

Grasses

Oats

AS A COVER CROP IN OHIO

This fact sheet summarizes information specific to Ohio that is available from the Midwest Cover Crops Council. For more information, see the *Midwest Cover Crops Field Guide, Third Edition*, and the Cover Crop Selector Tool found at: midwestcovercrops.org/selector-tool/



Photo credit: Edwin Remsburg, SARE Cover Crop Image Database

Avena sativa

Note: Black oats (*Avena strigosa*) is an oat species more adapted to warmer climates such as the far southern parts of the Midwest and the southern United States. Do not confuse black oats with the oat varieties typically grown in the Midwest.

Identification Information

- Hollow, straight stems
- No auricles
- Waxy leaves that are narrow and tapered
- Leaves that are smooth at the base and become rougher near the tip
- Rounded and finely toothed ligule
- May have a bluish tint
- Fibrous roots

Cultural Traits

- Cool-season annual
 - Winter oats require vernalization to produce seed.
- Minimum germination temperature: 38°F
- Reliable establishment window (state average): July 2–Oct. 19
- Upright growth habit: 2–5 feet
- Preferred soil pH: 6.0–7.0

Individuals participating in financial assistance programs are required to follow NRCS Appendix A regarding seeding rates and dates. Failure to do so will jeopardize payments. Appendix A can be found in Ohio's Field Office Technical Guide, Section 4, Ecological Sciences Tools: <https://efotg.sc.egov.usda.gov/#/state/OH/documents/section=4&folder=-6>

Cultural Traits (continued)

Heat tolerance:	Very good
Drought tolerance:	Good
Shade tolerance:	Very good
Flood tolerance:	Good
Low fertility tolerance:	Good
Winter survival:	Seldom

- Some oat varieties may overwinter depending on planting date and snow cover.
- Spring oats almost always winterkill if planted in the fall.

Planting Information

- Drilled at $\frac{3}{4}$ –1½ inches
 - 30–60 lbs./acre (pure live seed)
- Broadcast with shallow incorporation
 - 33–60 lbs./acre (pure live seed)
- Broadcast without incorporation
 - 36–60 lbs./acre (pure live seed)

Additional planting information:

- 19,600 seeds/lb.
- Broadcasting without incorporation is usually less dependable than drilling or broadcasting with incorporation.
- Use an N starter fertilizer when planting corn after oats to reduce negative rotation effects.
- If grazing, increase seeding rate.
- Tend toward the high end of planting range if overwintering is not expected.



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



Termination Information

- Tillage
 - If terminating with only tillage, multiple passes are often required.
- Chemical
- Winterkill (common)

Additional termination information:

- Terminate at least 14 days before planting corn or when cover crop reaches 6–8 inches.
- Mowing after heading may terminate.
- Follow NRCS guidelines for cover crop termination dates for crop insurance compliance.

Performance

- Dry matter = 1,000–4,000 lbs./acre per year
 - Biomass quantity is highly dependent on planting/termination dates and precipitation.

Nitrogen scavenger:	Very good
Soil builder:	Very good
Erosion fighter:	Very good
Weed fighter:	Very good
Grazing:	Excellent
Quick growth:	Excellent
Lasting residue:	Very good
Mechanical forage harvest:	Very good
Grain seed harvest:	Very good
Cash crop interseed:	Excellent

Additional performance information:

- Oats are good for early interseeding.
- Good biomass production and feed value make oats suitable for grazing.
- Oats are highly mycorrhizal.
- Oats are a non-host for root knot nematode, soybean cyst nematode, and sugarbeet cyst nematode.

Potential Advantages

SOIL IMPACTS

Frees P and K:	Very good
Compaction fighter:	Excellent
Nematodes:	Good
Disease:	Good
Allelopathic:	Very good
Chokes weeds:	Excellent

OTHER

Bears traffic:	Very good when drilled
Short windows:	Excellent

Potential Disadvantages

Increased insects/nematodes: Could be a moderate problem

- Host for penetrans root lesion nematode

Hinders crops: Could be a major problem

Mature incorporation challenges: Could be a minor problem

- Slow to release nitrogen to following crop unless growth terminated in mid-vegetative stage (12–18 inches)

Contributors

Rachel Cochran, Ohio State University Extension;

Sarah Noggle, Ohio State University Extension

(Note: This publication was adapted with consent from MCCC with content from the Midwest Cover Crops Field Guide, Third Edition, and Cover Crop Selector Tool: midwestcovercrops.org/selector-tool/.)

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.

Funding for this project was provided by McKnight Foundation.

MCKNIGHT FOUNDATION

OHIO COVER CROP FACT SHEET

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer. ©2022 by MCCC. All rights reserved.