BLUE MUSTARD

(CHORISPORA TENELLA)

Background/ Description

Blue mustard (Chorispora tenella) is a native plant to Russia and Southwest parts of Asia. Its first documented case in the United States was in 1929 in Lewiston, Idaho. Its commonly found in areas that are dry, disturbed, waste places, and along roadsides. Blue mustard is also a common issue for agricultural fields such as winter-annual crops, commonly winter wheat, but it can also be found in perennial crops such as alfalfa.

Blue mustard is a winter or early spring annual herb in the mustard family (Brassicaceae). The plant is erect and can branch out in reaching a height of about 6 to 18 inches. Stems are light green and sparsely to moderately covered with small, gland-tipped hairs. This plant blooms in early to late spring with bluish-purple to purple and sometimes even pink flowers. Each flower head has four petals at about 1/2 inch across and 1/2 inch long. The plant's odor is known to be disagreeable to some. It has even been linked to the off-flavor of milk in dairy animals that feed on it. Seeds pods formed from the plant have a smooth surface, rounded, and red to brown. Blue mustard germinates typically in late fall to early winter. The root system contains a substantial taproot but reproduces through seed production.

Picture courtesy of Colorado Small Acreage Program

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Biological Control

Currently, there are no biological control methods to manage blue mustard.

Mechanical Control

Mowing before plants have matured to the flowering stage can reduce the amount of seed production left in the soil. Controlling the seed production is the most efficient method of reducing future populations. When removing plants, dispose of them properly to eliminate chances of germination from leftover debris. Lightly tilling during the beginning life cycle can also affect the seed bank and may encourage the germination of seeds in the soil. It is encouraged that additional treatments be taken early in development or around the rosette stage.

Cultural Control

Grazing can reduce the number of live stands in a field, but some seeds can stay viable through the digestive tract of grazing animals, further spreading as such. Burning is not recommended as a type of control as there has not been enough research to back this control method. Solarization can help reduce plant emergence by increasing the soil's temperature with either mulch or a transparent plastic film. This practice can also damage other plants in proximity. Large areas are less susceptible to infestations when field borders are planted with perennial, cool-season grasses.

Chemical Control

Pre-emergent applications

Pre-emergence in the early spring is not best suited for this species as they are already actively growing during the winter months. Late fall, generally from October to November, is the best time to use pre-emergent to help with control. Imazethapyr (Pursuit and other trade names). Pursuit has shown to work in alfalfa, clover, bean, and other crops listed on the label.

Post-emergence applications

These species typically emerge in the fall but lay dormant until spring, and so the ideal timing to treat would be in the fall with an ALS-inhibiting herbicide (Group 2). Post-emergent applications are also generally safe to apply to wheat in the fall and before tilling. There are a few useful ALS inhibitors for treating blue mustard. Metsulfuron-methyl (Escort or other trade names). This particular product can work well in established and native grass stands, Chlorsulfuron (Telar or other products names). Telar works well in many cool seasons, perennial grasses as noted in the label. Can be used as a pre-emergence in the fall to post-emergent in the spring; Imazapic (Plateau and other trade names). Not recommended for agricultural areas, use within rights-of-ways, and other noncropland areas. Use caution around cool-season grasses.

Another herbicide used to control blue mustard is in the aromatic amino acid inhibitors classification (Group 9). This classification is a non-selective herbicide that inhibits amino acid syntheses. Glyphosate (Roundup Pro or Rodeo or other trade names) is specific to this group. Roundup Pro can be used to control blue mustard actively growing in specific fields. It will, however, damage or kill surrounding plant species it comes in contact with as well. For areas near or around water, an aquatic approved label is required. Rodeo is aquatic approved glyphosate that can be treated in areas in proximity to water.

*Precaution should be used when using any herbicide treatment. Follow and read the label for safety and instructions best results. The label is the law!

HERBICIDE	RATE PER ACRE	APPLICATION TIMING/ NOTES
Telar XP (Chlorsulfuron)	1/4 to 1/2 oz.	Apply to stalks on actively growing plants but before seed production.
Escort XP (Metsulfuron-methyl)	1/3 to 1/2 oz.	Apply to stalks on actively growing plants but before seed production.
Pursuit (Imazethapyr)	3 to 4 oz.	Apply to weeds 1 to 3 inches in height. Pursuit is more effective in warmer temperature conditions.
Plateau (Impazapic)	4 to 6 oz.	For pre-emergence use as a fall application. Post-emergence applications can be applied in the spring.
Roundup Pro (Glyphosate)	16 oz.	Apply to actively growing plant before it reaches 6 inches in height.
Rodeo (Aquatic approved glyphosate)	24 oz.	Apply to actively growing plant before it reaches 6 inches in height.

Add a non-ionic surfactant (Premier 90, etc.) to herbicide mixes for better surface coverage.

References

Bush, Bilal. “Blue mustard (Chorispora tenella).” *https://wiki.bugwood.org/HPIPM:Blue_mustard#:~:text=Blue%20mustard%20(Chorispora%20tenella)%20is,small%2C%20gland%2Dtipped%20hairs.* 15 April 2016

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