

Legumes

Sweetclover

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/



Melilotus spp.

Identification Information

- Plant has serrated leaflet edges, three leaflets per leaf, and an extensive taproot.
- White-flowered sweetclover (*M. alba*) is taller, coarser-stemmed, and has coarser leaves than the yellow-flowered type (*M. officinalis*).
- Yellow sweetclover is more drought tolerant, more vigorous as a seedling, flowers earlier, and has spreading growth as compared to the white-flowered type.

Cultural Traits

- Biennial or summer annual
- Minimum germination temperature: 42 °F
- Reliable establishment window (state average): Mar. 29–May 20; July 25–Sept. 6
- Upright growth habit: 1.5–7.0 feet
- Preferred soil pH: 6.5–7.5

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

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 ¼–½ inch
 - 6–10 lbs./acre (pure live seed)
- Broadcast with shallow incorporation
 - 7–11 lbs./acre (pure live seed)
- Broadcast without incorporation
 - 8–12 lbs./acre (pure live seed)

Additional planting information:

- 258,600 seeds/lb.
- Inoculation type: alfalfa, sweetclover
- Sweetclover may also be frost-seeded.
- 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.
- When interseeding, time seeding to match appropriate crop growth/maturity.

Performance

- Dry matter = 3,000–5,000 lbs./acre per year
 - Biomass quantity is highly dependent on planting/termination dates and precipitation.
- Total nitrogen = 90–170 lbs. N/acre (not fertilizer replacement)



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Termination Information

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

Additional termination information:

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

Performance (continued)

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

Additional performance information:

- Deep-rooted after establishment
- Contains coumarin; when moldy, turns into an anticoagulant that can harm or kill livestock
- Bloat hazard
- Slow to establish compared to other cover crops
- Good for underseeding
- Non-host for soybean cyst, root lesion, and root-knot nematodes
- Susceptible to damage from harvest wheel traffic and from being buried with residue
- Host for bean yellow mosaic virus

Potential Advantages**SOIL IMPACTS**

Subsoiler:	Excellent
▪ Requires growth throughout entire season	
Frees P and K:	Excellent
Compaction fighter:	Very good
▪ Not as effective in a no-till system	
Chokes weeds:	Good
▪ Better at fighting weeds when established	
▪ Has shown allelopathic traits in second-year vegetative state	

OTHER

Attracts beneficials:	Excellent
Bears traffic:	Good

Potential Disadvantages

Delayed emergence: Could be a major problem

Increased weed potential: Could be a moderate problem

- Hard seeds reseed.

Increased insects/nematodes: Could be a moderate problem

Hinders crops: Could be a minor problem

Establishment challenges: Occasionally 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/.)

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OHIO COVER CROP FACT SHEET

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