

Grasses

Barley

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/



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Hordeum vulgare

Identification Information

- Hollow, jointed stems
- Narrow, tapered leaves that are broader than most other grasses
- Flower spikes with bearded appearance due to long awns

Cultural Traits

- Winter annual
 - Spring varieties do not require vernalization to produce grain.
- Minimum germination temperature: 38°F
- Reliable establishment window (state average): Sept. 6–Oct. 19
 - Average fly-free date in Ohio: Sept. 28
- Upright growth habit: 1.5–3.0 feet
- Preferred soil pH: 6.0–7.0

Drought tolerance: Very good

Shade tolerance: Good

Flood tolerance: Good

Low fertility tolerance: Very good

Winter survival: Expected

- Variety, planting date, and snow cover will affect winter survival.

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>

Planting Information

- Drilled at $\frac{3}{4}$ –1½ inches
 - 50–75 lbs./acre (pure live seed)
- Broadcast with shallow incorporation
 - 55–75 lbs./acre (pure live seed)
- Broadcast without incorporation
 - 60–75 lbs./acre (pure live seed)

Additional planting information:

- 13,600 seeds/lb.
- Plant after fly-free date (Sept. 28).
- When planting on slopes or using for forage/grazing, increase seeding rate.
- Broadcasting without incorporation is usually less dependable than drilling or broadcasting with incorporation.

Performance

- Dry matter = 2,000–5,000 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: Excellent

- To improve erosion protection, do not fall till.

Weed fighter: Very good

Grazing: Very good

Quick growth: Very good

Lasting residue: Very good

Mechanical forage harvest: Very good

Grain seed harvest: Very good

Cash crop interseed: Good



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Termination Information

- Tillage
 - If terminating with only tillage, multiple passes are often required.
- Roller crimper
 - Roller crimping is the most difficult/variable termination method.
 - Crimp during reproductive stage (full bloom).
- Chemical

Additional termination information:

- Barley can compete with cash crop if not completely terminated.
- It is best to terminate when plants are small *except* when rolling/crimping.
- Mowing after heading may terminate.
- Spring barley will winter-kill when planted in the fall.
 - Winter survival is dependent on variety, planting date, and winter conditions.
- Follow NRCS guidelines for cover crop termination dates for crop insurance compliance.

Additional performance information:

- Consult herbicide label used prior to/during cover crop for grazing restrictions.
- Lasting residue increases as cover crop approaches maturity.
- Barley rates fair for early interseeding.
- Barley is a host for penetrans root lesion nematode.
- N release to following crop is slow unless terminated in mid-vegetative growth stage (12–18 inches).

Potential Disadvantages

Increased weed potential: Could be a minor problem

Increased insects/nematodes: Could be a moderate problem

Increased crop diseases: Could be a moderate problem

- Fusarium head blight can be a problem if small grains are planted within one year.
- There can be disease problems (e.g., tan spot), depending on rotation.

Hinders crops: Could be a minor problem

Mature incorporation challenges: Could be a moderate problem

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(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.

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Potential Advantages

SOIL IMPACTS

Subsoiler:	Good
Frees P and K:	Good
Compaction fighter:	Very good
Allelopathic:	Very good
▪ Dependent on variety	
Chokes weeds:	Very good

OTHER

Bears traffic:	Good
Short windows:	Excellent