

RADISH

COVER CROP FACT SHEET FOR IOWA

Tillage radishes (*Raphanus sativus*) are a cool-season annual brassica cover crop. They have a long taproot that helps with water infiltration and soil compaction. Radishes are also very good at scavenging excess nitrogen from the soil.



Identifying Features

- » Deeply lobed, irregular leaves
- » Rosette of leaves
- » Leaves go all the way down the stem
- » Leaves may terminate in tendrils
- » Deep taproot

Cultural Traits

- » Cool-season annual brassica
- » Minimum germination soil temperature: 45° F
- » Cold tolerance temperature: 15° F
- » Seeding date: Early August to Mid September*

Planting Information*

- » **Drill/Plant** at ¼ - ½ inch (4 lbs./acre PLS**)
- » **Broadcast** (5 lbs./acre PLS)
- » **Aerial** (6 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:

- » ~34,000 seeds/lb.
- » When planting for forage/grazing, increase seeding rate.
- » Broadcasting without incorporation is usually less dependable than drilling.



Radish Seed



Radish rosette from above.



Tillage radish seedlings.



Radish taproots help water infiltrate into the soil.

C:N (Carbon:Nitrogen) Ratios

- » Tillage Radish 19:1 to 20:1

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Radishes interseeded in 60" corn rows in northeast Iowa.



Radish can be seen in a central Iowa cover crop mix.

Performance

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

Performance Ratings

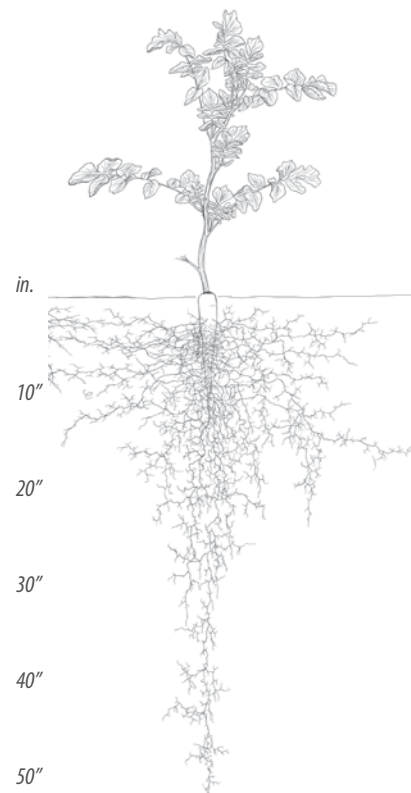
» Cash crop interseed (<i>early vegetative</i>)	Good
» Cash crop overseed (<i>late seed fill</i>)	Good
» Grazing quality	Good
» Mechanical forage harvest	Poor
» Nitrogen fixer	NA
» Nitrogen scavenger	Good
» Weed suppression	Good
» Compaction fighter	Excellent
» Erosion control	Fair
» Lasting residue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

Additional Considerations

- » Radishes attract earthworms. During the process of decay, radishes can be odorous.
- » Radishes can bolt under certain conditions and become a serious weed if allowed to go to seed.
- » If planted too heavy, other cover crop species could be smothered.
- » Radishes produce a natural herbicide called glucosinolate, which reduces weed germination.

- » The grazing palatability of radishes improves after frost.
- » When planted as a monocrop, do not plant on slopes because it could loosen the soil and cause erosion. Radishes can alleviate deep compaction as well as shallow compaction.

Radish Plant and Root Structure



Drawing provided by Conservation Cropping Systems Initiative (ccsin.org)

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.