

Brassica
Mustard
Brassica juncea



PLANT HARDINESS ZONE 7 DATASET

COVER CROP DESCRIPTION

"Mustard" encompasses several species including white/yellow mustard (*Sinapis alba*), Indian/brown mustard (*Brassica juncea*), and black mustard (*Brassica nigra*). Research and match varieties to your needs. Similar characteristics to other brassicas such as rapeseed/canola. Most commonly used for insect and disease suppression and adding diversity to mixes. Contains the most bio-toxic compounds, best brassica for bio-fumigation in zones with sufficient heat accumulation to support high biomass production (requires soil incorporation, etc.). Potential for fast fall growth and high biomass with good soil fertility. Well-documented for deep N scavenging in fall. Not known for subsoiling, some varieties may not have a taproot. Winter-hardiness, day-length response, other characteristics vary widely by cultivar. If planted in the spring, may bolt (flower) before it can produce much biomass. Does not form associations with arbuscular mycorrhizal fungi. Host for insects of many related cash crop species used in vegetable crop production.



Mustard - Bjorkman [2020]



Mustard - Bjorkman [2020]

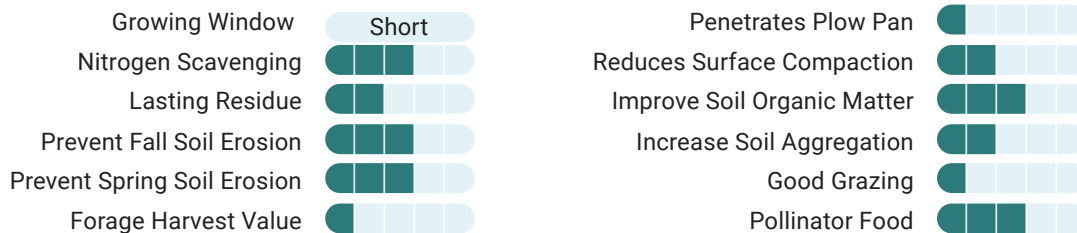


Mustard - Larson [2020]

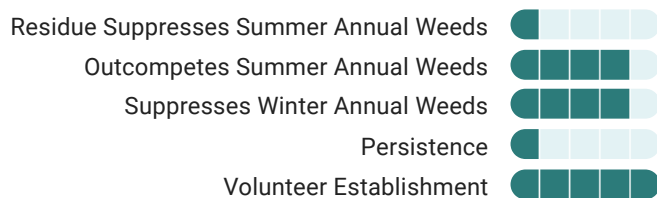


Mustard - Larson [2020]

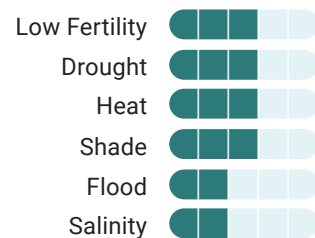
GOALS



WEEDS



ENVIRONMENTAL TOLERANCES



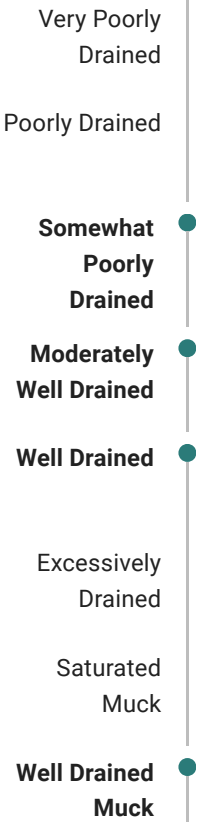


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Growth Traits

Duration	Annual
Zone Use	Emerging
Shape And Orientation	Erect
Dry Matter (Lbs/A/Yr)	500 - 2000
Soil Texture	Fine
	Medium
Soil pH	6 - 7.2
Soil Moisture Use	Medium
Hessian Fly Free Date?	No
Ease Of Establishment	<div><div></div><div></div><div></div><div></div><div></div></div>
Establishes Quickly	<div><div></div><div></div><div></div><div></div><div></div></div>
Early Spring Growth	<div><div></div><div></div><div></div><div></div><div></div></div>
Flowering Trigger	Light
Root Depth	Medium

Soil Drainage



Planting

Seeds Per Lb	283000
Seed Price Per Lb	\$ \$ \$
Base Seeding Rate (Lbs/A)	5 - 15
Drilled Depth	0.25" - 0.5"
Can Aerial Seed?	No
Can Frost Seed?	No
Min Germination Temp (°F)	40

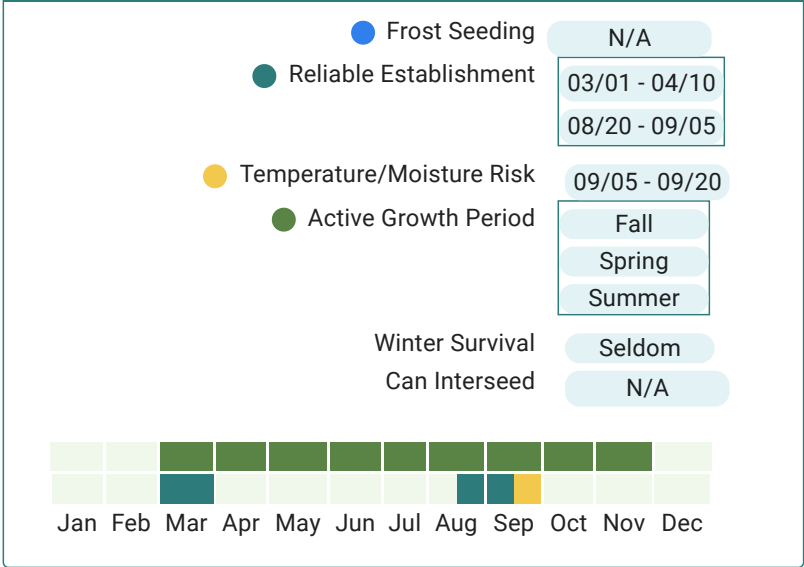
Termination

Tillage At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Tillage At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Freezing At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Freezing At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Chemical At Vegetative	<div><div></div><div></div><div></div><div></div><div></div></div>
Chemical At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Mow At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>
Roller-Crimp At Flowering	<div><div></div><div></div><div></div><div></div><div></div></div>



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Planting and Growth Windows



Extended Comments

Pollinators: Useful to pollinators since it flowers early in the spring. Don't plant if your goal is honey production (fouls the taste of the honey).

Nematodes: Host for root-lesion nematode (*P. penetrans*).

Planting: In RI we found that 15 lbs/acre gave more biomass and better weed suppression when using mustard as a summer cover crop

Basic Agronomics: Dry matter highly dependent on planting and termination date and precipitation. For grazing purposes, restrict to 75% of total ration or mixing with a grass is recommended. High glucosinolates interfere with mineral metabolism. Nitrate poisoning is possible if fed to livestock.

Termination: if using as biofumigant terminate at pod fill (seed formed but still green) by flail mowing followed immediately by incorporation. Multiple species are called "mustard" - susceptibility to freezing in vegetative state varies widely.

Weeds: Many Brassicas have hard seed; Can bolt under certain conditions and become a serious weed if allowed to go to seed.

Forage and Grazing: Contains high levels of glucosinolates. Do not feed to livestock.

Environmental Tolerances: Does very poorly under low-N conditions like most grasses.

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References & Resources

Spring Planted Cover Crops for Vegetable Rotations, University of Delaware Cooperative Extension
Cover Crops and Green Manures (New England Vegetable Management Guide), University of Massachusetts Extension
Cover Crops, Brassicas, University of Massachusetts Extension
Spring Management of Overwintering Cover Crops – Don't Wait!, Cornell University Cooperative Extension
Fall Mustard, Cornell University Cooperative Extension
Early Spring Seasonal Cover Crops, Cornell University Cooperative Extension
Late Summer Crucifers, Cornell University Cooperative Extension
Spring Mustard, Cornell University Cooperative Extension
Using Flowering Cover Crops for Native Pollinating Bee Conservation, Penn State Extension