

SUNFLOWER

COVER CROP FACT SHEET FOR IOWA

Sunflower (*Helianthus annuus*) is a quick growing summer annual broadleaf cover crop often used in multi-species mixes to help fight soil compaction and scavenge excess nitrogen. Sunflowers also host pollinators and beneficial insects.



Identifying Features

- » Thick stems
- » Dense hairs over stems and leaves
- » Large, spade-shaped leaves

Cultural Traits

- » Summer annual broadleaf
- » Minimum germination soil temperature: 65° F
- » Cold temperature tolerance: 25° F
- » Seeding date: Early May to Early August*

Planting Information

- » **Drill** at ¾ - 1½ inch (3 lbs./acre PLS**)
- » **Broadcast** (5 lbs./acre PLS)
- » **Aerial** is 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

Additional planting information:

- » ~8,000 seeds/lb.
- » Sunflower is best used in a cover crop mix, especially when planting on slopes.
- » This species adds biodiversity.



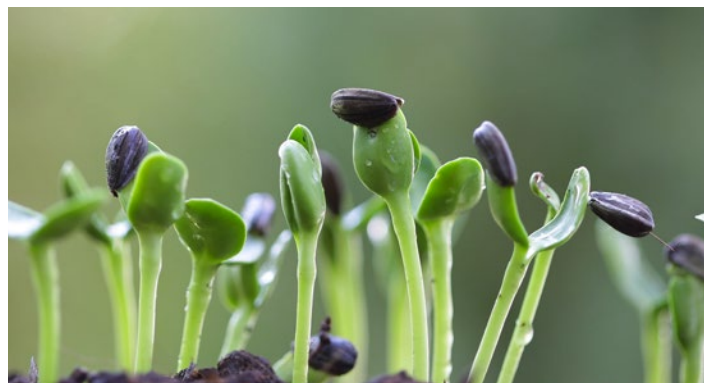
Sunflower Seed



Small sunflower plant



Young sunflower leaves



Sprouting sunflowers

C:N (Carbon:Nitrogen) Ratio

- » Sunflower 24:1

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Sunflowers in a multi-species cover crop mix.



Young sunflower leaves

Performance

Dry matter = 1,000 - 5,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

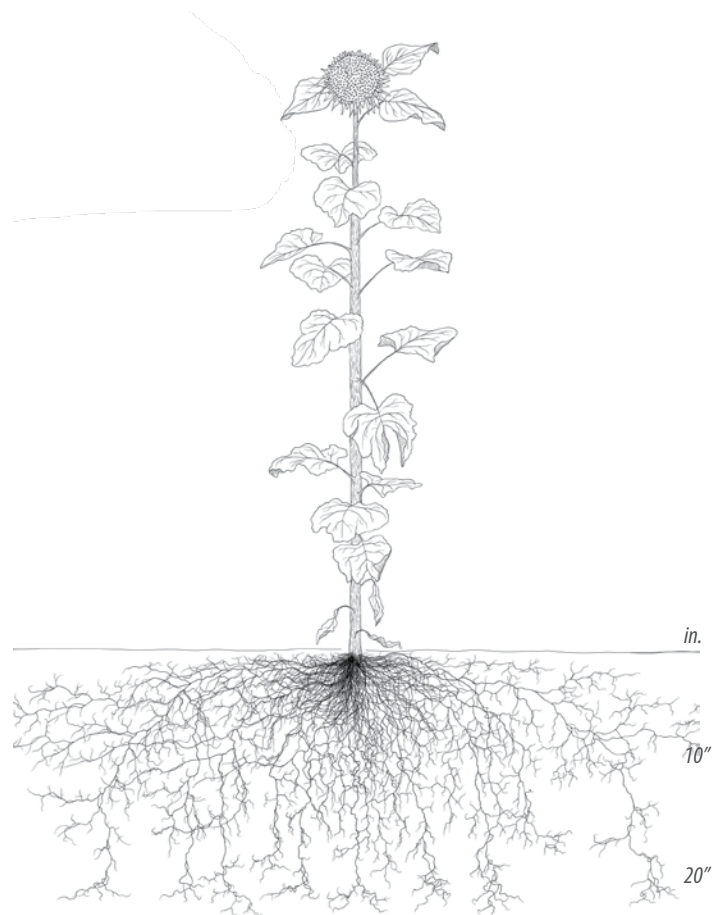
Performance Ratings

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

Additional Considerations

- » Sunflowers are excellent for attracting beneficial insects and pollinators. Its vertical structure and edible forage with seed production is well-suited for grazing and wildlife.
- » Sunflowers have branching, fibrous roots to help with soil structure.
- » Sunflowers are a minor host for root lesion nematode that attack corn and wheat.

Sunflower 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.