PEST MANAGEMENT DECISION GUIDE: GREEN AND YELLOW LIST

Ergot sugary disease in sorghum

Claviceps fusiformis, *Claviceps africana*

White ergot fungus on sorghum grains (Photo: G. Odvody)

Newly formed honey dew dripping from infected plant (Photo: J. Krausz)

White fungus on honey dew that had dripped down on leaves (Photo: J. Krausz)

Prevention

- Plant with the first effective rains of November to early December to avoid ergot attack that comes with the early dry period of January to February.
- Sorghum is little affected when grown under irrigation in the dry season from April to September because the disease is not very active in this period.
- Soak seeds with 5gms/litre salt solution for 30min to aid removal of ergot infested seeds, as such seeds will float on top of the salt solution.
- Plant tolerant varieties like MMSH-375, MMSH-1324
- After harvest, disk fields to prevent sorghum ratoon and volunteer plants from developing
- Reduce risk of infection by removing infected plants at or after harvest. But, if you have no major pests or diseases in the field, leave residues to improve soil and prevent moisture loss.
- Carry out 3 year crop rotations with legumes and deep plough crop residues in between (+15cm deep).

Monitoring

- Ergot is a fungal disease. Cool wet weather promotes infections.
- Inspect for ergot around the edges of the field and at the field part facing the prevailing winds.
- Look out for sticky honeydew coming out from sorghum head flowers.
- Look out for whitish sticky substance on leaves and on the ground.
- If more than 4 to 6 heads out of 100 are infected then make a decision for control.

Direct Control

- Prevention is the best and often the only control option.
- Collect severely infected plants and bury outside field.

Direct Control

Restrictions

- Do not feed diseased sorghum grains to cattle (can affect milk in cows and sows; and weight gain). Do not make food from diseased sorghum grains. This can cause ergotism in humans.
- 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 pesticides might not be allowed in local IPM schemes.

Direct Control	Restrictions
• Mancozeb -based products (DITHANE; ETHANE M45 80%WP; DIPACK; ROLIM 700WP; and others); usually applied at 200gms in 20ltre container but double-check labels. Broad spectrum contact fungicide with protective action. Multi-side action pesticide group.	• WHO toxicity class U (Unlikely to present acute hazard in normal use); Pre-harvest interval p.h.i. 7 days; restricted re-entry interval r.e.i. 1 day after spray; max 3 sprays in min 14 day intervals. Do not spray wet crops and those suffering from drought. Do not spray near water. Toxic to fish.
• Carbendazim - based products (SAAF, SAFE, and others). Usually applied at 20 to 50gms in 20ltr container but double-check labels. Apply 1 week after start of flowering followed by a spray when half of the field has flowered. Repeat the spray after 2 weeks if necessary. Benzimidazoles group of fungicides.	• WHO toxicity class U (Unlikely to present acute hazard in normal use); p.h.i. 17 days; r.e.i. 1 day after spray; maximum 3 sprays at minimum 14 day intervals. Harmless to rover and ground beetles as well as parasitoids; but toxic to predatory mites. Non-toxic to bees but toxic to fish and earthworms. Do not treat on waterlogged soils.

Ministry of Agriculture and Livestock of Zambia

Zambia

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