

## Canola and Mustard XVI-8

### **Diamondback Moth**

*Sue Blodgett & Greg Johnson*

Diamondback moth (DBM) cannot overwinter most years in the northern latitudes. Monitoring adult migration into northern canola production regions is important to determine the presence of this insect.

#### **Identification (and Life cycle/seasonal history)**

Moths are small, 1/3 inch in length, gray-brown colored insects with the folded wings flaring outward and upward toward their tips. Males have a row of three diamond-shaped yellow spots visible where the wings meet when the insect is at rest. Eggs are laid singly on canola or mustard foliage. Larva is a small, spindle-shaped, pale-green colored caterpillar that reaches about 1/3 inch in length. The tail end has a forked appearance. DBM larvae are distinguished by their violent wriggling, often dropping from foliage while suspended by a silken thread. Larvae feed on foliage but in dry years they may move to the reproductive parts of the plant and feed on buds, blooms and pods. Larva numbers are especially vulnerable to rainfall and humid conditions. Dry weather will cause leaf drop and cause larva to move to the reproductive portions of the plant. There are typically 2 generations per year, their importance as a pest is dependent on moth migration population, timing and conditions.

#### **Plant Response and Damage**

The larvae feed on plant foliage, chewing irregular holes in the leaves. Dry weather will cause lower leaves to drop and larva to move to the reproductive portions of the plant. Seedpod damage can lead to development of undersized, poor quality seed. Foliar damage by DBM larvae looks bad, but significant yield losses are not common. However, damage is much worse when plants are drought or heat stressed. Pod damage is likely to occur if lower foliage is damaged by drought or other insects.

#### **Management Strategies**

This insect is well documented for multiple resistance to many classes of insecticides.

In North Dakota treatment is recommended when larvae counts reach 25-30 per square foot and there is significant evidence of damage to flowers and/or pods.

*Check confirm, GF-120, Spintor*

*Product List for Diamondback Moth, Loopers*

<b>Pesticide</b>	<b>Product/Acre</b>	<b>Preharvest Interval, Remarks</b>
------------------	---------------------	-------------------------------------

Bacillus thuringiensis <sup>1</sup>	0.25-1.5 lbs(Deliver)  0.12 – 1.5 lbs (JavelinWG)	0 days to harvest. 4 hrs REI. Apply at first sign of newly hatched larvae. Reapply as necessary to maintain control.
Capture 2EC <sup>R,1</sup>	2.1 – 2.6 fl oz	35 days. 12 hr REI. Do not apply more than 5.12 oz /A /season. Do not make applications less than 14 days apart. See label for minimum gallonage.
Proaxis <sup>R,1,2</sup>	1.92 - 3.84 oz	7 days, 24 hr REI. Do not apply more than 0.72pt/A/season. See seasonal use rates for gamma and lambda cyhalothrin.
Lambda-cyhalothrin <sup>R,1,2</sup>	1.92-3.84 oz (Warrior with Zeon)  1.92-3.84 (Lambda T)	7 days, 24 hr REI. Avoid application when bees actively foraging by applying early morning or evening. Do not apply more than 0.72 pt/A /yr. See seasonal use rates for gamma and lambda cyhalothrin.
Pyrethrins <sup>1</sup>	2 – 16 oz (Evergreen EC 60-6)  4.5 – 18 oz (Pyganic EC 5.0)	0 Day, 12 hr REI . No less than 2 GPA by air or 10 GPA by ground. Buffer spray to pH 5.5 – 7.0.

<sup>1</sup> Label allows chemigation,

<sup>2</sup> Generic active ingredient, several formulations available, see labels for rates

<sup>R</sup> Restricted use pesticide

The information herein is supplied with the understanding that no discrimination is intended and that listing of commercial products, necessary to this guide, implies no endorsement by the authors or the Extension Services of Nebraska, Colorado, Wyoming or Montana. Criticism of products or equipment not listed is neither implied nor intended. Due to constantly changing labels, laws and regulations, the Extension Services can assume no liability for the suggested use of chemicals contained herein. Pesticides must be applied legally complying with all label directions and precautions on the pesticide container and any supplemental labeling and rules of state and federal pesticide regulatory agencies. State rules and regulations and special pesticide use allowances may vary from state to state: contact your State Department of Agriculture for the rules, regulations and allowances applicable in your state and locality.

Categories: Canola, Mustard, Insects, Diamondback moth, Loopers

Date: 06/06/2006