Barley (Hordeum vulgare) is a cool-season 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**
- Winter annual grass
- Minimum germination soil temperature: 35°F
- Cold tolerance temperature: 0°F
- Seeding date: Early August to Late September*

**Planting Information***
- Drill at ¾ - 1½ inches (60 lbs./acre PLS***)
- Broadcast (66 lbs./acre PLS)
- Aerial (75 lbs./acre PLS)

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.

**C:N (Carbon:Nitrogen) Ratio**
- Barley 20:1
Performance
Dry matter = 2,000 - 5,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

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

Potential Issues
» Increased pest pressure: 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.
» Termination: 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 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

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.