

# **Planting guide**

# How to plant Mighty Mustard®

Work up the ground to a good, moist seedbed. Sprinkle or broadcast seeds onto the surface and lightly till, rake or harrow them into the soil, to a depth of about 1 inch. If using a drill, set at 0, or use the settings for canola or alfalfa. 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, the mustard plants should emerge within 4 to 5 days.

VARIETY	<b>GROWING WINDOW</b>	SEEDING RATES
White Gold & Trifecta Power	4 – 8 weeks	Broadcast: 10-15 lbs./acre, or .5
Blend		lbs./1000 sq. ft.
		Drill set at 0: 4-6 lbs./acre
Kodiak	4 – 8 weeks	Broadcast: 10-15 lbs./acre, or .5
		lbs./1000 sq. ft.
		Drill set at 0: 4-6 lbs./acre
Pacific Gold	4 – 8 weeks	Broadcast: 10-15 lbs./acre, or .5
		lbs./1000 sq. ft.
		Drill set at 0: 4-6 lbs./acre

# Mighty Mustard® water recommendations

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 the need for water.

# **Optimal growing temperatures**

65-80 degrees Fahrenheit. Cooler temperatures will result in a slower rate of growth.

**The best time to chop & incorporate Mighty Mustard®:** At flowering. The highest levels of glucosinolates and myrosinase availability in seed are reached when the plants are at full bloom and continues for the next two weeks. **Please note:** Seeds typically become viable 4-6 weeks after flowering. If you don't incorporate the plants before the seed becomes viable, you run the risk of your cover crop solution becoming a weed problem.

# How long will it take Mighty Mustard® to bloom?

The average is 35-40 days, depending on the soil temperature.

# How to incorporate Mighty Mustard® into your soil

Using a flail mower, chop the plants as finely as possible and till in the green mustard immediately to quickly release the glucosinolates into the soil and hasten biomass breakdown. Water until the top 6 inches of soil is wet. <u>Wait at least three weeks to plant your next crop</u>.

# How does Mighty Mustard® weather the cold?

Mustard will withstand a light frost, down to 26° F, and succumb to killing frosts. You have the option of mowing and incorporating the mustard at the first signs of flowering, immediately after it is killed by frost, or the following spring.

# Should I worry about volunteer Mighty Mustard® plants in the spring?

Dormant seed may germinate in the spring. However, you may till in or spray out the volunteer plants before planting your next crop. **Please note:** If you allow Mighty Mustard® to go to seed, you may have a tough time getting rid of it.

# When should I plant Mighty Mustard®?

Choose the season that works best for your planting schedule. You can plant in the fall and again in the spring or once per year. In the fall, try planting in August or September. In the spring, plant as soon as you're able to work the soil. <u>Remember that you must wait at least three weeks after incorporating your Mighty Mustard® green manure</u> before you can sow your seeds or plant fruit or vegetable starts.



#### Does Mighty Mustard® work in a cover crop blend or cocktail?

Yes, if you reduce the seeding rate to 4-10 pounds per acre. If you want Mighty Mustard® to play a dominant role in the cover crop "cocktail," aim for 8-10 pounds per acre. If you want Mighty Mustard® to play a less prominent role, plant 4-5 pounds per acre. This is a new area of study, so more precise recommended seeding rates are still being researched.

#### Can I direct-seed into the stubble of harvested Mighty Mustard®?

Yes. The mustard residue is extremely easy to no-till into with either a disc or shank drill. You can seed right after harvesting Mighty Mustard®, no wait period required.

# How much biomass will Mighty Mustard® produce?

WhiteGold: 5-6 tons per acre Kodiak: 5-6 tons/acre Pacific Gold: 4-5 tons per acre

#### Does Mighty Mustard® need extra nitrogen?

Mustard needs approximately 120 lb available N over the duration of its growing season. If soil is N deficient, topdress accordingly to reach recommended levels. Best to apply preplant or at time of seeding with direct seeding system. Increased N applications will not guarantee increased yields. Added N is more likely to increase yields when moisture isn't limited. In dry conditions, apply lower rates of N.

**Mustards are a 14:1, C:N ratio.** 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.

A note about sulfur: For vigorous, high biomass growth, maintain a 6:1 ratio of nitrogen to sulfur.

#### Does Mighty Mustard® fix nitrogen?

No. Mighty Mustard® excels at recycling nitrogen from deep in the soil. If you're looking for an all-natural way to increase the nitrogen levels in your soil, we recommend planting our Austrian winter peas. The peas actually make their own nitrogen and will add 20 to 40 pounds of nitrogen per acre to your soil.

#### **Does Mighty Mustard® attract pests?**

Flea leaf beetles and cabbage aphids are attracted to all types of mustard, but other pests avoid Mighty Mustard® varieties because they can't tolerate their natural "heat" or spiciness.

#### What is the recommended growth period of Mighty Mustard® for nematode suppression?

Mustard is a host plant for nematodes, so we advise incorporating it 30 - 35 days from emergence. At this time, your plants should be about 3-feet tall and in full bloom.

#### Is it safe for animals to eat Mighty Mustard®?

We recommend that you do not feed Mighty Mustard<sup>™</sup> 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). **Mighty Mustard® is not suitable for grazing by livestock.** If you have further questions, please consult your veterinarian, as we want to ensure the safety of all animals.

#### Would you like more information?

Please call PNW Co-op at (509) 487-0755, or send an email to: Info@MightyMustard.com. We'll work with our agronomy team to help you grow Mighty Mustard® successfully.