



Recipe for Success: Corn Following a Cereal Rye Cover Crop

Careful management is required to harness the benefits of cereal rye covers while maintaining corn yields.

Spring is the season for planting. It's time to get corn into the ground, but the first step is to handle the over-wintered cereal rye which is greening and growing just when the farmer needs to plant. Because competition for nutrients and water between rye and corn can potentially lower yields, the sequence of events leading up to corn planting must be handled adeptly. But, there is absolutely no reason that with a little practice and determination, corn can't be successfully grown after rye every time. In each aspect of spring management, there are general rules that should be followed, but every farmer has to find a strategy that fits in their operation to follow these rules. These are the "recipes for success" from Practical Farmers' members who use chemical methods to terminate rye before planting corn on their farms.

Terminate Rye

When to spray:

Spray when the rye is actively growing.

- Mow the yard once and then get ready to kill your cereal rye. It needs to be growing.
- Spray when the addition of day + night temps = 100°F or higher.
- Spray only after the first warm (>50°F) overnight low.
- It is usually better to spray when you can rather than wait for perfect conditions with bigger more mature plants.
- Spray in the middle, warmer part of the day. Plan to terminate 10-14 days prior to planting corn.
- Graze for 30 days in early spring and spray regrowth at 6-8".
- Terminate rye at 6" or less.



How to spray:

Use the full recommended rate.

- Terminate with full rate of either Roundup or Gramoxone when actively growing and cool night (<45°F) is not in the forecast.
- Don't mix triazine or contact herbicides with glyphosate.
- Add non-ionic surfactant if not included in formulation (NIS in WeatherMax already). No crop oil.
- Low spray volume – check label (e.g. 5-10 gal/ac would be reasonable) – use right nozzles and height.
- Apply acid equivalent (a.e.) of 1 lb/ac (28 oz/ac WeatherMax or 43 oz/ac of generic; I normally use less).
- Include 30-50 units of N per acre with the rye burndown.
- 32-40 oz. Roundup mixed with normal corn herbicide. Atrazine + pre-emerge (usually Harness), 2,4-D, 5 gal/ac UAN.
- 1.5 qt/ac glyphosate; 1 pt/ac 2,4-D.

Spray in the middle/warmer part of the day. Plan to terminate 10-14 days prior to planting plus include 30-50 units of N per acre with the burndown. Pre's applied at planting. ~50% of N is applied pre, then sidedress balance of N at ~V4-V6.

Fertilize

Don't skimp on N at planting.

- Knife UAN (28) at an angle to the rows, 4" deep which is 2" deeper than the seed
- Weed & feed at termination plus early sidedress another option
- Starter with seed; 30-50 lb 2x2 band or 2" either side of the row.
- Add AMS (ammonium sulfate; 4-6 lb/100 gal).
- Pre's are applied at planting. ~50% of N applied pre, then sidedress balance of N at ~V4-V6
- Spring NH3
- 5 gal 3-18-18 in furrow; 10 gal/ac UAN (32) in front of drag chains. Balance of N side dress with high boy.
- Inject UAN at planting, sidedress at V6

Graze 30 days and spray regrowth at 6-8 inches with 1.5 qt/ac glyphosate and 1 pt/ac 2,4-D. Apply 5 gal/ac 3-18-18 on furrow and 10 gal/ac UAN (32) in front of drag chains. Side dress balance of N with high boy.

Plant Corn

Double check the seed trench is closed.

- Planter has Yetter shark tooth row cleaners, Keaton seed firmer, one stock and one Copperhead closing wheel.
- One spike Martin closing wheel and one stock rubber closing wheel followed by drag chain.
- Planter has residue managers without coulter.

We try to terminate rye at 6" or less before corn. Ten to fourteen days before planting, but I wouldn't delay planting. Terminate with 32-40 oz/ac Roundup mixed with normal corn herbicide. Atrazine + pre-emerge (usually Harness), 2,4-D, 5 gal/ac UAN. Spring NH3, Planter has residue managers without coulter.



These lists are not all-inclusive. Inclusion in this list is not an endorsement of a product nor is exclusion non-approval. Always read herbicide labels prior to purchasing or using the product.

For alternative herbicides that you may be able to use, contact a local university extension specialist or ag service provider. Remember to check fertilizer labels too, as some mixtures of fertilizers and herbicides are detrimental to the performance of one or both of the products.

Practical Farmers Research Reports:

Cover Crop Termination Ahead of Corn

<http://practicalfarmers.org/farmer-knowledge/research-reports/2016/cereal-rye-cover-crop-termination-date-ahead-corn/>

Winter Cereal Rye Cover Crop Effect on Cash Crop Yield

<http://practicalfarmers.org/farmer-knowledge/research-reports/2017/winter-cereal-rye-cover-crop-effect-cash-crop-yield-4/>

For more information, contact:

Sarah Carlson, Midwest Cover Crop Director
Practical Farmers of Iowa
sarah@practicalfarmers.org or 515-232-5661