

SUGAR BEET

COVER CROP FACT SHEET FOR IOWA

Sugar Beets (*Beta vulgaris*) are quick growing biennial brassicas that can provide a good grazing supplement in the fall. They are also very good nitrogen scavengers and can help with soil compaction.



Identifying Features

- » Fleshy, triangular leaves.
- » Basal rosette in first year.
- » Leaves are lobed and glossy.
- » Large taproot.

Cultural Traits

- » Biennial brassica
- » Minimum germination soil temperature: 40° F
- » Cold tolerance temperature: 28° F
- » Seeding date: Late July to Early October* (F)***
- » Seeding date: Early April to Mid April* (S)***

Planting Information*

- » **Drill** at ½ - 1 ½ inches (3-4 lbs./acre PLS**)
- » **Broadcast** (5-6 lbs./acre PLS)
- » **Aerial** (5-6 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

*** F=Fall S=Spring

Additional planting information:

- » ~22,000 seeds/lb.
- » Require 60-90 days to maximize taproot development, therefore planting following corn silage, corn seed production or small grain production is advised.
- » Broadcasting and drill seeding are suitable. Planter plates are available for precision seeding.



Sugar Beet Seed



Sugar beet breaks through soil.



Sugar beet leaves from above.



Sugar beet taproots. (Courtesy of Montana NRCS)

C:N (Carbon:Nitrogen) Ratios

- » Sugar Beets 11:1 to 14:1

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Sugar beets decomposing in a field.



Sugar beet seedling.

Performance

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

Additional Considerations

- » Preferred in grazing mixes by wildlife and cattle. Sugar beets can regrow after limited grazing.
- » Robust taproots can break plow layer compaction zones.



No-till sugar beets in Montana. (Courtesy of Montana NRCS)

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.