

Maize Weevil Management

Sitophilus zeamais Aburomumoa



Adult weevil, *Sitophilus zeamais* (USDA, www.flickr.com)



Maize weevil damage in maize cob (Frank Peairs, Colorado State University, www.bugwood.org)

Prevention	Monitoring	Direct Control	Direct Control	Restrictions
<ul style="list-style-type: none"> Plant resistant or tolerant maize varieties such as mamaba Timely harvest of mature cobs and select only uninfested cobs for storage Ensure that grains are dried properly (less than 14% moisture content) before storage Use clean storage facilities, ensure cracks, crevices and holes are sealed because insects can hide inside Shell, dry and sieve maize grain to remove debris and any adult insects before storage and burn the infested residues Spray store 4-6 weeks before storing grain to kill any weevils from previous harvest (See yellow direct control) 	<ul style="list-style-type: none"> Monitor cobs for adult weevils and maturity to ensure early harvesting to reduce field infestation Sample grains in storage regularly (at 2 weeks intervals) to detect early infestation and increase in temperature The eggs, larvae and pupae may not always be seen as they develop inside the maize grains. After emergence, adult beetles can be seen on the surface of the grains Adults are 2.5-4 mm long, dark brown with four reddish spots on the wing covers. It has a long, thin snout and antennae. When the adults emerge from the grain, holes with irregular edges can be seen and white dust/flour mixed with frass from feeding Act as soon as you observe 3% weevil infestation 	<ul style="list-style-type: none"> Treat grain with inert dust such as ash from wood or rice husk. Apply at a rate of 0.5-1% (0.5-1kg of rice husk ash to 100 kg of grains, and 1% (1kg) of wood ash to 100kg of maize grains) Take grain out of storage and dry for about three days to kill weevils and sieve to remove adult weevils and burn the infested residues Store grain in undamaged sacks or airtight sacks, e.g. hermetic bags, and seal Contact the nearest Department of Agriculture, PPRSD or MoFA office for release of the bioagent <i>Terestrius nigrescens</i> 	<ul style="list-style-type: none"> Any storage pesticides are highly toxic and should only be used by trained persons/farmers When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label Do not use chemicals with the same mode of action year after year as this can lead to resistance Always consult the most recent list of registered pesticides of MOFA, Ghana Malathion 700g/l (Envigold 70 SL) Apply at a rate of 50-60ml/L Pirimiphos-methyl + Permethrin (Antuka EC, Betallic Super, Super Guard) Apply powder at 50g to 90Kg of maize (1 maxi bag). Apply liquid at 300ml per 2L for 1000kg (10 maxi bags) of maize and mix well using a shovel Aluminium phosphide 56% (Phostoxin, Temaphos, Celphos P, Bextoxin, Agroxin Tablet). Rate: 3 tablets per tonne (10 maxi bags). 	<ul style="list-style-type: none"> WHO class III (Slightly hazardous). Contact organophosphate. Pre-treatment interval 7-8 days before consumption. Pirimiphos-methyl - organophosphate, WHO class II (Moderately hazardous) contact insecticide. Permethrin - pyrethroid, WHO class II (Moderately hazardous) contact insecticide. Pre-treatment interval 7-8 days before consumption. Both active ingredients are toxic to marine life, do not use near waterways. WHO class FM (Fumigant). Flammable, Aluminium phosphide reacts with moisture in the air to produce phosphine gas, which is highly toxic to humans and wildlife. To be applied by trained, authorized person. Re-entry- 4 days after application. Do not put tablets directly inside the bags with the grains. Put the tablets between the bags and ensure residues do not get in contact with the grain



Ghana

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