PEST MANAGEMENT DECISION GUIDE: GREEN AND YELLOW LIST

Termites on maize

Coptotermes spp, *Odontotermes spp*, *Macrotermes spp.* Mchwa in Kiswahili Language

1-2cm long whitish wingless or pale yellowed beige insects,some with black jaws (R. Hanus)

Maize plants cut at base by termites (J.N.K. Maniania)

Sheets of soil on leaves showing termites attack (Nonglait, D. et al., 2013)

Prevention

- Deep plough fields to destroy termite nests, runways and tunnels to expose them to chicken and other birds
- Retain plant residues in field since they act as alternative food to termites hence reduce damage to maize
- Rotate or mix crop with non-host crops such as beans
- Plant agroforestry trees such as Sesbania trees between the maize crop
- Plant repellent vertigrass, hot chilli peppers, or Mexican marigold in or around the field to repel termites.

Monitoring

- Inspect plants for termite attack early in the season. Do this twice a week early in the morning or late in the afternoon as termites might have moved deeper into the soil during the day to shelter from high temperatures
- Look for whitish wingless, pale yellowed headed ant-like insects about 1-2 cm long.
- Look for 0.5 to 1 metre tall termite mounds in or around the field and lodging of the crop by observing the base of the plants for signs of chewing and soiling.
- Look for plant stems covered with closed soil runways or soil sheeting under which termites are found
- Consider taking green action if 5 to 10 plants are affected in 1 acre and if the crop is still far from maturing
- Consider taking yellow action if 10 to 20 plants are affected in 1 acre and if the crop is still far from maturing

Direct Control

- Attract and trap termites in the field by burying crop residues shallowly into the soil surface in the heavily infested parts, then take out and destroy
- Destroy the runways physically by hand tillage
- Direct surface runoff into the mound to flood the colony if the colony is near to an area prone to surface runoff by digging a shallow water channel to the mound. This is a short lasting solution hence other measures have to be pursued
- Dig out and destroy the mound using a hoe, remove the queen, pour boiling water or burn dry grass in the destroyed colony to kill the rest.
- Spread wood ash around the root zone of the crop to repel the termites.

Direct Control / Restrictions

Direct Control	Restrictions
• Only use one chemical at a go. Do not mix chemicals. Apply chemical only once during the growing season. Do not spray onto maize.	
• When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application etc. Do not empty into drains and water sources.	
• Pre-harvest intervals of pesticides in a certain crop must also be followed for the intercrop, and are sometimes even longer	
• Always consult recent list of registered pesticides from Pest Control Products Board PCPB-Kenya.	
• Spray imidacloprid –products (e.g. confidor 200SL, Kohinor 200 SL, Metro 200 SC) to the mounds when threshold in field reached. Systemic insecticide. IRAC GROUP 4A neonicotinoids. Check label for dosage.	• WHO toxicity class II (moderately acute hazardous); Toxic to bees hence should apply after sunset when bees are not active, and not on flowering plants or near bee hives. Once in a growing season
• Use Chlorpyrifos –products (e.g. Cyren 480 EC, Jawabu 480 EC, Mursban 48 EC) to the mounds when threshold in field reached. Contact insecticide. IRAC GROUP 1B organophosphates	• WHO class II (moderately acute hazardous); Toxic to bees hence should apply after sunset when bees are not active, and not on flowering plants or near bee hives. Once in a growing season

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AUTHOR(S): Maurice O. Okeno, Ministry of Agriculture, Kenya, +254724320426, okenomaurice@gmail.com
EDITED BY: Plantwise