

# OATS

## COVER CROP FACT SHEET FOR IOWA

**Oats** (*Avena sativa*) are a cool-season annual grass and popular cover crop for Iowa farmers due to their ability to grow quickly, reduce erosion, and provide quality livestock grazing. Oats usually winter kill in Iowa, so do not require spring termination.



### Identifying Features

- » Hollow, straight stem; no auricles
- » Leaves are wider than other small grains
- » Leaves and stem may be waxy
- » Leaf sheath can be hairy
- » Ligule is pronounced and toothed

### Cultural Traits

- » Cool-season annual grass
- » Minimum soil germination temperature: 38° F
- » Cold tolerance temperature: 25° F
- » Establishment window: Mid August to Mid September\*

### Planting Information\*

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

\*Refer to Midwest Cover Crop Council ([midwestcovercrops.org](http://midwestcovercrops.org)), local NRCS office recommendations, and/or pertinent financial assistance program requirements for location specific seeding dates and rates.

\*\*Pure Live Seed

### Additional planting information:

- » ~15,000 seeds/lb. (1 bushel = 32 pounds)
- » If grazing or weed suppression is desired, increase seeding rate.
- » Broadcasting without incorporation is usually less dependable than drilling or broadcasting with incorporation.



Oat Seed



Seedling



Vegetative



Cover crop grass growth comparison

### C:N (Carbon:Nitrogen) Ratios

- » Oats 33:1

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*Oats and clover in a northeast Iowa field.*



*Oats popping through the soil.*

### Performance

Dry matter = 1,000 - 4,000 lbs./acre per year  
(Biomass quantity is dependent on planting and termination dates and precipitation.)

#### Performance Ratings

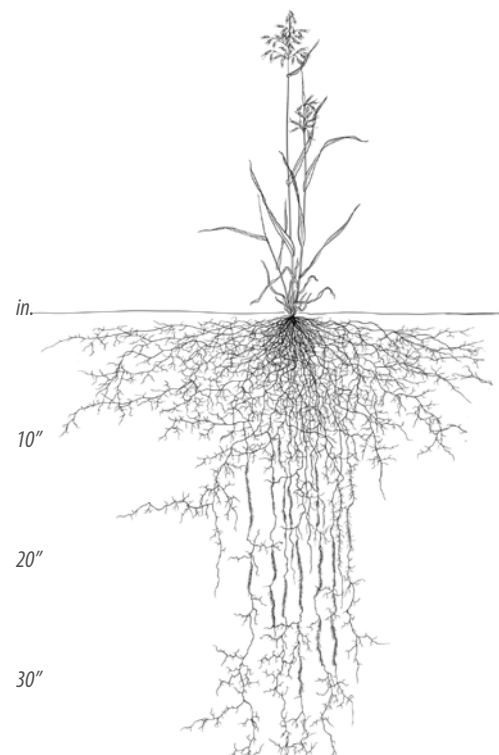
|   |           |
|---|-----------|
| » Cash crop interseed ( <i>early vegetative</i> ) | Excellent |
| » Cash crop overseed ( <i>late seed fill</i> )    | Very good |
| » Grazing quality                                 | Very good |
| » Mechanical forage harvest                       | Very good |
|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

### Additional Considerations

- » Use caution overseeding oats into soybeans. With adequate moisture and temperature, oats will grow fast and could become an issue while harvesting.
- » Aerial or broadcast spread pattern of oats will be narrower than other small grains due to the light weight of the seed.

- » Oats increase arbuscular mycorrhizal fungi (AMF) in the soil. AMF form a symbiotic relationship with plant roots which allows for greater nutrient and moisture uptake.

### Oat 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.