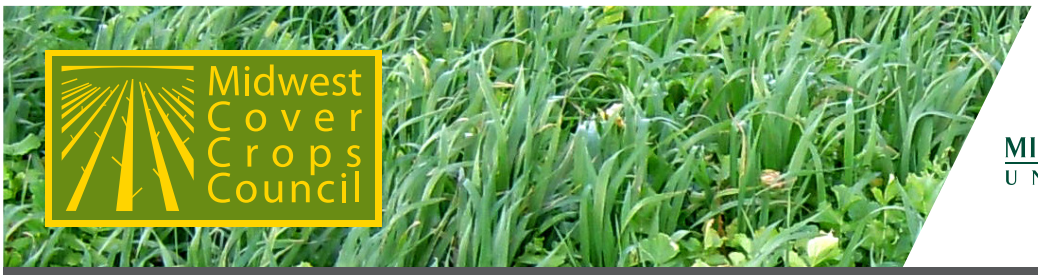

Midwest Cover Crops Council

MICHIGAN STATE UNIVERSITY | Extension

MICHIGAN COVER CROP RECIPE

MCCC-141
CC-10

Post Winter Canola, Going to Corn or Soybean: Use Clovers and Winter Cereal Grains

This publication is intended to provide 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.

Introduction

This recipe provides an introductory approach for integrating cover crops into winter canola cropping systems. A simple mix of clovers and winter cereal grains can build soil health, fix nitrogen, and prevent erosion during the fallow period between canola harvest in early summer and cash-crop planting the following spring.

Planning & Prep

- *Canola variety and planting*—No modifications to canola variety and planting are required for the successful use of cover crops after a canola harvest.
- *Cover crop options*—Overwintering species provide fall and spring growth, and soil coverage. Overwintering clover species include crimson clover (*recommended*) or red clover. Overwintering cereal species include winter barley (*recommended*), winter wheat, triticale, or cereal rye. Note: Red clover reliably overwinters throughout Michigan; crimson clover only overwinters in the southern lower peninsula.
- *Residual canola herbicides*—Clovers and winter cereals are tolerant of most canola residual herbicides, and few restrictions apply unless grazing is being considered. However, legumes such as clovers are very sensitive to clopyralid (active ingredient in Stinger®), which has long residual activity. Clovers and cereals may be sensitive to Sonalan® (ethalfluralin) and trifluralin products, and while data are limited, possible injury may result. See *MSU Weed Control Guide* (in Resources) for more details.

Summer and Fall Work

- *Canola harvest and field preparation*—Harvest canola at the normal time in fields where cover crop(s) will be planted. If residue levels are high, consider flail mowing the remaining residue or using light tillage to improve seed-to-soil contact. If using no-till seeding, herbicides such as glyphosate, glufosinate, 2,4-D, and/or saflufenacil should be used prior to seeding to terminate weeds and volunteer canola.
- *Timing of planting*—Canola harvest losses are inevitable, which leads to millions of seeds per acre on the ground that will sprout in the field and could outcompete the cover crop. After the first flush of volunteer canola has emerged and been terminated with herbicide or tillage, the cover crop can be planted. Use the MCCC Cover Crop Decision Tool (in Resources) for precise seeding dates for your county because both proximity to the Great Lakes and latitude influence planting dates.
- *Planting method*—Drill to a depth of 0.50 inches or broadcast with light incorporation. Be strategic about seeding into good soil moisture or immediately before a rain event. Note that disturbance of soil, if any, should be light since excessive disturbance of crop stubble may negate the benefits of the cover crop.
- *Seeding rate*—Drilled: crimson clover, 5–6 lbs./acre; winter barley, 25–35 lbs./acre. Broadcast: crimson clover, 6–7 lbs./acre; winter barley, 30–45 lbs./acre. For best results, inoculate clover before seeding.
- *Fertility or liming*—If applying phosphorus (P), potassium (K), lime, or manure, complete the application and incorporation prior to seeding or apply to the growing mixture before the ground freezes. Caution should be exercised when applying manure after cover crop planting to minimize damage to the emerging or growing cover crop.

Spring Work

- *Starter fertilizer for corn following the cover crop*—Additional starter nitrogen may be necessary for corn if the barley cover crop reaches boot stage before termination.

Figure 1. Winter barley and crimson clover in early May (Madelyn Celovsky)

- *Termination*—Crimson clover and winter barley can be terminated in the spring by herbicide or by tillage. Winter barley and crimson clover can easily be terminated with glyphosate (0.75 lb. a.e./acre) and dicamba (0.50 a.e./acre) after dormancy breaks. To maximize the effectiveness of glyphosate and minimize time for complete control, apply when barley is actively growing and temperatures favor growth. Cereal grains past the boot stage or cereal grains sprayed during cooler weather can be more difficult to kill or will die more slowly. Additional herbicide applications may be needed to ensure termination. Be aware that when conditions are cool and cloudy, atrazine and saflufenacil tank mixtures with glyphosate may delay or antagonize glyphosate activity for barley termination. See *Cover Crop Termination* (in Resources) for more herbicide information.
- *Corn or soybean planting*—Cash crops can be no-till planted into the dead/dry or standing cover crop. Almost all modern planters and drills are fully capable of planting corn or soybeans into this cover crop mixture. Check planting depth and seed furrow closure shortly after beginning to plant into the cover crop residue as usually some adjustments are needed.
- *Scouting*—With such a small seed, canola seed loss during harvest is likely in the fall, and managing volunteer canola in the following crop is almost inevitable. Planting non-GMO canola can help keep glyphosate and glufosinate as options for controlling volunteer canola in the spring. After soybean or corn planting, scout for crop emergence and population. Additionally, scout for weeds since cover crop residue can often delay the emergence of annual weeds, which may delay the application of postemergence herbicides.

Resources

MSU Weed Control Guide (2026; Michigan State University Department of Plant, Soil, and Microbial Sciences), www.canr.msu.edu/weeds/2026-msu-weed-control-guide

Midwest Cover Crops Council Cover Crop Decision Tool, covercroptool.midwestcovercrops.org/

Generally Accepted Agricultural and Management Practices (GAAMPs) for Manure Management and Utilization (2026; Michigan Commission of Agriculture and Rural Development), www.michigan.gov/mdard/-/media/Project/Websites/mdard/documents/environment/rtf/2026-GAAMPs/2026-MANURE-MANAGEMENT-AND-UTILIZATION-GAAMPs.pdf

Cover Crop Termination (2024; Michigan State University Extension, Department of Plant, Soil, and Microbial Sciences), www.canr.msu.edu/resources/cover-crop-termination

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The Midwest Cover Crops Council (www.midwestcovercrops.org) aims to facilitate widespread adoption of cover crops throughout the Midwest by providing educational/outreach resources and programs, conducting new research, and communicating about cover crops to the public.

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