Pest Control No. TPC8

Pink stalk borer, *Sesamia calamistis*

The pink stalk borer is a common pest throughout most of Africa.

Host

The pink stalk borer is a pest of maize, sorghum, millet, rice, sugarcane and wild grasses.

Symptoms

The young caterpillars bore into the stem of the crops, weakening the stem and reducing crop yield. The central shoot dies.

Description of pest

The mature caterpillar is about 30mm long and 3.5mm wide. It's head is brown, the body is a yellow-brown colour with pink markings on the back.

Life cycle

The eggs are laid on the leaf in groups of around 40. They hatch a week later and the larvae start to bore into the stem immediately. After 6 to 10 weeks the larvae begins to pupate. The pupal period lasts about 10 days.

The moths that emerge from the pupae are a pale yellow-brown colour with darker markings on the forewings. The male (22 to 30mm wingspan) is smaller than the female (24 to 36mm wingspan). The male is also paler than the female and his hindwings are white. The total life cycle takes about 30 days depending on temperature.

Prevention and control

Light traps: Light traps can provide useful information about the population of moths and therefore of caterpillars. Light traps help to predict if there is going to be an outbreak. A tripod made of wooden poles (bamboo) is constructed with a lantern (kerosene) hanging in the middle over a bowl of water. The lantern is a fire hazard so the tripod must be secure, and the lamp must be hung so that the wood does not catch fire.

Crop rotation: This separates the pest in space and time from its host plant. Pests life-cycles are interrupted by depriving them of their food source. It is best to rotate crops which have few common enemies.

Legumes: Growing a maize-cowpea mixture reduces the incidence of the maize stalk borer.

Field hygiene: After a severe outbreak, stubble should be ploughed into the soil or burnt to kill any remaining larvae.

Cow urine: First urine needs to be collected. In Sri Lanka cows were penned overnight on a concrete floor which slopes to a tank. The urine is collected and must stand for 2 weeks in sunlight. 1 part urine to 2 parts water

is a general guideline for killing caterpillars but the farmer can experiment (care should be taken to not burn tender leaves with too high a concentration).

Plant preparations

Neem *(Azadirachta indica):* Native to India, Neem is now distributed throughout Southeast Asia, East and sub-Sahelian Africa. Fallen fruits are collected from underneath the trees where they grow. The flesh is removed from the seeds and any remaining shreds washed away. The seed is carefully dried in airy conditions (in sacks or baskets), to avoid formation of mould. When needed, the seeds are shelled, finely grated or pounded, then soaked overnight in a cloth suspended in a barrel of water. There should be 2 to 50g of powder per litre of water. This solution is then sprayed on infested plants.

Pyrethrum (*Chrysanthemum cinerariaefolium*): The white flowerheads possess insecticidal properties. Pyrethrum is most productive at altitudes of 1600 meters and ideally in semi-arid conditions where winters are cool. On richer soils the insecticidal properties are reduced.

Pick on a warm day when the flower are fully open. Then pile up into small heaps in the sun to warm through. Spread out to dry on thick mats in a shady area. If they are to be stored, they need to be kept in an air-tight container in the darkness. Light reduces the effectiveness of the flowers. Pyrethrum is a contact poison, it repels pests and acts as an antifeedant.

Pyrethrum powder: Grind flowers to a dust. Use pure or mix with a carrier like talc or lime. Sprinkle over infested plants.

Pyrethrum liquid: Mix 1 to 1.5kg pyrethrum flowers with 3kg liquid soap and 100 litres water. Strain through a sieve or cloth and use immediately as a spray. The soap increases the effect of the pyrethrum four times.

Ryania *(Ryania speciosa):* The most useful parts of this plant are the roots and the stalks. Ryania acts as a contact and stomach poison. The effects of ryania seem slow but eating and breeding should soon stop. It has longer lasting properties than pyrethrum as it lasts in the field from 5 to 9 days.

Ryania spray: Mix 30 to 40g of ryania powder with 7 to 8 litres of water and filter through a fine cloth. Spray every 10 to 14 days against the caterpillars.

The timing of any kind of spray is crucial. Spray before the moths lay their eggs or spray caterpillars when they are at their most vulnerable, that is feeding at the base of the leaves.

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