



Tips for Interseeding Cover Crops

Interseeding cover crops has many benefits to the farmer. Like any new way of implementing an agronomic practice, there are certain considerations that should be addressed. This is a brief overview of those considerations. For a more detailed explanation, please refer to the UVM Extension Northwest Crop and Soils Program publication, *Under Cover: Integrating Cover Crops into Silage Corn Systems*.

Yield: Many farmers are concerned that interseeded cover crops will compete with the corn for moisture and nutrients resulting in reduced yields. Research conducted at Pennsylvania State University, McGill University and University of Vermont has shown no negative impact on the corn from interseeding cover crops. In fact, research in Pennsylvania has shown a slight yield boost to corn that has been interseeded with legumes.

Herbicides: Herbicide programs must be modified to accommodate the planting of a cover crop into the growing corn crop. This is especially true if the cover crop to be seeded is a broadleaf like radish or clover as they are especially sensitive to many corn herbicide residues. The farmer must work with the herbicide applicator and/or their crop consultant to make sure that there will be no damaging residues that may damage the cover crops. Please refer to Penn State University handout, *Herbicide Persistence and Rotation to Cover Crops* by Bill Curran and Dwight Lingenfelter, *Extension Weed Science, Penn State University, October, 2013*.

Proper Timing: Research shows that interseeding can be a cost effective way to establish cover crops in corn from the V6 developmental stage (normal time of fertilizer topdress) to roughly four weeks prior to corn harvest. When choosing cover crops, consider what soil health goals you want to achieve, planting date, and other labor demands at that time of year.

Special Considerations for Various Interseeding Methods

Fertilizer Spreaders:

- Convenient method to plant cover crops as no new seeding equipment is needed.
- Banding may occur when planting seed of different weight and size. For example, heavier, larger seed does not spread as far as light seeds. The fertilizer spreader may need to be calibrated to account for different seed weights and sizes.
- Mud can coat the spreader wheels and reduce accuracy of application.
- Seed is not incorporated so prolonged dry conditions can reduce germination and establishment. Time of application limited by height of the corn.



Interseeders / Seed Incorporation Planting Methods:

- Ensures seed to soil contact and hence better germination and establishment prior to corn canopy closure.
- Seeding rates can be reduced in many cases due to better germination rate from greater seed to soil contact.
- Seed depth must be calibrated and special consideration should be made for multi-species mixes.
- Soil moisture can be a problem if too wet (plugging) or dry (too hard to penetrate soil).
- Can help incorporate fertilizer if timed correctly.
- More labor intensive and slower than other methods and time sensitive due to corn height restrictions.



High Clearance / “Highboy” Seeders:

- Has a wider range of seeding potential than other ground driven processes due to the height of the machine.
- Accurate placement as it applies the seed under the canopy through drop tubes.
- In-field hazards must be identified (such as washouts, rocks, etc) as the operator will not be able to see the ground from mid-season on.
- Studies show highboy seeding only damages ½ of 1% of the corn, mostly on the end rows.
- Seed is not incorporated so prolonged dry conditions can reduce germination and establishment.



Aerial Seeding:

- Most versatile method of seeding due to lack of impediment by crop establishment or poor soil conditions.
- Weather, particularly wind, must be considered when aerial seeding. It can adversely affect the placement of seed.
- Landing zones must be established beforehand so the helicopter can safely operate.
- Seeding rates may need to be adjusted to account for seed caught in the leaves of crops and not reaching the ground. This is particularly important if number of seeds on the ground must meet standards placed by government contracts for payment.
- Banding of seed can occur depending on the seeding apparatus and if various types of seed are spread at the same time.
- Seed is not incorporated so prolonged dry conditions can reduce germination and establishment.



If you have any questions or concerns about interseeding cover crops into corn, please feel free to contact Heather Darby or Jeff Sanders at (802) 524-6501 or heather.darby@uvm.edu or Jeffrey.sanders@uvm.edu.