Legumes

Field Pea/Winter Pea
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: Rachel Cochran, OSU Extension

Pisum sativum subsp. *arvense*

Identification Information

- Pale green leaves made of multiple leaflets
- Hollow stems
- Tendrils
- White, pink, or purple flowers

Cultural Traits

- Winter annual
- Minimum germination temperature: 41˚F
- Reliable establishment window (state average): Mar. 29–Apr. 28; July 25–Sept. 28
- Climbing or prostrate growth habit that can spread 2–4 feet
- Preferred soil pH: 6.0–7.0

Drought tolerance:	Good
Low fertility tolerance:	Very good
Winter survival:	Varies based on specific variety

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
  - 50–80 lbs./acre (pure live seed)
- Broadcast with shallow incorporation
  - 55–88 lbs./acre (pure live seed)
- Broadcast without incorporation is not recommended.

Additional planting information:

- 1,800 seeds/lb. (highly variable; adjust seeding rate accordingly)
- Inoculation type: pea/vetch
- When planting on slopes or using for forage/grazing, increase seeding rate.
- Use lower end of drilled seeding rate when using narrow-row planters.
- Field pea/winter pea requires more moisture to germinate well with broadcast seeding.

Performance

- Dry matter = 4,000–5,000 lbs./acre per year
  - Biomass quantity is highly dependent on planting/termination dates and precipitation.
  - Biomass breaks down quickly.
- Total nitrogen = 90–150 lbs. N/acre (not fertilizer replacement)
  - Field pea/winter pea fixes nitrogen quickly.

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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:

- Winter snow cover and variety may affect winterkill.
- Early planting reduces winter survival.
- 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:	Very good
Lasting residue:	Good
Mechanical forage harvest:	Very good
Grain seed harvest:	Good

Additional performance information:

- Seed vigor is highly variable.
- This cover crop mixes well with grains when grown for forage.
- Bloat potential is easily managed.
- Restricting to 30% of total rotation or mixing with a grass is recommended.
- Some peas are bitter and not palatable to livestock by themselves.
- Peas are poor hosts for soybean cyst nematode.
- Field pea/winter pea does not tolerate flooding or ponding.

Potential Advantages

SOIL IMPACTS

Subsoiler:	Good
Frees P and K:	Good
Compaction fighter:	Very good
Disease:	Very good
Chokes weeds:	Very good

OTHER

Attracts beneficials:	Very good
Short windows:	Very good

Potential Disadvantages

Increased insects/nematodes: Could be a minor problem

Increased crop diseases: Occasionally a minor problem

- There may be an increase in sclerotinia and fusarium root rot presence.

Establishment challenges: Occasionally a minor problem

- Late planting increases heaving.

Mature incorporation challenges: Occasionally a minor 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.

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