# PEST MANAGEMENT DECISION GUIDE: GREEN AND YELLOW LIST

## Stem borer on tobacco

*Scrobipalpa aptatella* (syn. *S. heliopa*)

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| - Grow seedlings in greenhouses assuring that doors and windows have appropriate nettings  
- Avoid establishing new tobacco fields in close proximity of old, heavily infested tobacco fields  
- The stem borer also attacks aubergine: avoid planting aubergines in adjacent fields or rotating crops with aubergines  
- Plant wild flowers (e.g. *Tagetes* spp.) and sorghum to attract natural enemies  
- Conserve parasitoids such as *Microgaster* sp., *Bracon* kitcheneri, *Fileanta ruficanda* and predators such as *Brosccus punctatus* and *Liogryllus bimaculatus* by avoiding unnecessary insecticide sprays  
- After harvest, uproot and burn the plants residues in order to kill larvae and pupae in stems through exposure to predators and environmental conditions. This control method reduces the number of stem borers carrying over to the next season  
- Remove weeds, especially solanaceous weeds, from the seedbed and the field  
- Begin scouting 7 days after transplanting. Observe young plants 2 times per week for eggs and emerging larvae  
- The adult is a copper-red moth with a wing span of 1 cm  
- The larvae are small whitish caterpillars. The full grown larva is pale white in color, with a dark brown head and thorax.  
- Eggs are cylindrical and are deposited on the upper surface of the leaves  
- The small caterpillars bore into the stem of seedlings and feed on the internal tissues. At this stage, control measures are too late because larvae are protected inside the stem.  
- Internal feeding of the seedlings and young plants causes stem galls, sprouted side branches and stunted, distorted and withered plants  
- Carry out direct control when 3-10% of young plants are damaged  
- Early control of larvae by picking and crushing during scouting  
- Remove and destroy affected seedlings  
- Install solar light traps to catch adults, which are active during the night  
- Spray larvae and eggs with a solution of *Beauveria bassiana* or baculoviruses (nucleopolyhedrosis virus) 10 days after transplanting  
- Treatments are most effective if made late in the day, when stem borers are active  
- A fallow period with solarisation can be useful to break the life-cycle of the pest  
- Release of the parasitoid *Chelonus heliopa*  
- Always use crop protection agents in a lawful manner which is consistent with the product’s label. Failure to follow the label may result in crop injury, poor control or residue problems.  
- Flubendiamide Apply flubendiamide (e.g. Fenos) to plants in the field. IRAC 28. Selectively targets Lepidoptera. Locally systemic translaminar activity for total leaf protection. Stomach poison. Leads to the rapid cessation of feeding.  
- *Indoxacarb* Apply indoxacarb (e.g. Steward) to plants in the seedbed and field. IRAC 22A. Contact and stomach action.  
- *Beauveria bassiana* Apply *Beauveria bassiana* at first appearance of pest. Re-apply as necessary. *Beauveria bassiana* is an entomopathogenic fungus which works through contact action. It kills pests by rapidly destroying the internal structures of the host insects.  
- WHO Class: 3 (Slightly hazardous). Re-entry interval: 12 hours. Pre-harvest interval: 14 days.  
- WHO Class: 2 (Moderately hazardous). Toxic to mammals, birds, fish and aquatic invertebrates. Highly toxic to bees. Do not apply or allow it to drift onto plants in bloom. Re-entry interval: 12 hours. Do not use in greenhouses.  
- Not classified by the WHO. Do not mix more product than needed for one day. Re-entry interval: 4 hours. Pre-harvest interval: 0 days. | | | |

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