# 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 - Larson [2020]



Mustard - Larson [2020]

## **GOALS**

**Growing Window** Short Nitrogen Scavenging Lasting Residue Prevent Fall Soil Erosion Prevent Spring Soil Erosion Forage Harvest Value

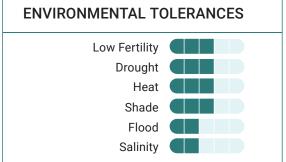
Penetrates Plow Pan **Reduces Surface Compaction** Improve Soil Organic Matter Increase Soil Aggregation **Good Grazing** 



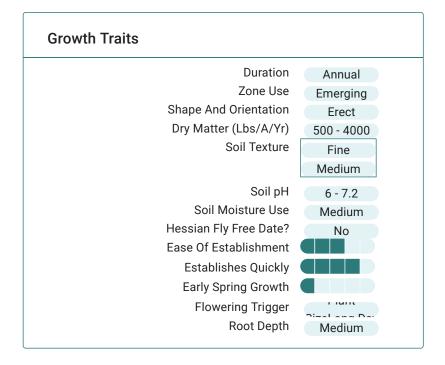
## **WEEDS**

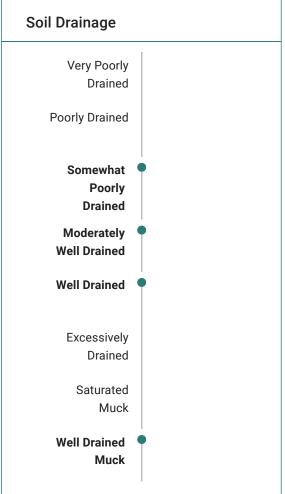
Residue Suppresses Summer Annual Weeds **Outcompetes Summer Annual Weeds** Suppresses Winter Annual Weeds Persistence

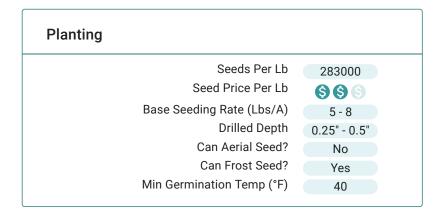
Volunteer Establishment

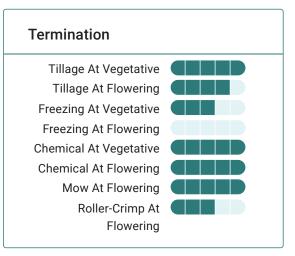


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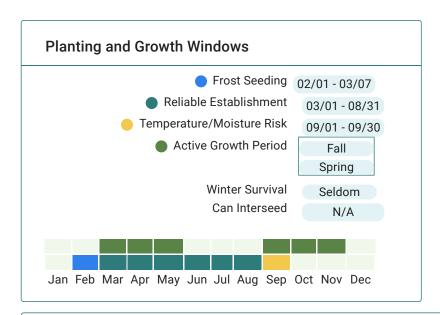








# REPRESENT PLANT HARDINESS ZONE 5 DATASET



# **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).



# ♠ PLANT HARDINESS ZONE 5 DATASET

# **References & Resources**

<u>Under Cover – Integrating Cover Crops into Silage Corn Systems</u>, University of Vermont Extension

Cover Crops and Green Manures (New England Vegetable Management Guide), University of Massachusetts Extension

**Cover Crops, Brassicas**, University of Massachusetts Extension

<u>Cover Cropping for Success</u>, University of Maine Cooperative 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

**<u>Late Summer Crucifers</u>**, Cornell University Cooperative Extension

**<u>Spring Mustard</u>**, Cornell University Cooperative Extension

<u>Using Flowering Cover Crops for Native Pollinating Bee Conservation</u>, Penn State Extension