

# OATS

## COVER CROP FACT SHEET FOR IOWA

**Oats** (*Avena sativa*) are a cool-season annual grass that 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
- » Seeding date: Mid August to Mid September\* (F)\*\*\*
- » Seeding date: Early April 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](http://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:

- » ~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.
- » Oats can be seeded in the spring as an additional cover crop option.



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

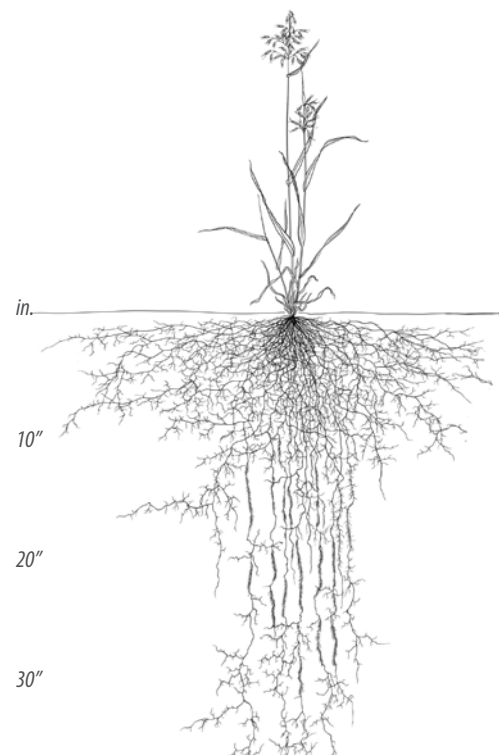
|                                                   |           |
|---------------------------------------------------|-----------|
| » Cash crop interseed ( <i>early vegetative</i> ) | Excellent |
| » Cash crop overseed ( <i>late seed fill</i> )    | Excellent |
| » Grazing quality                 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

### 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.