Brassica
Mustard
Brassica juncea

PLANT HARDINESS ZONE 5 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 to other brassicas such as rapeseed/canola.Most commonly used for pest suppression and adding diversity to mixes. 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

Growing Window	Short
Nitrogen Scavenging	●●●
Lasting Residue	●●
Prevent Fall Soil Erosion	●●●
Prevent Spring Soil Erosion	●●●
Forage Harvest Value	●
Penetrates Plow Pan	●●●●
Reduces Surface Compaction	●●●
Improve Soil Organic Matter	●●
Increase Soil Aggregation	●●●●●
Good Grazing	●
Pollinator Food	●●●

WEEDS

Residue Suppresses Summer Annual Weeds	●
Outcompetes Summer Annual Weeds	●●●●
Suppresses Winter Annual Weeds	●●●●●
Persistence	●
Volunteer Establishment	●●●●

ENVIRONMENTAL TOLERANCES

Low Fertility	●●●
Drought	●●●
Heat	●●●
Shade	●●●
Flood	●●
Salinity	●●

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Growth Traits

Duration	Annual
Zone Use	Emerging
Shape And Orientation	Erect
Dry Matter (Lbs/A/Yr)	500 - 4000
Soil Texture	Fine Medium
Soil pH	6 - 7.2
Soil Moisture Use	Medium
Hessian Fly Free Date?	No
Ease Of Establishment	■■■□□
Establishes Quickly	■■■■□
Early Spring Growth	■□□□□
Flowering Trigger	
Root Depth	Medium

Soil Drainage

- Very Poorly Drained
- Poorly Drained
- **Somewhat Poorly Drained**
- **Moderately Well Drained**
- **Well Drained**
- Excessively Drained
- Saturated Muck
- **Well Drained Muck**

Planting

Seeds Per Lb	283000
Seed Price Per Lb	$$□
Base Seeding Rate (Lbs/A)	5 - 8
Drilled Depth	0.25" - 0.5"
Can Aerial Seed?	No
Can Frost Seed?	Yes
Min Germination Temp (°F)	40

Termination

Tillage At Vegetative	■■■■■
Tillage At Flowering	■■■■□
Freezing At Vegetative	■■■□□
Freezing At Flowering	□□□□□
Chemical At Vegetative	■■■■■
Chemical At Flowering	■■■■■
Mow At Flowering	■■■■■
Roller-Crimp At Flowering	■■■□□

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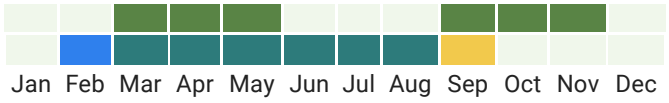
Planting and Growth Windows

Frost Seeding	02/01 - 03/07
Reliable Establishment	03/01 - 08/31
Temperature/Moisture Risk	09/01 - 09/30
Active Growth Period	Fall, Spring
Winter Survival	Seldom
Can Interseed	N/A



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Extended Comments

Taxonomy: Distinguish biofumigant ypes?

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 interfer with mineral metabolism. Nitrate poisoning is possible if fed to livestock.

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

Termination: if using as biofumigant terminate at pod fill (seed formed but still green) by flail mowing followed immediately by incorporation

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

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

Goals: Brown mustards (B. juncea and crosses) are better for suppressing summer annual weeds because they are slower to bolt.

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).

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References & Resources

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