




Striped rice stem borer in rice

Chilo suppressalis (syn. *Jartheza simplex*, *Chilo oryzae*, *C. simplex*, and *Crambus suppressalis*) كرم هقاس راوخ جنرب, Kerm-e-Saagheh khaar Berenj

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Stemborer's egg cluster and young larvae (1-2 mm) on leaf junction (Photo: A. Khashaveh)</p>  <p>Damage of larvae inside the rice stem (Photo: A.Khashaveh)</p>  <p>Whitehead damage at maturing rice (Photo: JLA Catindig and KL Heong)</p>	<ul style="list-style-type: none"> • Rotate with a non-grassy crop because this pest also damages other plants from the same family • Use early season varieties (e.g. Hashemi, Domsiah) to avoid second and third generation of stem borers • Remove grassy weeds on the border of the field before and after transplanting, if there is heavy infestation • Isolate seedbed and transplant clean seedling. • Plough and flood after harvest to reduce overwintering larvae • Apply nitrogen under recommended rate according to the variety. Extra usage increases the life span of larvae and causes more damage. 	<ul style="list-style-type: none"> • Use light traps to record the peak flight of moths (adult moths have pale yellow forewings with a few dark spots; the hindwings are white; its wingspan is about 25 mm). In case of many captures consider <i>Trichogramma</i>-wasp-releases against laid eggs. • Search for egg clusters (white to dark-yellow) and young larvae (1-2 mm tiny, greyish white) in seedlings. Look at the leaf junctions. • Search for tiny holes on the stems of young plants • In early damage, the centre part of the rice plant starts to yellow and the plant will start tillering. • Deadhearts or dead tillers can be easily pulled from the base during the vegetative stages • If you see symptoms, dissect the stem to observe fecal materials and larvae (5-25mm, yellow to pale pink). See whitehead damage during grain filling where the emerging panicles are whitish and unfilled or empty • Use chemical control when 2-4% of plants are damaged 	<ul style="list-style-type: none"> • Biological control using native <i>Trichogramma</i> wasps against stem borer eggs (100 trichocards per hectare). Do this at the peak flight of moths • Use ducks or fish in rice to control floating larvae (remove them from the field if you want to apply recommended insecticides in heavy damage) • Mechanical control in seedbed or seedling by pulling out the infected seedling or removing the leaves with egg clusters (then compost) • Harvest rice at ground level and remove or burn residue after harvesting to kill the number of overwintering larvae. Do this only in case of heavy infestation, otherwise keep residues in the field to improve soil. • Large scale use of sex pheromone (Selibate Cs, 40 g/ hectare-100 microtubes/ha) immediately after transplanting disrupts mating of stem borer moths 	<ul style="list-style-type: none"> • When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains and water sources. • WHO toxicity class II products may not be allowed in local IPM schemes. • Always consult recent list of registered pesticides published by Iranian Research Institute of Plant protection or Ministry of Agriculture. • Apply <i>Bacillus thuringiensis</i> products against young larvae (check products label); Stomach poison to insect • Diazinon - products (for example Diazinon granules 10% active ingredient). Usually applied at 15 kg/ha, but check product labels. Contact and stomach action 	<ul style="list-style-type: none"> • WHO toxicity class III-slightly acute hazardous. Max 2 sprays (first around one week after peak flight of moth in first generation and second time 8-10 days after first spray); Don't spray in sunshine; Pre-harvest interval (PHI) 1 day; restricted re-entry interval (REI) 1/2 day once the plant surface is dry; • WHO toxicity class II moderately acute hazardous. Max application 3 times; PHI 10 days; REI for humans and livestock 3 days; high risk (toxic to many beneficial, terrestrial and aquatic organisms)



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