

Ohio Cover Crops

What to Know, What to Grow



What You Need to Know Before Starting a Cover Crop Rotation

Cover crops in production agriculture are plants grown to protect and improve the soil between cash crop rotations. They are typically planted to build soil health, manage weeds, reduce erosion, and improve soil structure.

The biggest barriers farmers face when considering cover crops often come down to cost, time, and potential yield impacts on the primary crop. While the benefits may not appear immediately on a balance sheet, research and farmer experience show that cover crops pay off in the long run. They improve soil resilience, lower input costs over time, and support stronger yields.¹



Cover Crop Costs vs. Returns¹

Upfront: You'll see higher seed, labor, and equipment costs in the first year.

Short Term: Yield impacts are typically neutral to slightly positive.

Long Term: Healthier soils mean better yields, lower input costs, and improved resilience.

Bottom Line: Cover crops are an investment in your soil.

Six Steps to Cover Crop Success

To make cover crops successful on your farm, walk through these six key steps:^{2,3}

1

GOAL

Know your goal for using cover crops.

2

WINDOW

Identify when cover crops can fit within your rotation.

3

SPECIES

Select plant species that match your goals and timing.

4

SEEDING

Choose the right seeding strategy for your acreage and equipment.

5

TERMINATION

Plan how and when cover crops will be terminated.

6

EVALUATION

Review what worked and adjust for the next crop year.

What Are the Benefits of Cover Crops?

Cover crops provide a wide range of benefits that support both farm operations and the environment.

Overall farm goals for the cover crop will impact selected species, seeding rates, and seeding dates for your operation.

FOR FARMERS	FOR THE ENVIRONMENT
<p>Soil Health Improvement - Adds organic matter, improving soil structure, water retention, and nutrient availability.</p> <p>Erosion Control - Provide a protective layer on the soil surface to prevent erosion from wind and water.</p> <p>Weed Suppression - Compete with weeds for light, water, and nutrients.</p> <p>Pest & Disease Management - Certain species help break pest and disease cycles, reducing chemical needs.</p> <p>Nutrient Cycling - Scavenges nutrients, keeping them in the soil for the next crop.</p> <p>Potential Forage - Many cover crops double as feed for livestock.</p> <p>Reduced Machinery Costs - Less tillage is needed, lowering fuel and labor costs.</p>	<p>Soil Structure & Organic Matter - Stronger soils hold equipment better and are most resilient.</p> <p>Reduced Runoff & Flooding - Increased soil infiltration means less flooding, leaching, and nutrient loss downstream.</p> <p>Water Quality - Less nutrient loss to streams helps reduce algal blooms and water contamination.</p> <p>Biodiversity - Supports pollinators and beneficial insects that improve overall ecosystem health.</p> <p>Wildlife Habitat - Provides shelter and food sources for pollinators, birds, and other beneficial species.</p>

What Are the Different Types of Cover Crops and Seeding Rates?

Cover crops are generally grouped into four categories: legumes, grasses, forbs, and mixtures. Each provides unique benefits, and many farmers find success in blending species.

While exact seeding rates vary by species, soil type, and planting method, the rate should balance strong stand establishment with cost efficiency. In general, drilled seedings often require less seed due to better soil-to-seed contact, while broadcast or aerial applications require higher rates to account for reduced germination.



Types of Cover Crops

TYPE	COMMON SPECIES	KEY BENEFITS	GENERAL NOTES ON SEEDING RATES
Legumes	Hairy vetch, crimson clover, Austrian winter pea, red clover	Fix nitrogen from the atmosphere, add fertility for future crops	Typically lower rates when drilled; higher when broadcast. Good option ahead of nitrogen-hungry crops like corn.
Grasses	Winter wheat, cereal rye, oats, annual ryegrass	Excellent for erosion control, building soil structure, and carbon sequestration	Cereal rye is widely used for flexibility and ease of establishment.
Forbs	Buckwheat, sorghum-sudangrass, oilseed radish	Suppress weeds, improve soil tilth, and scavenge nutrients	Larger seeds (like radish or sudangrass) require higher rates; timing of planting is key for establishment.
Mixtures	Custom blends combining species from above	Provide a wider range of benefits, including soil health, fertility, and biodiversity	Rates vary depending on the mix; often planted at reduced rates for each species.

“After harvesting wheat, we plant a multispecies mix of turnips, radishes, flax, and field peas. Since they all winter kill, there’s no cost to terminate in the spring. We plant corn or soybeans right into the residue.”



Jeff Duling
Hancock County Farmer

Aaron Heilers
Shelby County Farmer



“Cereal rye is a great fit for our cornfields where soybeans will be planted the following spring.”

Cover Crop Video Series

Watch our video series on planning, planting, and managing cover crops throughout the year with Ohio farmers.

View the videos in our resource library at
>> blancharddemofarms.org



How and When Should Each Type of Cover Crop Be Planted?

The timing and method of planting cover crops depend on your goals and your crop rotation.

To meet their intended purpose, cover crops must establish well, which means thinking about both planting windows and how herbicide carryover might affect growth. Residual herbicides from the previous crop can stay active in the soil for weeks or even months, so it's important to factor this into your plan.

Seeding Methods

Different seeding methods can impact both emergence and seeding rates. Each approach comes with trade-offs:⁴



METHOD	WHAT IT IS	ADVANTAGES	CONSIDERATIONS
Drill Seeding	Uses a drill to place seed directly in the soil	Strong soil-to-seed contact; uses less seed; better emergence	Slower method; less practical for large acreages
Narrow Row/Harrow Seeding	Plants seed in tight rows or lightly incorporates seed with harrows	Depth control; reliable establishment	Can limit interseeding opportunities
Broadcast Seeding before Light Tillage	Spreads seed across the soil surface, then uses light tillage (such as a rotary harrow or vertical tillage tool) to lightly cover the seed	Covers ground quickly; improves contact when combined with light tillage	Requires more seed; less precise
Aerial Seeding	Uses an airplane or drone to spread seed across the soil surface or into standing crops	Quickest method; can seed into standing crops at scale	Poor soil contact can reduce germination; often requires higher rates; drone provides more accurate placement near the crop canopy than airplane seeding
Interseeding	Planting cover crops directly into standing cash crops during the growing season	Establishes covers earlier than post-harvest; extends growing window; can reduce erosion and nutrient loss	Success depends on timing, crop canopy, and herbicide program; may require specialized equipment

When to Plant

Matching the planting window to the right cover crop species is essential:⁴

- **Early Spring** - Quick-growing species like oats or clover can be established before planting a summer cash crop.
- **Into Standing Crops** - Works well with mixes that include species like radish, flax, buckwheat, or annual ryegrass, as well as other winter-hardy options that can establish under the canopy and continue growing after harvest.
- **Mid-Summer** - Typically following wheat harvest, a wide range of species or mixes (like radishes, turnips, flax, and peas) can be planted with time for growth before frost.
- **After Harvest** - Cool-season grasses like cereal rye are reliable for fall planting.

Cover Crop Planting Windows

TYPE	EARLY SPRING	INTO STANDING CROPS	MID-SUMMER	AFTER HARVEST
Legumes	✓		✓	
Grasses	✓	✓		✓
Forbs			✓	
Mixtures		✓	✓	✓



Resources Available for Ohio Farmers

Getting started with cover crops is easier when you know where to turn for support. Two key resources in Ohio provide information, cost-share opportunities, and real-world demonstrations to help you succeed.

- Learn more at blancharddemofarms.org
- Explore program details at h2.ohio.gov

Considerations at Each Cover Crop Stage

Cover crops are most successful when planned ahead. Before getting started, be sure to:

- 1 Talk with your local agronomist or other farmers already planting cover crops.
- 2 Check if government programs are available to help offset start-up costs.
- 3 Start small and see what works best on your fields.



How Your Team of Advisors Can Help:

Seed Salesman - Helps determine rates and species with the best return.

Agonomist - Advises on cash crop health and how covers might affect it.

Custom Applicator - Adjusts herbicide programs and provides timing for when to till or terminate covers in spring.

Planting Green

- **Timing** - Cash crop is planted directly into a standing cover crop such as cereal rye, usually at 8-10 inches tall. If rye is taller, planter adjustments need to be made to ensure proper seed placement.
- **Benefits** - Maintains soil cover during early crop growth and improves weed suppression.
- **Challenges** - Requires correct planter setup, good soil conditions, and the right termination timing to avoid yield impacts.

Seeding Cover Crops Into a Standing Cash Crop

- **Timing** - Early in the season, before the canopy establishes, or late in the season, as the cash crop begins to dry down. Methods include interseeding with specialized equipment or aerial seeding with a plane or drone.
- **Benefits** - Extends the growing season for covers. Winter-hardy species like radish, flax, buckwheat, or annual ryegrass can establish under the canopy and continue after harvest.
- **Challenges** - Success depends on crop canopy density, rainfall, herbicide carryover, and soil-to-seed contact.

Termination

- **Timing** - When the ground is fit and weather conditions are favorable, either before or after cash crop planting, depending on goals.
- **Benefits** - Clears competition for the cash crop while still capturing soil health and nutrient retention benefits.
- **Challenges** - Must be done correctly to avoid crop competition. Methods include spraying residual herbicides at the right rate and timing, or using a roller crimper for mechanical termination.

PARTNERS



Contact

For more information, resources and upcoming events, please visit **blancharddemofarms.org**

Find Us on Social Media



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REFERENCES

- 1 <https://www.agriculture.com/are-cover-crops-worth-the-cost-8602551>
- 2 <https://www.farmprogress.com/cover-crops/plan-your-cover-crop-roadmap>
- 3 <https://www.farmprogress.com/cover-crops/cover-crops-balancing-short-term-costs-with-long-term-benefits-for-farmland>
- 4 [https://efotg.sc.egov.usda.gov/api/CPSFile/21014/000_OH_EST_Appendix_A_\(Cover_Crop\)_Seeding_tables_2019](https://efotg.sc.egov.usda.gov/api/CPSFile/21014/000_OH_EST_Appendix_A_(Cover_Crop)_Seeding_tables_2019)