



KANSAS COVER CROP RECIPE

MCCC-120
MF3504

Post Corn, Going to Soybean: Use Cereal Rye

Introduction

This publication provides a starting point for farmers who are new to growing cover crops. With experience, farmers may fine-tune the use of cover crops for their systems.

Planning and Preparation

- *Planning*—Start early. Educate yourself. Start small. Be timely. Prioritize management based on your purpose and objectives.
- *Corn hybrid and planting*—If possible, plant the preceding corn crop early and use an early maturity corn hybrid. One strategy would be to use a cover crop on the field you usually harvest first, on sloping ground, or on a field where you can watch it regularly, and to plant your earliest maturity hybrid on that field.
- *Residual corn herbicides*—Cereal rye can be seeded, and a successful stand will occur, in the fall following most of the spring-applied residuals used in corn. However, if cereal rye will be grazed or fed to livestock, there are some restrictions. See the USDA-NRCS Cover Crop Termination Guidelines (in Resources), or consult your agricultural chemical supplier or agronomist for potential carryover herbicide concerns.
- *Seed purchase*—Order cereal rye seed early. Named varieties can produce substantially more growth or more predictable growth and maturity but are more expensive than VNS (variety not stated) seed. Start with VNS seed with a good germination rate that is purchased from a reputable seed dealer. This means seed has been cleaned, tested for germination, and has a seed tag even though it is VNS.

Fall Work

- *Corn harvest*—Harvest the crop as early as possible in fields to be planted to cereal rye.
- *Tillage or no-tillage*—To allow for adequate cover crop growth, it is best or easier if no full-width tillage is planned for after rye planting or before intended rye termination date. Thus, it is easier to integrate cover crops into no-till or strip-till systems.

- *Timing of planting*—Plant cereal rye as soon after corn harvest as possible. Use the Cover Crop Selector Tool (in Resources) to find planting dates for your county. For most of Kansas, plant no later than November 1.
- *Seeding rate*—The recommended drilled seeding rate is 55 to 60 pounds per acre; if seeded with an airplane, the rates should be 1.5 times the drilled rate (required if participating in USDA-NRCS programs). These rates are based on high-quality seed with germination rates of 85 to 98%. Increase rates with later plantings.
- *Planting method*—Drill seed 0.75 to 1.50 inches deep or broadcast with shallow incorporation.
- *Fertility or liming*—If applying P, K, or lime, apply before the seeding operation or apply to the growing rye before the ground freezes. If it is necessary to inject manure, low-disturbance injectors are available that cause minimal damage to the cereal rye. Surface application of liquid manure on top of the rye is not recommended. Ideally, surface broadcast of dry manure or litter should be done before seeding but, if necessary, could be applied to growing cereal rye with minimal damage.

Spring Work

- *Scouting*—In the spring, scout your cover crop to determine how well it is growing and its coverage. Also, scout to monitor soil moisture; if rainfall is below normal, then earlier termination may be needed to preserve moisture.
- *Termination timing*—Terminate the cereal rye in the spring in compliance with USDA–Risk Management Agency rules:
 - › Zone 1: Terminate cover crop 35 days or earlier before planting.
 - › Zone 2: Terminate cover crop 15 days or earlier before planting.
 - › Zone 3: Terminate cover crop at or before planting.
 - › Zone 4: Terminate cover crop at or within 5 days after planting but before crop emergence.



Figure 1. After it's terminated, a cereal rye crop can be part of an effective weed-management program and can help reduce evaporation during the growing season of the soybean crop. (DeAnn Presley)

- **Termination herbicide**—Cereal rye can easily be terminated with a full rate of glyphosate (1 pound acid equivalent per acre) after dormancy breaks in the spring. Effectiveness and rapidity of termination improves if rye is rapidly growing and air temperatures are warmer. Tank mixes with products containing metribuzen may antagonize glyphosate performance and may justify an increase in the glyphosate rate.
- **Termination modifications for dry weather**—Watch the weather and be ready to modify your termination plans, particularly on non-irrigated acres. In a dry spring, the cereal rye cover crop has the potential to use moisture that the cash crop will need, so terminate cover crops sooner to allow rainfall to make up the deficit.
- **Termination modifications for wet weather**—In a wet spring, be ready to take advantage of any break in the weather and/or use low axle weight sprayers. If projected soybean planting is less than 10 days away and the rye is tall, then it often works better to spray within a day or two of planting. It is usually better to

either plant into brown dead rye plants or into standing green plants rather than into large, dying, yellow/green (“rubbery”) cereal rye plants that have fallen on the soil surface and formed a mat.

- **Soybean planting**—It is usually best to no-till plant soybeans into either a dead/dry or standing cereal rye cover crop. Almost all modern planters and drills are fully capable of planting soybeans into a cereal rye cover crop. Check planting depth and seed furrow closure shortly after beginning to plant into the cover crop residue as usually some adjustments are needed.
- **Scouting**—After soybean planting, scout for soybean emergence and population. Additionally, scout for weeds since substantial cereal rye residue can delay emergence of annual weeds, which may delay the application of post-emergence herbicides.
- **Additional guidelines**—If you are in one of the major wheat-growing areas of Kansas, watch for equipment contamination to ensure that no rye escapes and goes to seed in your field. Also, make sure you do a thorough and complete burndown in spring to ensure that none of the rye goes to seed.

Resources

Cover Crop Selector Tool, <http://mccc.msu.edu/selector-tool/> — available from Midwest Cover Crops Council, www.mccc.msu.edu

USDA-NRCS Cover Crop Termination Guidelines, available on the USDA–Risk Management Agency website, <https://www.rma.usda.gov/en/Topics/Cover-Crops>

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