




Maize stem borer on maize

Chilo partellus Tanay ki sundi in Urdu language

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Eggs, up to 2.5 cm caterpillar, pupae, moth of stem borer. Wings about 2 cm (photo by NAIP)</p>  <p>Bore holes and tunneling by stem borer caterpillar (photo by NAIP)</p>	<ul style="list-style-type: none"> • Use tolerant varieties of NARC: such as 25F1, 25 1-1, 251 2-1, 25 12-2, 25 -21, C6765-28L, C6765-40I, agaiti-85, or inbred line (EV-6089 & EV-6098) or from Pioneer or others. • Plant trap crop of Napier grasses around field. • Intercrop with <i>Desmodium</i> or Lab Lab to repel stem borers. • Remove volunteer maize and grassy weeds as they host stem borers. • Do not delay planting until end of May as young plant stages (most susceptible stages) will coincide with caterpillars (first flight of adults occurs in June). • Rotate maize with non-cereals, such as legumes. • Deep plough or burn stubbles after harvest, to reduce carry over of diapausing larvae and pupae to next season. 	<ul style="list-style-type: none"> • In young crop, look for holes on funnel leaves and stems, + dead hearts. • Presence of stem borers can also be checked in older crops and residues by taking stems for dissection. • Consider direct control when 8 to 12% of plants have holes. • Use light traps to know moth flight. • Peak flight is from mid-March to mid- May. 	<ul style="list-style-type: none"> • Place 20-25 <i>Trichogramma</i> parasitoid egg cards in ¼ acre (get at NARC). Staple cards on leaves opposite to sun. • Set up light trap in both seasons (summer + spring) to attract and kill moths. Empty weekly by removing plastic bag. • Spray beneficial fungi products (<i>Aspergillus flavus</i>, <i>Metarhizium anisopliae</i>, <i>Beauveria bassiana</i>). Get at Syngenta, A-One Agro chemicals, Rafhan Maize Idt, Bayer. • Spray neem- mix 12-14 kg / ha crushed neem seed granules with 0.1% gum arabica + water to make a thick paste. Pass through 40 mesh sieve. Place mix in funnels of maize. • Release <i>Cotesia flavipes</i>, <i>Pediobius furrvus</i> parasitoids; get at NIA, NIAB, NIBG. 	<ul style="list-style-type: none"> • When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label. Consult recent list of registered pesticides http://plantprotection.gov.pk/category/pesticides-registration/ • Spinosad – insecticide based on bacteria <i>Saccharopolyspora spinosa</i> for use on Lepidoptera (trade name is Comfortis and Trifexis) • Lambda cyhalothrin-based products (such as Karate™) pyrethroid based insecticide for caterpillars – make sure to apply carefully on top of plant 	<ul style="list-style-type: none"> • WHO class III (slightly hazardous) use rate is set at 1 ppm (1 mg a.i./kg of grain) and its Maximum Residue Limit (MRL) or tolerance is set at 1.5 ppm. Low mammalian toxicity • WHO class II (moderately hazardous). For foliar sprays PHI=3 days, REI=1 day, max 1 spray per season, but not in flowering period of maize, weeds or surrounding crops. Very toxic to bees.
 <p>Damaged leaves from stem borer caterpillar (photo by NBAIR)</p>					

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