

Broadleaves

Sunflower

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/



Helianthus annuus

Identification Information

- Rough, hairy stems
- Alternate leaves that are egg-shaped to triangular
- Leaf edges that may be entire or toothed
- Yellow, pleated flower petals and a brown-black central disk

Cultural Traits

- Summer annual
- Minimum germination temperature: 65° F
- Reliable establishment window (state average): May 20–Sept. 6
- Upright growth habit: 2–10 feet
- Preferred soil pH: 6.0–7.5

Heat tolerance:	Excellent
Drought tolerance:	Excellent
Flood tolerance:	Good
Low fertility tolerance:	Good
Winter survival:	Winter-killed

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 1–1½ inches
 - *In a mix*: 2–4 lbs./acre (pure live seed)
- Broadcast with shallow incorporation
 - *In a mix*: 3–5 lbs./acre (pure live seed)
- Broadcast without incorporation is not recommended.

Additional planting information:

- 7,500 seeds/lb.
- Increase seeding rate when planting on slopes.
- Sunflower is best when used in a mix.
- This is a species that adds biodiversity and is good for beneficial insects.

Performance

- Dry matter = 1,000–5,000 lbs./acre per year
 - Biomass quantity is highly dependent on planting/termination dates and precipitation.

Nitrogen scavenger:	Very good
Soil builder:	Good
Erosion fighter:	Good
Quick growth:	Very good
Lasting residue:	Very good
Grain seed harvest:	Very good



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Termination Information

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

Additional termination information:

- Follow NRCS guidelines for cover crop termination dates for crop insurance compliance.

Additional performance information:

- Sunflower has consistent performance from year to year.
- Its vertical structure and very edible forage with seed production is well suited for grazing and wildlife.
- The taproot of sunflower reaches deep to improve soil structure.
- It is a minor host for root lesion nematode that attack corn and wheat (*P. neglectus*).

Potential Advantages

SOIL IMPACTS

Subsoiler:	Excellent
Chokes weeds:	Good

OTHER

Attracts beneficials:	Excellent
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Potential Disadvantages

Delayed emergence: Occasionally a minor problem

Increased weed potential: Occasionally a minor problem

Increased insects/nematodes: Could be a minor problem

Establishment challenges: Occasionally a minor problem

Mature incorporation challenges: Occasionally a minor problem

Contributors

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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.

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