PESTS OF SUGARCANE IN SRI LANKA

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Main symptoms and responsible pest/s

i. Germination failure – Termites

ii. Ratoon failure – Termites

iii. Dead hearts leading to dead shoots – Shoot borers

iv. Yellowing, poor growth and shoot death in young cane - Nematodes

v. Yellowing and death of semi-mature or mature cane – Termites, Nematodes

vi. Boring of mature stalks – Stalk borers, Termites

vii. Formation of sooty mould on leaves – Aphids, Plant hoppers, sugarcane white fly

viii. Mottling or discoloration of leaves – Spider mite, Aphids, Plant hoppers

ix. Chewing of shoots or stalks – Wild boar, Rodents

x. Chewing of large areas of leaf – Army worms, Loopers, Grasshoppers, Locusts

Pests on different parts of the sugarcane plant

A. Leaves

Plant hoppers, Aphids, Spider mite, Blister mite (*Aceria sacchari*), sugarcane spotted white fly (*Neomaskellia bergii*), Fall army worm , leaf eating caterpillars, Grasshoppers, Locusts

B. Stalk/ Stem

Moth borers, Termites**,** Pink mealy bug, Scale insects, Mammals

C. Root system

Nematodes, Termites, Pink mealy bug

Pests on different growth stages of the sugarcane crop

A. 0-3 months after planting

Termites, Shoot borers, Thrips, Rabbits, Porcupines

B. 3 -12 months after planting

Aphids, Shoot borers, Stalk borers, Termites, Spider mite, Plant hoppers, Mealy bugs, Scale insects, Leaf eating caterpillars, Root parasitic nematodes and free living ecto parasitic nematodes, Wild boars, Wild elephants, Rats, Porcupines

C. Soon after harvesting (for stubbles)

Termites, Some ant species

PESTS OF SUGARCANE IN SRI LANKA

MOTH BORERS

i. *Sesamia inferans* Walker (Pink borer) (Lepidoptera: Noctuidae)

ii. *Chilo sacchariphagus indicus* Kapur (Internode Borer) (Lepidoptera: Crambidae)

APHIDS

i. *Ceratovacuna lanigera* Zehntner (Woolly Aphid) (Homoptera: Aphididae)

ii. *Melanaspis sacchari* Zehntner (Yellow Aphid) (Homoptera: Aphididae)

iii. *Rhopalosiphum maidis* Fitch (Homoptera: Aphididae)

PLANT HOPPERS

i. *Pyrilla perpusilla* (Hemiptera: Lophopidae)

ii. *Deltocephalus menoni* (Hemiptera: Cicadellidae)

iii. *Lophos saccharicida* (Hemiptera: Lophopidae)

iv. *Perkinsiella saccharicida* (Hemiptera: Delphacidae)

v. *Sogata sp.* (Hemiptera: Delphacidae)

vi. *Tropidocephala signata* (Hemiptera: Delphacidae)

vii. *Tropidocephala saccharivorella* (Hemiptera: Delphacidae)

viii. *Proutista moesta* (Hemiptera: Derbidae)

SUGARCANE SPIDER MITE - *Oligonychus* sp. (Acarina: Tetranychidae)

SUGARCANE BLISTER MITE –*Aceria sacchari* Wang, 1964 (Acari: Trombidiformes: Eriophyidae)

SUGARCANE TERMITES

i. *Odontotermes redimani* (Termitidae: Macrotermitinae)

ii. *Odontotermes ceylonicus* (Termitidae: Macrotermitinae)

iii. *Odontotermes horni* (Termitidae: Macrotermitinae)

iv. *Nasutitermes ceylonicus* (Termitidae: Nasutitermitinae)

v. *Coptotermes ceylonicus* (Rhinotermitidae: Coptotermitinae)

vi. *Heterotermes ceylonicus* (Rhinotermitidae: Heterotermitinae)

MEALY BUGS

Sap sucking on stalks

i. *Saccharicoccus sacchari (*Pink Mealy Bug) (Homoptera: Pseudococcidae)

Sap sucking on leaves

i. *Dysmicoccus brevipes* (Homoptera: Pseudococcidae)

ii. *Dysmicoccus boninsis* (Homoptera: Pseudococcidae)

SCALE INSECTS

i. *Aclerda takahashi* Kuwana (Aclerdidae)

ii. *Saccharolecanium kurugerii* Zehntner (Coccidae)

NEMATODES

i. *Hoplolaimus* spp.
ii. *Xiphinema* spp.
iii. *Longidorus* spp.

iv. *Helicotylenchus* spp.
v. *Rodopholus* spp.
vi. *Rotylenchus* spp.
vii. *Meloidogyne* spp.
viii. *Pratylenchus* spp.

LEAF EATING CATERPILLARS

i. *Mithimna irregularis* (Walker) (Lepidoptera: Noctuidae)

ii. *Spodoptera exepta* (Walker) (Lepidoptera: Noctuidae)

iii. *Agrotis biconia* (Kollar) (Lepidoptera: Noctuidae)

iv. *Spodoptera frugiperda* (Lepidoptera: Noctuidae) since 2018

LEAF FEEDING BEETLE - *Dicladispa* sp. (Coleoptera: Chrysomelidae)

ROOT EATING BEETLE- *Alisonotum piceum* (Coleoptera: Scarabidae)

SUGARCANE WHITE FLY - *Neomaskellia bergii* (Signoret) (Hemiptera: Aleyrodidae)

ANT SPECIES ATTACKS TO SUGARCANE STUBBLES

i. *Anoptotepis longipes*

ii. *Lophomyrmex quadrispinosus*

iii. *Plagiolepis* sp.

iv. *Crematogaster* sp.

SUGARCANE MOTH BORERS

Sugarcane at any stage of growth is liable to attack by moth borers. Young larvae feed on leaf tissue causing the typical “window” and “bullet hole” symptoms.

Figure: ‘Windows’ (left) and ‘bullet holes’ (right) caused by the young borer larvae (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Larvae present in the seed cane may destroy buds before they have germinated and shoots before they have emerged. In the young crop infestation by stalk borers results in the characteristic dead hearts, a phenomenon also encountered often in maturing fields. During the period of rapid stem elongation, the attack is normally restricted to the upper internodes.

Figure: Young sugarcane plant with “Dead Heart” (Left) Borer holes on young sugarcane plants (Right) (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: Bore holes on mature sugarcane plant

Two species of moth borers have been identified as pests of sugarcane in Sri Lanka. They are *Sesamia inferans* (Lepidoptera: Noctuidae) and *Chilo sachhariphagus indicus* (Lepidoptera: Crambidae). Among them *Chilo sachhariphagus* (Internode Borer) cause severe damage to the sugarcane crop and increasing trend of infestation has been recorded in sugarcane plantations in Ampara district in Eastern province of Sri Lanka since 2016.

INTERNODE BORER- *Chilo sacchariphagus indicus* Kapur (Lepidoptera: Crambidae)

Figure: A larva of Internode Borer feeding inside a sugarcane stalk

(Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Eggs are laid in batches of 20-40, arranged in two imbricated rows, on either surface or on the midribs of sugarcane leaves or on outer side of leaf sheaths. Eggs are flattened and elliptical, about 1.6 mm long by 0.8 mm wide. Oviposition occurs at night. Freshly laid eggs are translucent, but later darken and become more visible.

Larvae are creamy white with longitudinal purplish bands of varying intensity on which are superimposed rows of dark spots. Newly hatched larvae crawl rapidly and soon lodge themselves either in the midribs of expanded leaves or in the rolled leaves of the spindle above the level of the topmost dewlap. Young larvae feed on leaf tissue causing the typical ‘window’ and ‘bullet hole’ symptoms. When older, the larvae move down to the leaf sheaths and bore into the shoots from side. Mature larvae bore at the nodal region and enter the stem and tunnel up-wards in a characteristic spiral fashion. Entrance hole is usually plugged with excreta. Fresh damage is mostly found in the top five immature internodes.

Figure: Outside appearance of a damage of Internode Borer larva on an upper internode (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: Inside appearance of a damage of Internode Borer larva on an upper internode (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: A borer hole on a sugarcane stalk (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: A borer tunnel in a sugarcane stalk (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: A infested sugarcane stalk by a larva of *Chilo sacchariphagus* (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Figure: A infested sugarcane stalk with a side shoot (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

There are several larval instars. Pupation occurs in a cocoon constructed on the inner surface of a loose-leaf sheath. Adults are nocturnal and hide during the day. The adult female can lay about 650 eggs.

Figure: A cocoon of *Chilo sacchariphagus* on inner side of a leaf sheath (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

Damage to Sugarcane

Generally, this borer damages the sugarcane crop soon after internode formation and its activity continue till harvest. The name “Internode Borer” has been given due to the

characteristic boring and tunneling habit in the top internodes. However, it severely attacks young sugarcane plants before node formation and occur death of shoots due to dead hearts.

'Window' and 'bullet holes' in leaves are typical indications of the presence of the borer larvae in shoots.

Damage to the stem tissue by the borer in older shoots causes impaired growth of canes, side shooting below the point of attack, constriction of the stem in the region of attack, and shortened internodes above the region of attack. Death of the top and eventually death of the stalk can occur when infestation is severe. Canes damaged by the insect are prone to breakage during strong winds. The use of bored planting material result in poor germination due to weakening of setts and destruction of eye buds.

Sucrose content of millable stalks are seriously affected and there being decreased normal extraction, Brix, Pol and Purity and increased impurities such as nitrogen, gums and ash. After harvesting bored cane deteriorates more quickly than clean cane. On the other hand, secondary organism may increase the loss of sucrose to a significant extent. Borer tunnels open the way to infection by bacteria, fungi and yeast. There is a strong negative correlation between borer damage and cane yield, Brix, POL, Purity and POCS.

Every 1% of damage causes 0.5% reduction in sugar content. 57% reduction in cane yield and 39% reduction in juice quality. The Action Threshold (AT) for the Internode Borer is 13-15% bored internodes in Sri Lanka. Economic Threshold Level (ETL) is 17-28 bored internodes per row of 6-meter length (India).

Management Practices

i. **Use of cultural methods**

- Collection and destruction of egg masses and infested stalks
- Apply only the recommended doses of nitrogenous fertilizers
- Mass trapping of male moths using synthetic sex pheromones using Delta traps (Field evaluations are being conducted to identify suitable pheromone blend sources, ratios and the number of lures per hectare).

ii. **Use of biological control agents**

- Monitor the natural enemy population of the infested plantations and conserve them by avoiding spraying of insecticides (Egg and larval parasitoids)
- Egg and larval parasitoids play a major role for controlling this borer species and two egg and one larval parasitoid have been identified as biological control agents of Internode Borer in Sri Lanka.

Egg parasitoids

a. *Trichogramma chilonis* Ishii (Hymenoptera: Trichogrammatidae)
b. *Telenomus dignus* Gahan (Hymenoptera: Scelionidae)

Larval parasitoid: *Cotesia flavipes* (Hymenoptera: Braconidae)

Figure: Larva of *Chilo sacchariphagus* parasitized by *Cotesia flavipes* (Source: Photo gallery of Entomology, Sugarcane Research Institute, Sri Lanka)

iii. **Use of Insecticides**

If farmers use insecticides, granular systemic insecticides are the most suitable for controlling these moth borers by minimizing environment hazardous. Because, the foliar sprays directly affect the existing natural enemy complex in sugarcane ecosystem.

Fipronil 3 GR (Soil application at the rate of 18 kg/ha, near the root system) have been recommended and the efficacy of a new granular insecticide; **Chlorantraniliprole 0.4% (w/w) G** is being evaluated for this pest in Sri Lanka.

PINK BORER - *Sesamia inferans* (Lepidoptera: Noctuidae)

Figure: A mature larva of *Sesamia inferans*

Eggs are laid in clusters behind the leaf sheaths of young cane and grass weeds. Young larvae feed on grass weeds. Later instars migrate to cane shoots. One larva may bore in to and feed on several shoots before pupating. Pupation takes place inside the bored shoot. Larvae can move from one shoot to another. One larva may bore into and feed on several shoots before pupating.

Damage to sugarcane

Larvae feed essentially on young cane shoots into which they bore at and above soil level and then feed above the growing point on the unemerged spindle leaves. Feeding results in the

death of the spindle leaves, giving typical ‘dead heart’ symptoms, and death of the entire shoot follows if the growing point is damaged. Entry into the shoot satge of cane takes place by making a tiny hole in the lower portion of the shoot. It eats up the inner tissues of the plant and the ‘frass’ passes out through the aperture made on entry.

Figure: Young sugarcane plants infested by *Sesamia inferans*

Sesamia inferans is primarily a shoot borer but when the pest gets established in the young crop, the subsequent generations that breed in the neibouring grasses feed on mature stalks. This may be regarded as a secondary damage. The larva causes damage to about two to four nodes per stalk eating up the inner tissues, which results in galleries ranging from one to four inches in length. In mature cane, about 6% to 10% of the damaged stalks contained borers in them so that a single borer may be responsible for the damage of 10 to 16 stalks. Damage can

occur in ratoons as well as plant cane but germinating plant cane is most susceptible to injury by this insect.

Management Practices

i. Use of cultural methods

- Maintain the graminae weeds free plantations
- Light earthning up after 45 days of planting or ratooning
- Trash mulching
- Mechanical removal and destruction of infested plants bearing larval stages (5-7cm depth from surface)

ii. Use of biological control agents

- Conserve the bio- control agents (Egg and larval parasitoids)

  Larval Parasitoid: *Cotesia flavipes* (Hymenoptera: Braconidae)

Figure 01: A Pink Borer Larva after emergence of larvae of *Cotesia flavipes* (Black dots indicates the parasitoid exit holes)

Sugarcane Woolly Aphid

***Ceratovacuna lanigera* Zehntner (Homoptera: Aphididae)**

Stages of the life cycle

Adults

Two forms of Adults i.e. Alatae (A) and Apterae (B)

Figure: Apterae is covered with white colour woolly filament

Figure: The alatae is black and has two pair of transparent wings and

Nymphs

They have four nymphal stages

Figure: Third and fourth instars covered with white colour woolly filaments and first and second instars do not bear woolly filaments

Damage to the plant and the economic loss

Figure: Sugarcane plants with SWA infestations

- SWA sucks the juice from leaves and excrete honeydew. Excreted honeydew leads to growth fungus on leaves and reduces the photosynthesis ability.
- Drying up of infested leaves
- Reduction of juice quantity and quality
- Poor germination ability of seed materials
- Poor ratoonability after severe infestation

Figure: Formation of sooty mould due to SWA infestation

Favorable conditions

- Higher Relative Humidity (November-January)
- Low sunshine hours (October - December , during North –East Monsoonal period)
- Shade (colonies can be seen even on the upper surface of leaves with complete shade)

Management practices

i. **Use of cultural practices**

- Use of tolerant sugarcane varieties Eg; SL 83 06, SLC 2009 01
- Avoid trash burning
- Use only recommended doses of nitrogenous fertilizers
- Remove unwanted shade around the plantations

ii. **Use of biological control agents**

- Monitor the Sugarcane crop for the early detection of the pest and predators

[Natural predators: *Dipha aphidivora*, *Micromus* sp., Syrphid fly larva, Coccinellid beetles]

- If the predators are present, conserve them by avoiding spraying of insecticides
- If the predators are not seen release 2-3 times depending on the incidence of the pest

Dipha aphidivora larvae (1000/ha at the initial stage of the infestation)

Micromus sp. larva as 2500 larvae / ha at the initial stage of the infestation

iii. **Use of insecticides**

- At the initial stage of the infestation (when absence of natural predators), tobacco extract can be sprayed for the SWA colonies as follows;
  Dip 100g of refused parts of the tobacco leaves (available in the market) in 1 L of water for 24 hours and strains the solution and dilute up to 5L by adding 4L of water (1:4). Add 2ml of liquid dish wash per 1L of diluted solution and can be used to spray for SWA.

- Highly infested crops should be sprayed with recommended insecticide (Thiamethoxam 25% WG as 5g / 16 L water) directing the spray fluid towards the under surface of leaves.

Pyrilla Plant Hopper

***Pyrilla perpusilla* Walker (Homoptera: Lophopidae)**

Stages of life cycle

Adult: Pale yellow colour, soft bodied insect with a forwardly drawn prominent head.

Eggs: Eggs are white to greenish- yellow colour and egg masses covered with whitish cotton like structures.

Nymphs: Nymphal instars bear characteristic anal filaments which are slightly longer than the body. They pass five instars to reach maturity within seven weeks.

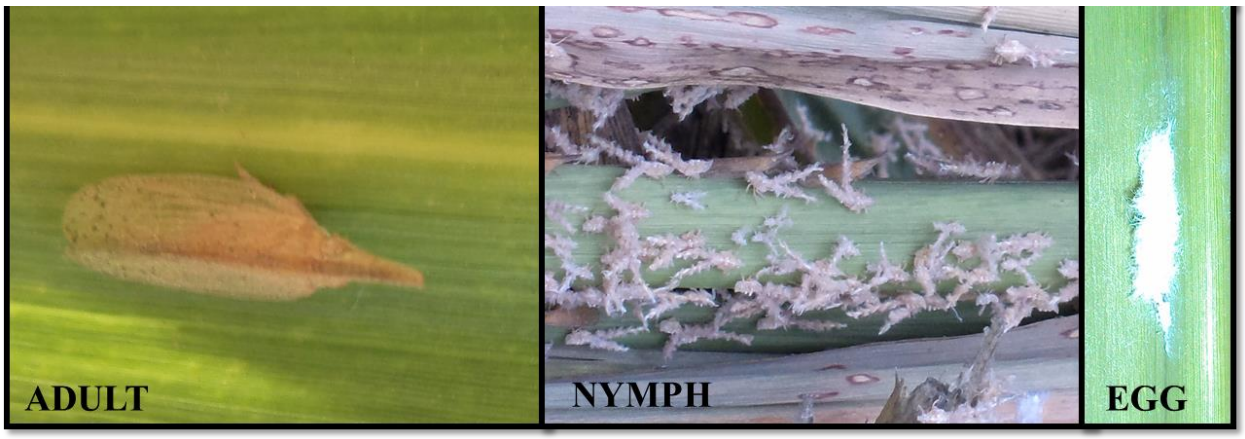

Figure: Life stages of *Pyrilla perpusilla*

Damage to the plant and the economic loss

- Adults and nymphs suck the phloem sap from leaves and excrete honeydew. Excreted honeydew leads to growth fungus on leaves and reduces the photosynthesis ability.
- Drying up of leaves due to continued feeding
- Reduction of juice quantity and quality
- Poor germination ability of seed materials
- Poor ratoonability after severe infestation

Management Strategies

Biological control agents

This is the most effective and suitable method

- Exotic parasitoid: *Epiricania melanoleuca* (Lepidoptera: Epipyropidae) (Imported from Pakistan in 1990). It successfully controlled the high infestations of *Pyrilla* plant hopper

- Indigenous egg parasitoid: *Parachrysocharis javensis* (Hymenoptera: Eulophidae)
- Fungus: *Metarhizium anisopliae*
- Predators: Coccinellid beetles

Figure: Eggs of Pyrilla parasitized by *Parachrysocharis javensis*

Figure: Egg laying female moth of *Epiricania melanoleuca* (Lepidoptera: Epipyropidae)

Figure: A larva of *Epiricania melanoleuca* attached to a nymph of *Pyrilla perpusilla*

Cultural practices

- Sugarcane trash should not be burnt and should be kept on the sides of the fields to encourage the egg parasitoid (*Parachrysocharis javensis)* to build up its numbers

Sugarcane Spider Mite

(Acarina: Tetranychidae)

Damage and symptoms

The mites spin and live inside delicate webs on the lower surface of the leaf and suck sap. Injured leaf shows characteristic red spots which enlarge and coalesce making the whole leaf reddish and distinguishable even from a distance. In case of heavy attack leaves and stem dry up resulting in considerable crop losses. The mite spread through wind.

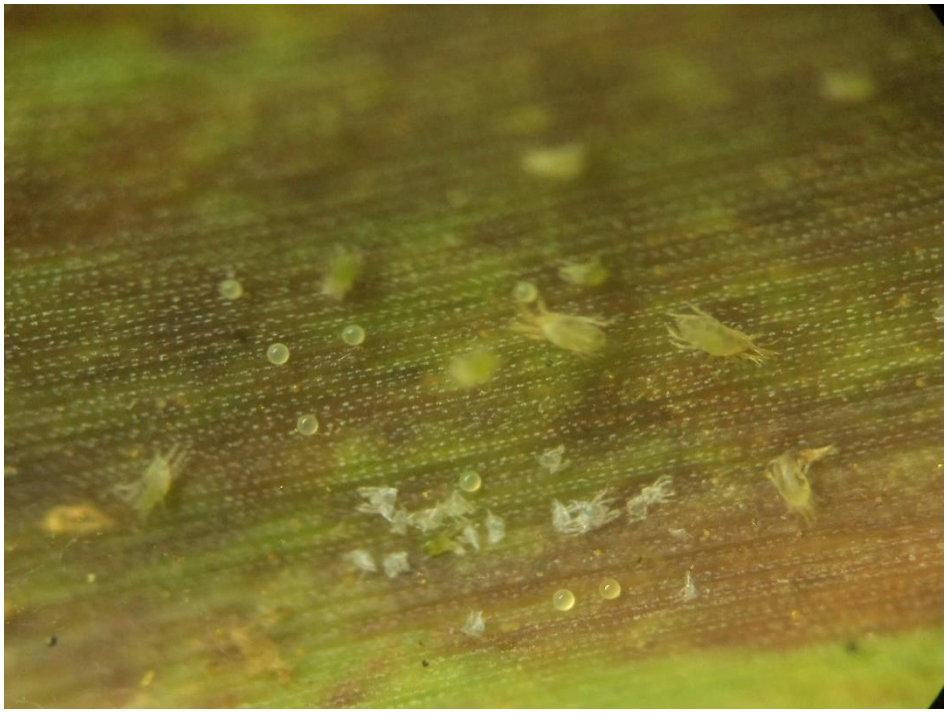

Figure: Microscopic view of a spider mite colony on underside of a sugarcane leaf

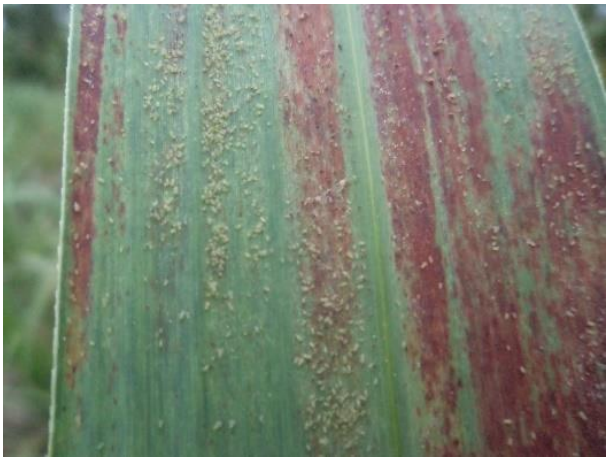

Figure: Spider mite infested leaf and a plantation

Figure: Spider mite infested sugarcane field in the seed cane nursery of Pelwatte

Favourbale Conditions

Dry weather, Water stress, Dusty condition

Management Practices

i. Use of cultural methods

- Regular monitoring and manual removal and destruction of affected leaves
- Proper irrigation and if possible overhead irrigation at infestations
- Naturally control by rainfall

ii. Use of biological control agents

- Coccinellid beetle adults and larvae (Mite Destroyer)

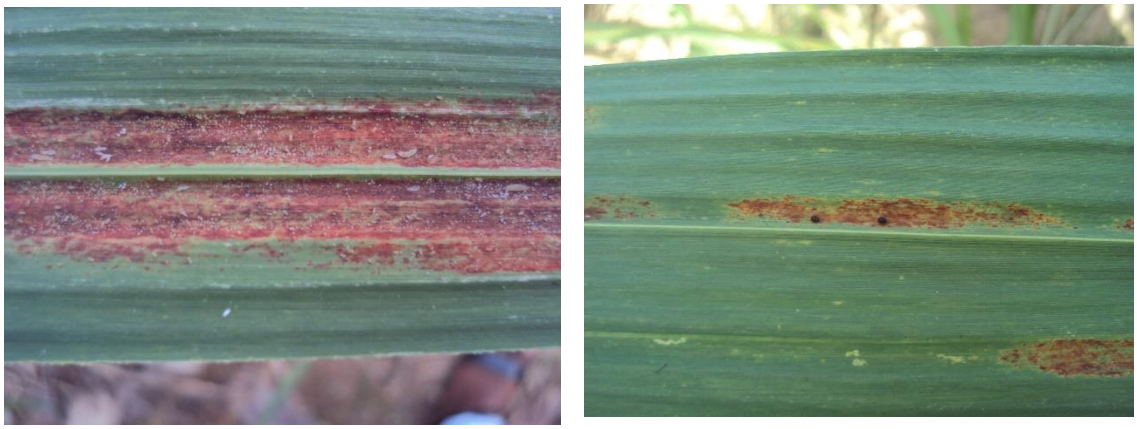

Figure: Coccinellid beetle larvae and adults feeding on spider mite colony

Subteranean Termites

Damage to plant

Figure: Termite infestation to seed setts, young plants and stubbles for next ratoon

- Termites can damage any growth stage of the sugarcane plant as planted seed setts, settlings, mature stalks and stubbles after harvesting.

  Seed sett damage: Destroy buds and the innner tissues of the seed sett
  Settling damage : Destroy roots and inner tissues
  Mature stalk damage: Bore in to stalk and fill the hole with soil
  Stubbles damage: Destroy stubbles for next ratoon

Favorable conditions

Extended dry weather
Water scarcity in irrigated fields

Management Practices

i. Use of cultural control methods

Destruction and removal of termitaria near the plantations

Following proper irrigation schedule for the plantations under the irrigation practices

Removal and destruction of termite infested plants

ii. Use of insecticides

At planting:

Dipping the seed setts

- Thiamethoxam 20% + Chlorantraniliprole 20% WG, 0.25g / 1L water, (4g/16Ldilution), 36,500 seed setts/ha, 196 L/ha, 49 g /ha
- Imidacloprid 70% WG, 0.16 g/ 1L water (2.5g/16L dilution), 36,500 seed setts/ha, 196 L/ha, 31.5 g /ha

Drenching the seed setts

- Thiamethoxam 20% + Chlorantraniliprole 20%WG, 0.25g / 1L water, (4g/16Ldilution), 1L/ 1m length
- Imidacloprid 70% WG, 0.16 g/ 1L water (2.5g/16L dilution), 1L/ 1m length

After 3-months age:

Soil application of Fipronil GR at the rate of 30 kg/ha near the root system

Sugarcane Pink Mealy Bug

***Saccharicoccus sacchari* (Homoptera: Pseudococcidae)**

Colonization on the plant

Figure: A pink mealy bug colony on the stalk

Figure: A mealy bug colony on near the root system

Adult: The adult is a soft-bodied, oval shaped, wingless insect (measuring approximately 5.0 mm in diameter)

Symptoms and damage

The mealy bug is found in dense colonies on the nodes and is usually partly hidden by the leaf sheaths. They suck sap from the stalk. They usually excrete copious amounts of honeydew which can favour the growth of sooty mould. They can survive after harvesting on the underground parts of the plant. The mealy bug does not appear to affect cane or sugar yields.

Management practices

The relative importance of this insect does not warrant control measures.

i. Use of cultural methods

For endemic areas,

use self-trashing varieties

Remove dry leaves and maintain clean cultivations

ii. Use of biological control agents

Parasitoids

Promuscidea unfasciativentris Girault (Hymenoptera: Aphelinidae)

Caxoxenus perspicax Knab (Diptera: Drosophilidae)

Anagyrus saccharicola Timberlake (Hymenoptera: Encyrtidae)

Astymachus japonicus Howard (Hymenoptera: Encyrtidae)

Sugarcane Blister Mite

***Aceria sacchari* Wang, 1964 (Acari: Trombidiformes: Eriophyidae)**

Figure: Blister mite infested young sugarcane plant (External view)

Figure: Internal view of the first leaf sheath of the blister mite infested young plant

Figure: Internal view of the second leaf sheath of the blister mite infested young plant

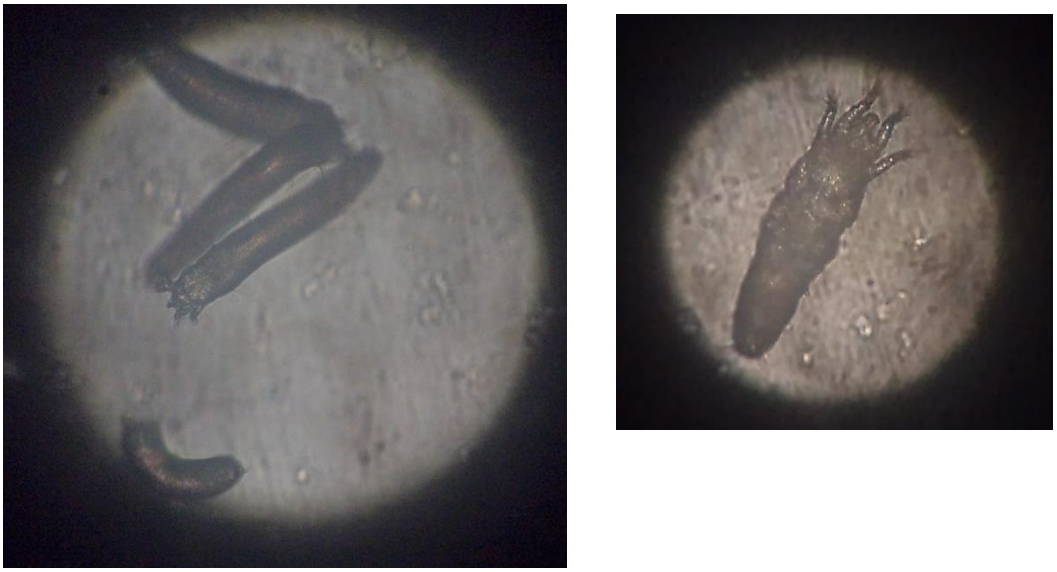

Figure: Microscopic view of *Aceria sacchari*

Damage of *Aceria sacchari*

The mite *A. sacchari* lives in distinct colonies on the inner surface of leaf sheaths. Hypertrophied spherical leaf blisters contain mite populations. The infested places can be seen as warty patches slightly raised from the surface (Blister) of the leaves. These patches are irregular in shape and watery in appearance initially. Later, they turn into reddish to dark red in colour and become dry (Figure 5, A and B). The feeding of *A. sacchari* causes large spots with 1-2 cm diameter on both sides of sheaths. Damaged tissues show both anatomical and chemical changes. The anatomical changes are in the shape and size of the cells of the blister tissues.

Direct effects of the mite on the chemical composition of the sugarcane leaf sheath include a high content of potassium, nitrogen and phosphorus in the blister tissues, but lower contents of calcium and magnesium.

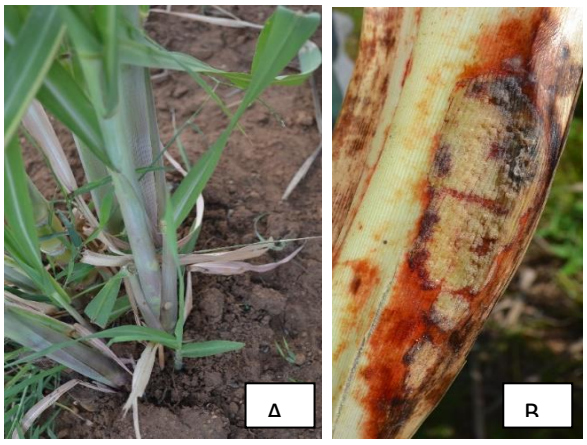

Figure: A-External appearance (warty patches) on sugarcane leaf sheathes infested by *A. sacchari*; B-Internal appearance of an infested leaf sheath

Management Practices

The relative importance of this mite species does not warrant control measures.

Sugarcane Scale Insects (Homoptera)

Species

Aclerda takahashi Kuwana (Aclerdidae)

Saccharolecanium kurugerii Zehntner (Coccidae)

Colonization on plant

Aclerda takahashi Kuwana: Flat, Pale yellowish and body covered with waxy powder and live in colonies just below the internodes.

Saccharolecanium kurugerii Zehntner: Oval shaped, Pale brown and live on any part of the stalk.

Damage to plant

- Reduction of growth and sugar yield
- Germination failures of seed materials when severely infested

Management practices

The relative importance of this insect does not warrant control measures.

For endemic areas;

- use self-trashing varieties
- Remove dry leaves and maintain clean cultivations
- Burn sugarcane trashes of infested field after harvest
- Hot water treatment of seed cane at 50 ^{0}C for three hours before planting

Fall Army Worm (FAW)

Spodoptera frugiperda (Lepidoptera: Noctuidae)

The Fall Army Worm (FAW) *Spodoptera frugiperda* (Lepidoptera: Noctuidae) is a new pest of sugarcane in Sri Lanka since December 2018 after entering into the Island as an invasive, quarantine pest of Maize which damaged the crop severely in Anuradhapura, Polonnaruwa and Ampara districts in October 2018. Heavy infestations have been recorded in some sugarcane plantations in Monaragala and Ampara districts in Sri Lanka below 4 months age stage.

Figure: Young Fall Army Worm larva feeding on sugarcane leaf

Nature of damage of FAW on sugarcane plants

Feeding on leaf margins and irregular holes or windows are the typical symptoms on affected sugarcane plants. In some plants, nibbling and shearing off the central shoot is also observed by grown-up larvae. In severely affected sugarcane plants, large quantity of fresh frass pellets can be seen in the whorl with mature larva visible or hidden in the whorl. Older outer leaves show patches of dry frass. Meristem damage and dead hearts are not occurred and the affected plants are not showed symptoms of withering or drying.

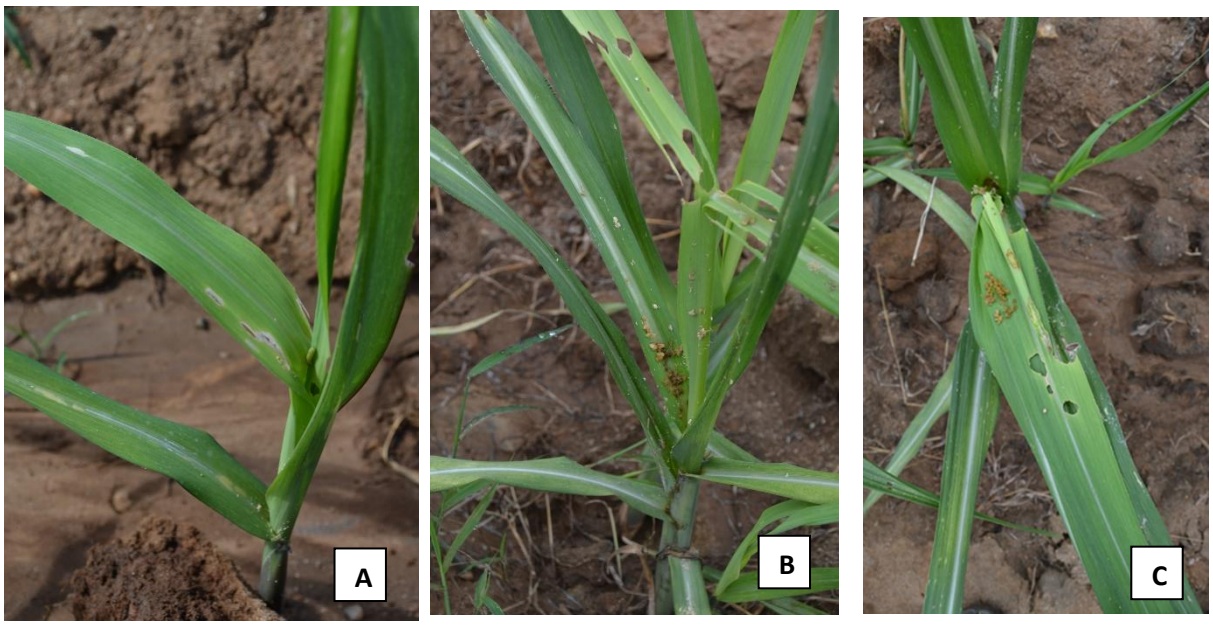

Figure: Fall Army Worm damage in sugarcane A: Leaf damage on 2-week-old sugarcane plant, B: Leaf damage on 2-month old plant, C: Nibbled central shoot with faecal pellets in the whorl

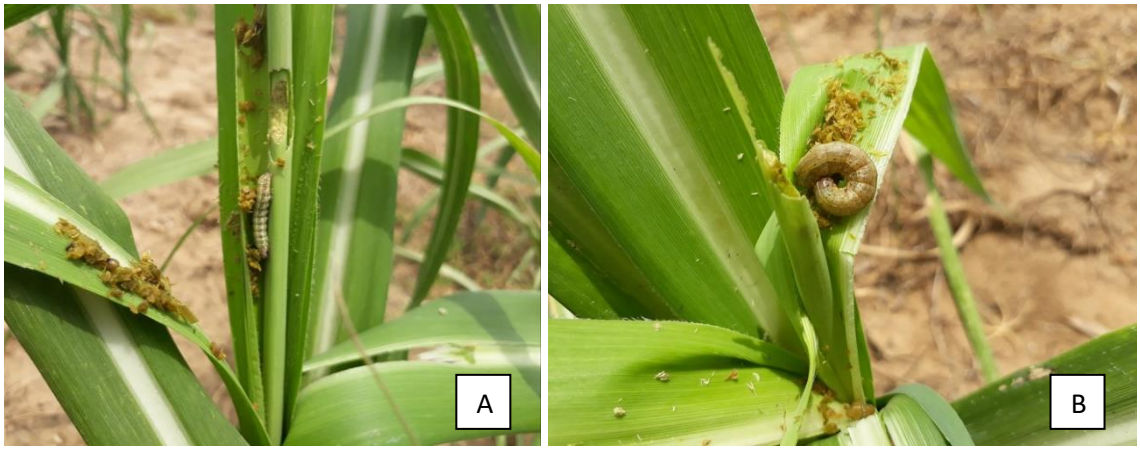

Figure: FAW larvae on damaged sugarcane plants, A: Young larva, B: Mature larva

Management Practices

Biological control agents play an important role to manage this pest in sugarcane plantations.

Egg parasitoids
Telenomus sp. (Hymenoptera: Scelionidae)
Trichogramma sp. (Hymenoptera: Trichogrammatidae)

Predators
Larvae of *Micraspis allardi* (Coleoptera: Coccinellidae)