

Using hot pepper to control diamondback moth on cabbage

Recognize the problem

The diamondback moth (DBM) is the most important pest of cabbage and other brassicas in the world, causing yield loss of over 60% in Ghana. Young larvae damage by feeding and mining the internal leaf tissue while the older caterpillars feed on all plant parts.

Background

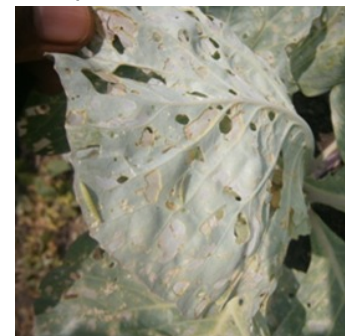
Chemical control has become ineffective as the DBM has developed resistance to most insecticides in use today. Thus, there is urgent need for other effective methods of control that are environmentally friendly and safe to humans.

Hot pepper contains a compound called capsaicin which causes a burning sensation and repels and/or kills the DBM larvae in the crop. The hotness of the pepper breaks down in a few days allowing natural enemies of DBM, e.g. parasitic wasps, to re-group to enhance natural control. Other insects that the pepper spray will work on include aphids, whiteflies and leaf hoppers.

Management

- Transplant only healthy pest free seedlings, planted at the onset of rains
- Obtain the ripened fruits of hot pepper (*Capsicum frutescens*) from your farm or local market
- Remove the stalks from the fresh ripe pepper fruit and grind the pepper to obtain a uniform mixture
- Add a few drops of cooking oil and local soap (alata samina) into the mixture to enable it stick to the leaves for effective action
- Store the mixture overnight and sieve in the morning using a fine linen material
- Spray using a knapsack at a rate of 20g of pepper to 1 litre of water
- Apply pepper extract weekly, until a week to harvest
- Repeat the application the next day if it rains the same day, but be sure the weather is clear before re-applying
- Wash hands after spraying and remember to use protective clothing and goggles to prevent pepper from getting in contact with your skin and eyes to avoid irritation
- Re-entry period to the field should be 12-24 hours and zero pre-harvest interval

Damage caused by diamondback moth larvae on cabbage leaves. (Photo by K.O. Fening, Uni of Ghana)



Adult Diamondback moth. (Photo by Russ Ottens, University of Georgia, www.bugwood.org)



When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > *Plutella xylostella*

The recommendations in this factsheet are relevant to: Ghana



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