

LENTIL

COVER CROP FACT SHEET FOR IOWA

Lentil (*Lens culinaris*) is a summer annual legume that serves as a good cover crop for nitrogen fixation. Lentil is considered a pulse or grain crop legume because they are typically grown for edible seed for human consumption.



Identifying Features

- » Pinnate leaves with up to 14 leaflets.
- » Leaves may terminate in a tendril.
- » Single or branched, upright stem.

Cultural Traits

- » Summer annual legume
- » Minimum germination soil temperature: 41° F
- » Cold tolerance temperature: 21° F
- » Seeding date: Early August to Mid September* (F)***
- » Seeding date: Early April to late May* (S)***

Planting Information*

- » **Drill/Plant** at 1 - 1½ inches (30-50 lbs./acre PLS**)
- » **Broadcast** (33 - 55 lbs./acre PLS)
- » **Aerial** (not recommended)

*Planting information from Midwest Cover Crop Council (midwestcovercrops.org). Refer to local NRCS office recommendations (Iowa Field Office Technical Guide, Section 4, 340 Cover Crop) for seeding dates and rates pertinent to location specific financial assistance program requirements.

**Pure Live Seed

*** F=Fall S=Spring

Additional planting information:

- » ~16,000 seeds/lb.
- » Often have strong seedling vigor to emerge through heavy crop residue.
- » Adapted to all soils, but do best in well-drained soils.



Lentil Seed



Early Growth Stage



Lentil growing in a field.



Lentil blooms white flowers.

C:N (Carbon:Nitrogen) Ratios

- » Lentil cover crop 9:1

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Lentil stems can hold up to 14 leaflets.



A mature, blooming lentil plant.

Performance

Dry matter = 100 - 1,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

Performance Ratings

» Cash crop interseed (<i>early vegetative</i>)	Fair
» Cash crop overseed (<i>late seed fill</i>)	Fair
» Grazing quality	Fair
» Mechanical forage harvest	Fair
» Nitrogen fixer	Good
» Nitrogen scavenger	Fair
» Weed suppression	Poor
» Compaction fighter	Fair
» Erosion control	Fair
» Lasting residue	Poor
» Quick grower	Fair
» Drought tolerance	Very good
» Low fertility tolerance	Good
» Shade tolerance	Fair

Additional Considerations

- » Promotes mycorrhizal fungi populations.
- » Low volunteer seed survivability.
- » Self-pollinates, but flowers attract pollinators.

Lentil Plant



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This fact sheet is a collaborative effort of USDA's Natural Resources Conservation Service (NRCS) and Iowa State University Extension and Outreach to provide cover crop options and information for Iowa landowners.