MAJOR PESTS OF CHILLI

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Introduction

Growing chilli faces several major constraints which include pest infestations. It is often infested by a group of either sucking or boring pests. Severe damage normally occurs when a large number of pests feed on the plants. The major pests of chilli are the sap sucking insects which include the thrips, aphids and whiteflies and the boring insects, mainly the fruit borers. Mites which are non-insects also pose major problem. The most obvious pest damage symptoms are on the leaves and fruits. Leaf curls and rotting of fruits are common and serious at times.

In our plot at ARC Semongok, we observed that there are four types of pests which cause curling of leaves. These are the insect pests such as thrips, aphids and whiteflies and the non-insect pest, the mites. Thrips, aphids and mites are very minute in size and often not easily seen with the naked eye. Field detection of these minute pests could be carried out by tapping the leaves gently on a piece of white paper. Both adults and nymphs will drop on the paper and we can easily spot them when they move around. It is important to recognize the different types of pests as each pest would warrant for different control measures. The types of leaf curl (whether the curls are pointing upwards or downwards) can indicate the type of pest.

Mites

Mites or acarids are tiny, spider-like creatures. The yellow tea mites or broad mites are most common. The adults are eight legged while the larvae are six legged. The body shape is round and sac-like and un-segmented. They are slightly yellow in colour, very small in size (0.1–0.2 mm long) and very mobile. They are easily dispersed by wind and their populations normally build up during the dry weather. Both adults and larvae suck sap from the leaves resulting in the leaves curling downwards. In severe infestation, scarring of the stem and fruit skin is also common. Frequent watering of plants during the dry weather helps to reduce the pest population. Spraying of miticides (eg. Mitac, Omite) during the off-fruiting period may be necessary when pest population is high.

Mite adult

Leaves curl downwards due to mites

Thrips

Thrips are characterised by a narrow and flat body with two pairs of slender wings. The wings have very few veins and are fringed with long hair. They are slightly yellow in colour, very small in size (1–2 mm long) and very mobile. Both adult and nymph suck sap from the leaves, stems and fruits. In this case, the damaged leaves curling upwards. The damaged stems and fruits are also hardened. Our trial at ARC Semongok has shown that mulching with the black silvery plastic helps to reduce thrip infestation.

Thrip adult

Leaves curl upwards due to thrips

Mulching with black plastic

Aphids

Melon aphids are most common on chilli. Aphids are soft-bodied and pear-shaped. They cause direct and indirect damage. Indirect damage is caused by the aphid transmission of virus disease. Both adult and nymph suck sap from the shoots and young leaves resulting in wrinkled and stunted leaves. They usually occur in big numbers. Predation by lady birds is common when the pest population is high. Spraying of soap solution or home made 'garlic–chilli' concoction or white oil (Albolinuem) could help to reduce pest infestation. Use of black plastic for mulching could also help to reduce pest infestation.

Adults, nymphs and cast skin of nymphs

White flies

The adult fly is whitish and about 1 mm long. Its body is covered with white powder-like secretion. The nymph is 0.2–0.3 mm long. Both adult and nymph suck sap from the leaves resulting in wrinkled and stunted leaves. The pest also secretes honeydew resulting in the development of black fungus which inhibits photosynthesis. This pest is usually more serious during the dry weather. With the onset of rain it largely disappears.

Colony of white flies on underside of leaf

Fruit borer

This pest is a fly. The larvae (3–4 mm long) bore into the fruits causing them to rot. Certain chilli varieties, especially the local varieties ('cili padi') are less susceptible to borer damage. It is advisable to practice crop rotation with other crop type or at least rotate the varieties, in order to break the pest life cycle. Our research at ARC Semongok has shown that borer infestation on chilli planted in netted structures is very much reduced.

Fruit borer adult

Fruit borer larvae and their damage symptom

Bio-pesticide

The unmarketable damaged fruits could be used to prepare a concoction or home-made bio-pesticide. A mixture of chilli with garlic or tobacco or 'serai wangi' has been shown to be effective in controlling aphids and mealy bugs, apart from repelling the other insect pests from the crops.