture & Food (SAF), prefers to use cereal grain to act as a carrier and as a cover crop. The key is to cut the cereal early as greenfeed to minimize

competition with the forage. The following is a recommended seeding rate on a per acre basis:

8 lbs (17.9 kg) of wheat

8 lbs (17.9 kg) of oats

3 lbs (6.7 kg) of alfalfa

3 lbs (6.7 kg) of smooth or meadow brome grass

The mixture can be blended using an auger. Though it is simple to get a good blend, the job is time consuming.

Wally Vanin, Rangeland and Forage Agrologist with SAF, prefers to use 11-52-0 to increase the density. The forage seed is mixed with phosphate fertilizer on a 1:1 ratio by weight. For especially fluffy seed such as a native grass seed, a mixture with a 2:1 ratio may be required. Two kinds of forage seeds will flow through air seeders on their own without bridging or plugging: 1) small seeded legume crops such as alfalfa, clover, and cicer milkvetch, and 2) small seeded grasses such as timothy and crested wheat grass. Purchasing coated grass seed will also reduce bridging and seed flow problems for the fluffy grass seeds.

Research conducted by PAMI (Research update 733 – Air seeding forage crops) found that air seeder tank shape and metering configuration impact the ability to seed fluffy grass seed. PAMI tested the Bourgault 3165, Morris 6130, and the Flexi-coil 1720 for their accuracy

and uniformity in metering seed through their system. Tanks that are square, open and have a large meter opening may require only simple agitation to seed pure grass seed without problems. Long narrow tanks combined with a small meter opening are difficult to equip with proper agitation. In these cases, it is recommended that grass seed be mixed with 11-52-0 or some other material to improve seed flow. PAMI indicated that significant modifications to the metering systems would be required to handle pure grass seed.

When using an air delivery system to seed forages it is important to adjust the air flow speed. High air flow velocities tend to provide the best uniformity but higher air flows tend to cause seed to blow out at the seed opener. It is important to use the manufacturer's minimum air flow settings for their air seeder. This will ensure even distribution and good seed placement at the opener, and it may prevent plugging of the lines.

Sources

PAMI Research Update 733 – Air Seeding Forage Crops, May 1997

Lorne Klein, Saskatchewan Agriculture and Food - Personal Communication

Wally Vanin, Saskatchewan Agriculture and Food - Personal Communication

For More Information

1-800-213-4287 or www.ssca.ca

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