

Management of white stem borer of coffee

Recognize the problem

White stem borers are the most serious pest of coffee in Nepal. The adults are slender, elongate (2-2.5cm in length) black beetles with white bands on their forewings. Female beetles lay about 100 eggs in the cracks and crevices of the bark and prefer the plants exposed to sun light. Eggs hatch after 9-15 days. Hatched out grubs bore into the stem and feed for about 2 months. The tunnels are filled with grub excreta. The grub stage lasts about 10 months, after which the grub will pupate in a chamber close to the bark. The fully grown larva is about 2-3 cm long, pale yellow and broader at the head region. The pupal stage lasts for 3-4 weeks. The adult remains in the tunnel for 3-7 days, and emerges out by cutting an exit hole.

Affected plants show externally visible ridges around the stem. They may also exhibit signs like wilting and yellowing. Infested plants (up to 7-8 years old) die in a year, while older plants withstand the attack for a few seasons. However, such plants are less productive, yielding more floats.

Background

Arabica coffee is the preferred and principal host of this pest. There are two peak emergences or flight periods, one during April-May and the other during October-December. Cloudy and wet weather delay the emergence of the beetles.

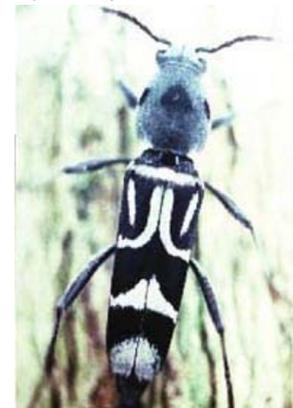
Management

- Maintain optimum shade and soil moisture in the coffee orchard. It is better to plant shade trees 1-2 years before the coffee plantation
- Borer infested plants should be traced, removed and destroyed during March and September, i.e. before the beetles emerge
- Remove the loose scaly bark of the main stem and thick primaries using a jute sack or rough cloth during March and September to reduce the cracks and crevices in which the eggs are deposited. Then, paste a mixture of red soil and fresh cow dung on the stem.
- Paste the extract of neem leaves on the stem twice a year (September and March)
- Spray the main stem and thick primaries with neem kernel extract
- Spray 10% lime (i.e. spray lime at 10kg in 100 litres of water along with 100ml of a binder e.g. Fevicol DDL) on the main stem and thick primaries before the flight periods
- Use a coffee white stem borer pheromone trap, i.e. cross-vane pheromone trap, to catch female beetle during flight periods

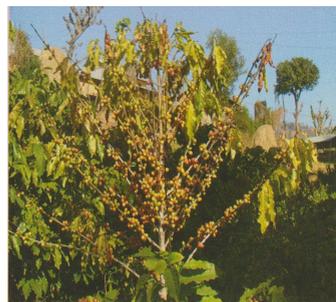
When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > **Xylotrechus quadripes**

White stem borer adult (Photo by FAO [Arabica coffee manual for Myanmar])



Borer affected plant (Photo by CoPP, Nepal)



The recommendations in this factsheet are relevant to: Nepal



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