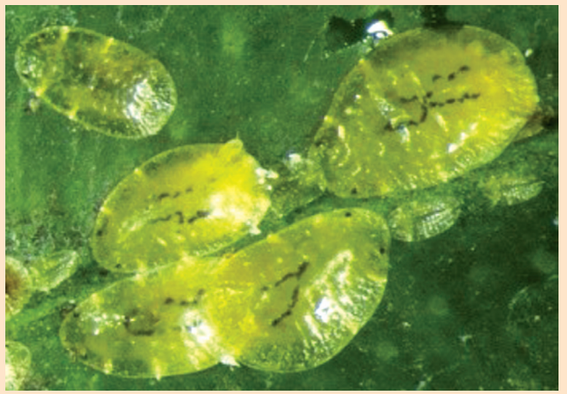
Life history

The adult scale is flat, oval, light green with an irregular dark distinct loop on the middle of the dorsum. The adult is sedentary and spends its whole life in one place. It lays about 50-60 eggs. The duration of life cycle is about 4-6 weeks. Adult lives for 2-5 months

Damage

The scale attacks tender parts, settling down on the underside of the leaves close to midrib, veins, and tips of green shoots. The continuous sucking results in excess loss of sap from the plant which leads to debilitation of the older plants and death of nursery plants. The honeydew excreted by the scale forms a film on the leaves and a black fungus (sooty mould) grows on it, which hinders photosynthesis. Association of ants with green scale is similar to that explained for mealybugs.



Green scale

Management

1. Maintain optimum shade
2. Discourage nesting of ants on coffee bushes shade trees and in the field
3. Remove and destroy weeds, as many of them harbour the pest
4. Spray Imidacloprid 17.8 SL @ 50 ml in 200 L of water with 200 ml wetting agent in the shoot portion

BROWN SCALE

Brown scale is a minor pest of coffee. The scale is hemispherical with the body covered with a brown hard shield. Each female lays about 600 eggs. The nymphs are mobile and adults sedentary. The life history of brown scale is almost similar to that of green scale in general.

Damage

It causes damage similar to that caused by mealybugs and green scale

Brown scale

Management

1. Control ants as explained for mealybugs and green scale
2. Spray Imidacloprid 17.8 SL @ 50 ml in 200 litres of water with 200 ml wetting agent in the shoot portion

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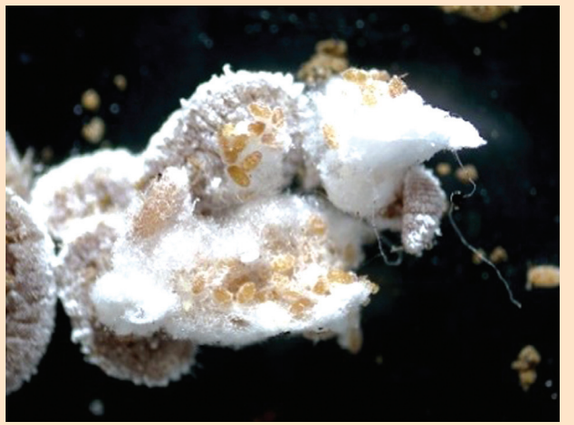
MANAGEMENT OF SUCKING PESTS



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MEALYBUGS

Mealybugs are important sucking pests of coffee. They attack both Robusta and Arabica,but preferred host is Robusta.

Life history

Adult female is small, oval/globose, and wingless, with a soft body covered with white mealy wax. Of the two common species, *Planococcus citri* is oval, slightly elongate and lays eggs in a fluffy ovisac. *P. lilacinus* is globose and the eggs are not laid in an ovisac. Each mealybug lays about 100-1000 eggs. The female attains maturity in about a month.

Damage

Mealybugs attack both aerial and root portions of coffee. It settles at the nodes, spikes, berries, tender branches and leaves, and suck the sap leading to the debilitation of the plant. Root mealybugs infestation and damage of could be serious in young plants. Crop loss results from blossom abortion and premature fruit drop.

Mealybugs on coffee

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Influence of weather

Mealybug population increases if hot and humid conditions prevail. Continuous monsoon, high humidity and low temperatures are detrimental to mealybug development. The attack of mealybugs becomes severe during summer with intermittent showers or irrigation.

Ant association

Mealybugs excrete a sweet substance known as honeydew to which ants are attracted. While consuming the honeydew, ants provide sanitation and protection from natural enemies. The absence of ants benefits in two ways; increases the activity of natural enemies, and young ones (nymphs) are trapped in the honeydew which would accumulate if not cleared by ants.

Management

1. Maintain optimum shade
2. Discourage nesting of ants on coffee bushes, shade trees and in the field
3. Remove and destroy weeds, as many of them harbor the pests
4. Spray the affected patches with 4 litres of kerosene in 200 liters of water along with 200 ml of any agricultural wetting agent. Care should be taken to thoroughly emulsify kerosene with the wetting agent before adding to the barrel and stir the solution frequently to avoid separation of the oil
5. Release mealybug parasitoid, *Leptomastix dactylopii* against *P. citri* (25,000 numbers in batches) per hectare as an introductory release and repeat the releases @ 5000-7500 numbers during every pest season starting from December-January
6. Imidacloprid 17.8 SL at 50 ml in 200 L water with 200 ml of any wetting agent can be used for spot application. If roots are affected, drench the root zone with Imidacloprid 17.8 SL @ 120 ml in 200 L water)
7. In cases where the roots are infested with mealybugs and fungal association, it is recommended to drench the soil near the root zone with a mixture of 0.6 ml Imidacloprid 17.8 SL with 0.8 ml of Propiconazole 25 EC per litre of water helps in controlling both the mealybugs and the associated fungi

L. dactylopii

GREEN SCALE

Green scale is another important sucking pest of Arabica, but attacks Robusta also.

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