

TURNIPS

COVER CROP FACT SHEET FOR IOWA

Turnips (*Brassica rapa*) are cool season biennial brassicas that offer diversity in a cover crop mix. Turnips can help capture nitrogen in the field, reduce soil compaction, and provide quality grazing. (Photo by Stacy Wickman, NRCS)



University of Florida

Identifying Features

- » Broadleaves with prominent, light-colored midribs.
- » Leaves don't go all the way down the stem.
- » Lower leaves have a large central lobe with 1-4 pairs of side lobes.
- » Small, non-lobed upper leaves have a wide base and pointed tip.
- » If stems have purple on them, it's likely a turnip.

Cultural Traits

- » Cool season biennial brassica
- » Minimum germination soil temperature: 45° F
- » Cold tolerance temperature: 10° F
- » Seeding date: Early August to Mid September*

Planting Information*

- » **Drill** at ¼ - ½ inches (3 lbs./acre PLS**)
- » **Broadcast** (4 lbs./acre PLS)
- » **Aerial** (5 lbs./acre PLS)

*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

Additional planting information:

- » ~192,000 seeds/lb.
- » When planting for forage/grazing, increase seeding rate.
- » When planted as a monocrop, do not plant on slopes because it could loosen the soil and cause erosion.
- » Broadcasting without incorporation is usually less dependable than drilling.



Turnip Seed



Forage Turnip in southern Iowa.



Forage Turnip seedlings.



Turnip leaves from above.

C:N (Carbon:Nitrogen) Ratios

- » Turnips 20:1 to 30:1

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Turnip sprout



Iowa farmer holds a forage turnip in his field.

Performance

Dry matter = 1,200 - 3,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

Performance Ratings

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

Additional Considerations

- » Turnips are good for alleviating shallow compaction, compared to radishes.
- » The hard seed could germinate in the spring. Scout to determine if herbicide is needed.
- » Turnips produce a natural herbicide called glucosinolate, which reduces weed germination.

Turnip Plant and Taproot



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.