

KALE

COVER CROP FACT SHEET FOR IOWA

Kale (*Brassica oleracea* var. *sabellica*) is cool-season annual broadleaf best used in cover crop mixes. Kale is an excellent source for livestock grazing and very good for weed suppression.



Identifying Features

- » Grows in a rosette but does not form a head.
- » Leaves have a frilled margin with deep green color.
- » Coarse textured leaves

Cultural Traits

- » Cool-season annual broadleaf
- » Minimum germination soil temperature: 45° F
- » Cold temperature tolerance: 15° F
- » Seeding date: Late July to Early September* (F)***
- » Seeding date: Early April to Mid May* (S)***

Planting Information

- » **Drill** at ¼ - ½ inch (3 lbs./acre PLS**)
- » **Broadcast** (4 lbs./acre PLS)
- » **Aerial** (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

***F=Fall S=Spring

Additional planting information:

- » ~175,000 seeds/lb.
- » When planting for forage/grazing, increase seeding rate.
- » Broadcasting without incorporation is usually less dependable than drilling.



Kale Seed



Young kale leaves



Kale seedlings



Kale in a cover crop mix with various other plants.

C:N (Carbon:Nitrogen) Ratio

- » Kale 10:1 to 30:1

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Kale plant bolting.



Kale growing in a garden.

Performance

Dry matter = 200 - 2,000 lbs./acre per year
(Biomass quantity is dependent on planting and termination dates and precipitation.)

Performance Ratings

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

Additional Considerations

- » Kale is high in protein and feed value as well as very palatable for sheep and cattle.
- » Kale is low in fiber content and should be slowly introduced into the animal diet; limit brassica species to no more than 75 percent of the diet.
- » Can be susceptible to bacterial leaf pathogens.

Kale Growing in Rows



Bayou kale

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.