

# White stem borer of coffee

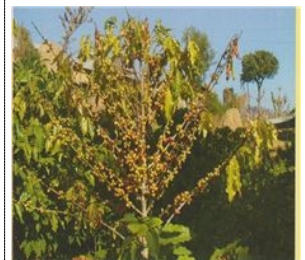
*Xylotrechus quadripes*



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



White stem borer grub. Photo by NBAIR



Borer damaged plant (Photo by CoPP, Nepal)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> <li>Maintain optimum shade and soil moisture in the coffee orchard. It is better to plant shade trees 1-2 years before the coffee plantation.</li> <li>Use borer free saplings. Get sapling from screen house nursery.</li> <li>Remove the loose scaly bark of the main stem and thick primaries using a jute sack, coir glove or rough cloth in 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.</li> <li>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.</li> <li>Use a coffee white stem borer pheromone trap, i.e. cross-vane pheromone trap, to catch female beetle during flight periods.</li> <li>The traps should be spaced out in the form of a grid of 25 traps each with a spacing of 20 m between traps.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor for optimum shade and soil moisture in the coffee orchard.</li> <li>Monitor the para-pheromone traps for beetles throughout the year especially in March-April and September-October.</li> <li>Look for infested plants showing yellowing and wilting of leaves, presence of ridges on the stem, wilted branches and drying plants. (Note: <i>Young plants succumb completely to the attack and older plants may get damaged only</i>).</li> <li>Monitor for eggs laid in cracks and crevices of the bark of the main stem or the primary branches particularly to the plants exposed to sunlight.</li> <li>Every year look for ridges on the main stem for thick primaries and the level of infestation.</li> <li>Look for zigzag tunnels in the woody tissue by splitting branch/trunk, and excreta tightly filled by grubs.</li> </ul>	<ul style="list-style-type: none"> <li>Identify, remove and destroy (burn) borer infested plants in March and September (before the beetles emerge - flight time) to reduce pest infestation.</li> <li>Apply paste of neem or chinaberry leaves, garlic, and marigold flower in equal proportion mixed with linseed oil on the stem twice a year (September and March).</li> </ul>	<ul style="list-style-type: none"> <li>Use of chemicals pesticides are strictly prohibited in organic farming.</li> <li>Spray azadirachtin 0.15% (NSKE based) at 5 ml/ litre or chlorpyrifos 20% EC at 1.5 ml/litre water in April-May and another spray at the end of October. Alternatively, stems may be swabbed with carbaryl 50%WP @ 20g/ litre of water.</li> </ul>	<ul style="list-style-type: none"> <li>Chemical application should coincide with the peak emergence period (before March and September) of the beetle to achieve effective control. Use PPE while using chemical pesticides. chlorpyrifos &amp; carbaryl: WHO classification II. PHI of Chlorpyrifos 30-60 days (see label) or Carbaryl 21-30 days</li> </ul>



## Nepal

CREATED/UPDATED: August 2015

AUTHOR(S): Rajiv Das Rajbhandari (PPD), Resham Bahadur Thapa (TU)

EDITED BY: Plantwise