MAURITIUS SUGAR INDUSTRY RESEARCH INSTITUTE

Recommendation Sheet

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The sugar cane scale insect *Aulacaspis tegalensis*

Aulacaspis tegalensis has been recorded only in sugar cane and is essentially a stem-inhabiting insect. It is unable to thrive on other parts of the plant and feeds on the contents of the parenchyma (storage) cells, hence preventing sucrose accumulation. This is accompanied by lower purity, thus resulting in factory losses due to lower % sucrose recovery from the juice.

Cane stalk infested with the insect

Symptoms

Severe infestation can cause discoloration and desiccation of leaves and eventually rotting of canes.

Poor germination can result if infested or formerly infested cane is used as planting material.

Field carry-over of the insect can occur through water shoots and above- and below-ground parts of the cane stubble. Infestation of foliage sometimes occurs when stem infestation is very high.

Weather plays an important role in regulating the insect population and attacks can be expected to be most severe when rainfall is deficient over lengthy periods in the months of December to March. *Aulacaspis tegalensis* reaches pest status in dry localities.

Large injurious populations do not occur during early growth of the cane and are possible only when stem formation has progressed appreciably.

Control measures

Several species of parasitoids and predators, some of them purposely introduced, help to keep the population of this pest at low levels, but severe attacks sometimes occur and may persist in some areas.

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Recommendations

To minimize the effect of this pest and to maintain the action of its natural enemies, the following measures are recommended:

- **Clean planting material should be used as far as possible**

If slightly infested material is to be planted, the setts should be treated with hot water (52°C for 20 min) or dipped in an insecticide (e.g. **chlorpyrifos at 1.0 g a.i/l**), rubbing and brushing off the scales while doing so. It must be stressed that the insecticide treatment of cuttings is not as effective as the hot water treatment. Protective clothing should be worn during the insecticide treatment.

- **Slightly to moderately infested fields should not be harvested at the beginning of the crop season**

Provided that infestation is not severe, deferring harvest will allow the cane tissue to recover and will minimize loss of sugar in attacked canes.

- **Infested fields should be trashed**

Stripping canes of dry leaf sheaths leads to the disappearance of most scale insects that are beneath the leaf sheaths, while exposure of uninfested stem surfaces prevents their becoming infested. Trashing will allow the natural enemies act more efficiently and may cause the disappearance of infestation. As a measure of control, trashing should ideally be done before infestation is appreciable (around March - April) and should be repeated to keep stems exposed as they grow. Varieties with tightly clinging leaf sheaths (e.g. R 570) are the most susceptible.

- **Infested fields <u>should not be burnt</u>**

- **Infested fields should be stubble-shaved at harvest**

Infested or dead canes or cane pieces are left in the field to be exposed to the sun so that they dry out.

- **Infested fields should be harvested in blocks**

This will avoid contiguity of cane of different ages; as older canes may be a source of infestation for younger ones.

- **Field operations should be well organized**

This will avoid dissemination of the pest. It should be borne in mind that the infective stage of the scale insect, which is virtually invisible to the naked eye, is not only carried by wind but can also be dispersed on the clothes of field workers and during transport of infested canes.