

Stem borers on Rice

Maliarpha separata



African white stem borer (Pest and Diseases Image Library, Bugwood.org)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> • Before transplanting, cut the leaf-top to reduce carry-over of eggs from the seedbed to the field • Practise early and synchronised planting to avoid damage at the most susceptible stages (tiller elongation and panicle extensions), and maintain proper crop spacing • Avoid excess use of nitrogenous fertilizers as high rates favour population build-up • Avoid water stagnation in the field • Conserve natural enemies such as dragonflies, spiders, carabids beetles, parasitic wasps by reducing the amount of insecticides used • Remove stubble, volunteer rice and wild grasses around nurseries and planting areas • Harvest crops at ground level to remove the larvae in stubble • After harvest, burn crop residues or feed to livestock • Practise crop rotation (e.g. legumes/vegetables) 	<ul style="list-style-type: none"> • Monitor weekly from seedling to harvest for the presence of the insect and damage symptoms: <ul style="list-style-type: none"> • Look for egg masses on the leaf tips and on the underside of the leaves • During vegetative stage, larvae bore at the base of the plants, killing growing points and resulting in deadheart (central tiller dries up and is easily pulled from the base) • During reproductive stage, larvae bore through the upper nodes and feed toward the base resulting in whiteheads (emerging panicles are whitish and empty) • Larvae leave tiny holes on the stems and tillers, and frass inside the damaged stems • Damage may be confused with that caused by rats, neck blast or black bug diseases. To confirm stem borer damage, pull and dissected stems to find larvae or pupae • Take control measures when 10-15% of plants/m² show damage 40 days after planting 	<ul style="list-style-type: none"> • Handpick and destroy egg masses at seedbed and transplanting stages • Raise level of irrigation water periodically to submerge the eggs deposited on the lower parts of the plant • Remove and destroy deadhearts and whiteheads • Plough and flood after harvest to destroy dormant stem borer caterpillars 	<ul style="list-style-type: none"> • No chemicals are registered in Ghana for controlling <i>Maliarpha separata</i> 	

Ghana

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