

Interseeding Cover Crops into Standing Corn



Photo: Mike Belan

Interseeding into Standing Corn

Planting cover crops during the growing season instead of after harvest allows for increased root establishment and biomass before frost. Interseeding is the process of planting a cover crop between the rows of a standing cash crop. When interseeding into corn, a legume and grass mix is typically broadcast or drilled in at the 4 to 6 leaf stage during the weed-free period.

Cereal rye or oats are typically used as they establish quickly and suppress weeds. Red clover or crimson clover are commonly mixed in because of their ability to fix nitrogen. Interseeding mixes are normally shade tolerant and overwinter, allowing for increased biomass in the spring. Typical broadcast rates are around 15 - 25 lbs /acre, costing around \$10 - 20 /acre. Cover crops that overwinter are normally terminated with a herbicide or tilled in prior to planting.

While cover crops are beneficial to soil health, it is important to consider your herbicide program and cover crop termination methods **before** selecting a cover crop seed mix.

Why Interseed Cover Crops

- **Reduced soil erosion.** Leaves deflect wind and rain away from the soil, while root systems hold the soil together reducing soil and nutrient loss.
- **Increased soil organic matter.** Over time residue and roots accumulate and decay in the soil allowing for maintained or increased soil organic matter.
- **Water infiltration.** Cover crop roots provide a channel for surface water to infiltrate into the soil. Residue can slow the movement of water over the field, decreasing surface water runoff and increasing potential infiltration.
- **Reduced compaction.** Deep roots can stabilize pore space and penetrate through the compacted soil
- **Beneficial microbes.** Residue, root structure and soil organic matter promote beneficial microbe activity. Microbes are responsible for nutrient and organic matter cycling, soil fertility, and plant health.
- **Nitrogen availability.** Legume species, such as red clover, promote nitrogen cycling, which can contribute significant amounts of Nitrogen for the following year's crop. Non-legume species can trap nitrogen in their roots, reducing nitrogen leaching through groundwater and tile drainage.
- **Weed Control.** Cover crops that are quick to establish or have a large canopy can suppress weeds by competing with them for light.

For more information on the right cover crop for you, visit:

mccc.msu.edu/selector-tool



Photo: Matt Smyth



Case Studies: Equipment in the Field

Interseeding Disks (Rogers)

Soil type: loam to heavy clay
Residue: low to high

Modifications:

- 30' corn seeder tool bar
- attached double disk fertilizer openers
- disk slice through the residue opening up a seed bed for the cover crop seed
- 16" between each set of disks (corn is planted in twin rows) disks are 7" apart

Seed storage and application:

- cover crop seed is stored in separate compartments piped from the tank on top of the 30' tool bar



Three Row Interseeding Drill (Van Arkel)

Soil type: loam to sand
Residue: low to high

Modifications:

- modified grain drill
- three drills between each corn row
- each drill is lead by a double disk opener

Seed storage and application:

- seed is stored in the original metered grain seed containers
- cover crop seed is drilled into the soil behind the disks



Interseeding Disks/Sidedress Applicator (Belan)

Soil type: heavy clay
Residue: low to high

Modifications:

- row crop cultivator with the shanks and teeth removed
- independent row units set for 30" spacing
- each unit has a set of four disks

Seed storage and application:

- converted JD 7000 metered insecticide boxes
- seeds are deflected onto the non-corn row in front of the disks

Sidedress:

- sidedresses liquid N with a modified Y drop application at the same time

Drag chain:

- by dragging chain a small amount of soil and residue is pulled over the cover crop seed increasing seed-to-soil contact.



Why Use Disks?

Disks create a slot through the residue for the seed to drop into, increasing seed-to-soil contact

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Increased seed-to-soil contact **strengthens** cover crop **establishment**

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Lower seeding rate can be used

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Less cost per acre!

The Rogers and Belan equipment modifications were completed with support from SCRCA and OMAFRA. If you are interested in modifying your equipment to improve soil health and reduce nutrient losses please contact,

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