MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE

Recommendation Sheet

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Pest Control in Pitaya

Red ants and snails can cause damage to the pitaya plant; to obtain quality fruits, they must be controlled after the fruiting season is over and once pruning is done. Occasionally, birds and rodents may also cause some damage.

Red ants (Solenopsis geminata) can cause damage to stems, flowers and fruits. Damaged portions of stems are often entry points for diseases. When fruits start turning from green to red, red ants puncture the skin to gain entry to the interior pulp thus rendering the fruits unmarketable. However, the black garden ant (Technomyrmex albipes) does not cause any damage.

The most important species of Snails that attack the pitaya plant are Helix spp. (common garden snails) and Achatina fulica (Giant African Snail). They chew off the tender, growing tips of the stems, thereby slowing growth. New growth will start only several weeks later and that at another part of the plant. Snails also chew irregular holes along the ribs of stems, on flowers and also on the skin of fruits.

1. Control measures for red ants

Insecticides *lambda cyhalothrin* (Demand 5 CS, Karate Zeon and Karathrin), *carbaryl* (Sevin) and *hydramethylnon* (Max Force) can be used and are recommended as follows:

(i) Just after pruning

As a preventive measure, spray the plants and the trellis posts with

***Demand 5 CS* @ 10 ml / L**

If red ants are already present, apply

Demand *5 CS* @ 20 ml / L

(ii) During fructification

Apply, either as a spray or as a drench,

Karate Zeon or ***Karathrin*** @ 2 ml/L.

Fruits can be harvested seven days after application of the pesticide.

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(iii) On nests

Sprinkle 10 g of ***Max Force*** on nest and within a radius of 1m around and repeat if necessary, at one month interval.

Insecticide ***Sevin*** @ 2 g/L can also be used as a drench.

Control of aphids

Aphids (*Aphis gossypii*) attract red ants towards the top of the plants and it is important to control them with either:

***Actara 25 WG (thiamethoxam)* @ 0.25 g/L**

or

***Confidor 200 SL (imidacloprid)* @ 1 ml/L**

Fruits can be harvested 14 days after application of the pesticide.

Note: When pruning is carried out, it is important to remove all the branches which grow downwards to touch the soil to prevent ants to climb up the plants.

2. *Control measures for* snails

A good snail management program relies on a combination of various control methods.

(i) Picking of snails

Handpicking of snails must be done on a regular basis, early in the morning. They must then be placed in a plastic bag which is closed before being disposed of appropriately. Attention must be paid towards those small snails which are hidden in between the pitaya stems.

(ii) Application of baits

Methaldehyde (Meta) pellets must be applied evenly around the plants and on the trellis posts.

Meta baits can be prepared by mixing meta powder with flour, at the ratio of 1:10 ***(by mixing 10 g of meta powder to 100 g of flour)*** and should be applied all over the field.

(iii) Good field sanitation

Proper weed control, removal of all plant debris and stones, and the elimination of shelter places around the pitaya plantation, i.e. places where snails may hide during the day, will help to keep the snails population low.

3. Birds & Rats

Birds sometimes damage fruits. If attack is severe, plastic fruit bags may be used to enclose premium fruits; however, this is a very labour intensive. Proper placement of rat baits will help control the rats.