

BARLEY

COVER CROP FACT SHEET FOR IOWA

Barley (*Hordeum vulgare*) is a quick growing cool-season/winter annual grass very good as a cover crop for reducing soil erosion and fighting compaction. Barley is a good choice for cover crop mixes to improve soil tilth and nutrient cycling.



Identifying Features

- » Blue-green leaves
- » Auricles are large, long, clasping and hairless
- » Leaf-sheath and blades are usually hairless
- » Scattered hairs on some barley varieties
- » Ligule is short and rounded

Cultural Traits

- » Cool-season/winter annual grass
- » Minimum germination soil temperature: 35° F
- » Cold tolerance temperature: 0° F (W) 20° F (S)***
- » Seeding date: Early August to Late September (F)***
- » Seeding date: Late March to Late April* (S)

Planting Information*

- » **Drill** at ¾ - 1½ inches (60 lbs./acre PLS**)
- » **Broadcast** (66 lbs./acre PLS)
- » **Aerial** (75 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 W=Winter

Additional planting information:

- » ~15,000 seeds/lb. (1 bushel = 48 pounds)
- » When planting on slopes or using barley for forage/ grazing, increase the seeding rate.
- » Broadcasting without incorporation is usually less dependable than drilling or broadcasting with incorporation.



Barley Seed



Seedling



Vegetative



Cover crop grass growth comparison

C:N (Carbon:Nitrogen) Ratio

- » Barley 20:1

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A cow grazes in a barley field.



Drilled barley grows in an Iowa crop field.

Performance

Dry matter = 2,000 - 5,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

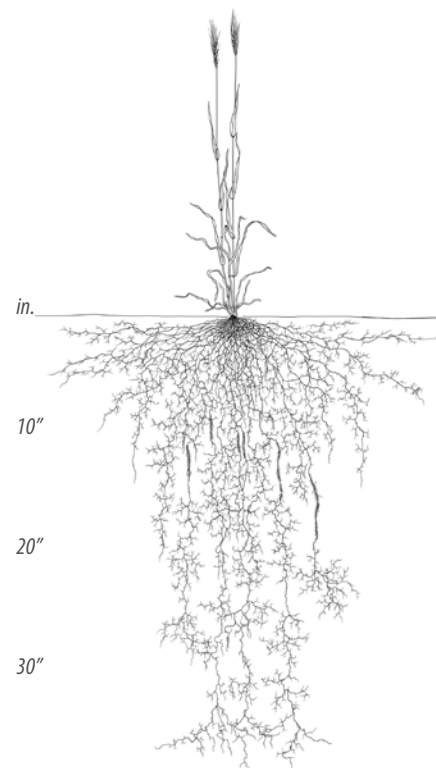
Performance Ratings

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

green bridge or nitrogen tie-up are a concern. For crop insurance compliance, follow NRCS cover crop termination guidelines.

- » Early season nitrogen applications to corn can help reduce the effects of nitrogen tie-up by the cover crops.

Barley Plant and Root Structure



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

Additional Considerations

- » Barley could increase the risk of black cutworm and armyworm; risk of green bridge increasing pythium seedling disease; and is a host for penetrans root lesion nematode.
- » Time cover crop **termination** based on goals and experience level. To reduce potential negative impacts on cash crops, consider terminating earlier in the season when conditions are dry or when

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.