

# Kodiak

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## Seeding and Soil Preparation

**Approximated seed count:** 180,000 seeds/lb. Varies by lot.

**Seeding rates for monocrop:** 10-15 lbs/acre or .5 lbs per 1,000 square feet\*

*\*\*Please note that Kodiak seeds are slightly larger than alfalfa seeds. Drill should be a bit tighter than alfalfa, although the alfalfa or canola setting should be sufficient.*

**Seeding rates for cover crop cocktail:** 3-6 pounds per acre for a cocktail of three or more crops. Mighty Mustard® is highly competitive, hence the need to reduce the seeding rate. If you want the mustard to play a more dominant role in the blend, increase the seeding rate.

**Tip:** Higher seeding rates yield smaller stems and roots that decompose more quickly when incorporated.

**Planting depth:** 1/4-3/4 inch

**Ideal soil:** Excels in well-drained soils within a pH range of 5-8

**Nitrogen(N):** Consider soil test results prior to application. Best to apply preplant or at time of seeding with direct seeding system. If soil is N deficient, apply at rates of 50-80 lbs/acre.

**Sulfur:** Because sulfur is a major element of glucosinolates and isothiocyanates, we recommend maintaining a 6:1 ratio of nitrogen to sulfur to maximize biomass growth and glucosinolate production.

## How to Plant

Work up the ground to a good, moist seedbed.

Broadcast seeds onto the surface and lightly till or harrow them into soil, to a depth of about 1 inch. Follow immediately with light irrigation.

Plants will not emerge if soil crusts. If it is seeded shallow, with good moisture and soil temperatures above 50° Fahrenheit, your mustard plants should emerge within 4 to 5 days.



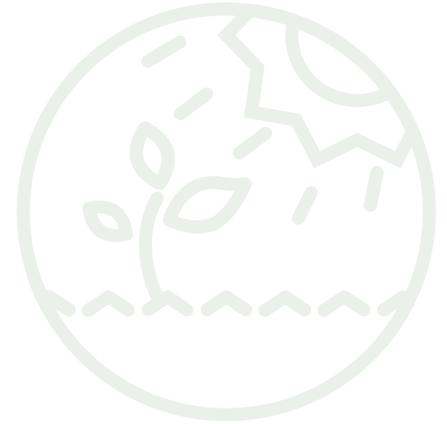
## When and How to Incorporate Mighty Mustard® Into Your Soil

1. At the first sign of flowering, typically 30-35 days after emergence, chop mustard as finely as possible
2. Immediately incorporate into soil
3. Immediately water and roll soil to activate and seal glucosinolates

**\*\*The incorporation process is time-sensitive, so it's crucial to complete all the actions in one day.\*\***

PLEASE NOTE that moisture is key, as the glucosinolates are short-lived, so you need to release them into the soil ASAP to improve biofumigation potential.

4. Allow three weeks between time of incorporation and the planting of your next crop.



## Management and Production

**Optimal growing temperatures:** 65-80 degrees Fahrenheit. Cooler temperatures will result in a slower rate of growth. Mustard will winter-kill at sustained temperatures of 26 degrees Fahrenheit or colder.

**Irrigation requirements:** Water as necessary. If you are growing the mustard to full bloom, total water needs should be about 7 to 8 inches of irrigation. Warmer temperatures increase water requirements.

**Flower start:** 35-40 days, depending on soil temperature and growing-degree days.

**Estimated plant height in optimal growing conditions:**

**Estimated biomass:** 5 to 6 tons per acre

- 4 to 6-week growth period: 1 to 2 feet
- 8 to 12-week period: 6 to 7 feet at full bloom

**Mustards have a C:N ratio of 14:1 for above ground biomass.** With a low C:N ratio, such as a mustard crop, you could see a surplus of N in the soil, a benefit we tout for nutrient recycling with the incorporation of a brassica cover crop.

### Nematode suppression protocol:

Brassicas are host plants to some nematodes. Follow the termination protocol to maximize biofumigation impact.

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2. Immediately incorporate into soil.
3. Immediately water and roll soil to activate and seal glucosinolates.

PLEASE NOTE that moisture is key, as the glucosinolates are short-lived, so you need to release them into the soil ASAP to suppress nematodes.

**\*\*The incorporation process is time-sensitive, so it's crucial to complete all the actions in one day. DON'T leave a trash layer of mustard organic matter on top of the soil.\*\***

4. Allow three weeks between time of incorporation and the planting of your next crop.

Always check plant-back restrictions prior to planting Mighty Mustard®.

## Notes

Kodiak may be used as a trap crop for some harmful nematodes, flea leaf beetles and cabbage aphids.

Before planting any cover crop, consult with your agronomist to learn how it will impact disease and pest pressure.

**Mighty Mustard® is not suitable for grazing by livestock.**

We recommend that you do not feed Mighty Mustard® to your animals, as the glucosinolates in mustard “may irritate digestive tracts or create thyroid problems in livestock if consumed in large quantities over time” (DiTomaso and Healy, 2007).

If you have further questions, please consult your veterinarian, as we want to ensure the safety of all animals.

For customized agronomy support,  
please call (509) 487-0755 or  
email [info@MightyMustard.com](mailto:info@MightyMustard.com).

