TECHNOTE

CONTROL SUGARCANE SMUT AND PINEAPPLE DISEASE...HOOK, LINE AND SINKER

THE DISEASES

Sugarcane smut (*Sporosorium scitamineum*) is a systemic fungal disease that is spread by wind-blown spores and by planting infected material. It is currently the most serious disease of the Australian sugarcane industry, with detrimental impacts on yield from potential production losses of 20-30%.

Pineapple disease is caused by the soil-borne fungus *Ceratocystis paradoxa* which is common in all sugarcane soils. The fungus can rot the setts used as plant cane and prevent germination, dramatically reducing plant stand and subsequent yield potential. The disease is favoured by cool, wet or dry conditions.

CHARACTERISTICS

Sugarcane smut forces the plant to produce a modified flower that looks like a long, black whip - it is this whip which contains the black spores of the fungus (Figure 1).

Other characteristics of sugarcane smut-infected plants include profuse tillering with very thin stalks, giving plants a grass-like appearance.

Shortly after pineapple disease infection, the internal tissue of the seed piece turns red and eventually black (Figure 2) with a distinctive fruity smell. The black colouration results from the production of fungal spores within the seed piece.

Nodes act as partial barriers to the spread of rotting, however in susceptible varieties, entire seed pieces may become colonized by the fungus. The disease severely retards bud germination, shoot development and early shoot vigour. Pineapple disease can result in young plant-cane crops having a patchy, uneven appearance. When severe, the disease may reduce germination over large areas.

HISTORY

Sugarcane smut was first detected near Childers in Queensland in 2006 and subsequently spread to all commercial cane production areas in Queensland and New South Wales by 2011. The industry focus is on breeding cane varieties that are resistant to the disease. This is a long term project and will take some time to be fully effective. In the meantime, fungicides are required to slow down and reduce production losses, particularly on varieties still being planted that have only partial resistance.

This is particularly important for cane that is to be used to produce seed cane for commercial planting (ie in approved seed production plots) to ensure the disease is not transferred.
HISTORY CONTINUED...

Pineapple disease is an economically important sugarcane disease that occurs in almost all countries where sugarcane is grown. As pineapple disease is a soil-borne disease, crop rotation or a fallow period between cane crops may prove to be of some benefit in reducing its impact.

THE SOLUTION

Nufarm in conjunction with BSES, have conducted trials that identified Sinker as a very effective fungicide against sugarcane smut and pineapple disease.

Trials to date have shown at least 130 days protection from cane smut infection, when applied as a spray onto setts or as a drench with hand application equipment.

APPLICATION

For the prevention of primary infection of sugarcane smut and pineapple disease in plant material used for cane production, apply Sinker:

- as a spray onto setts in the planting chute at a rate of 500 mL/ha* (or 7.5 mL/100m row) in a minimum of 350 L water/ha. Spray the setts via whole stalk or billet planters fitted with spray equipment in the planting chute.

For the prevention of sugarcane smut spread in infected planting material used for the production of seed cane ONLY, apply Sinker:

- as a 5-10 minute ambient dip treatment (at a concentration of 50 mL/100L water) prior to planting

* The application rate is based on single row cane with a 1.5 m row spacing. If row spacing varies from 1.5 m then apply at the use rate according to mL/100m row.

For either application method, the use of a non-ionic wetting agent (eg. Activator®) at recommended rates will enhance coverage of the fungicide on the planting material.

SINKER EFFICACY ON DISEASE

Sinker provides robust control of primary infection of sugarcane smut. A timeframe of 5 months from planting is considered the likely phase when secondary infection is initiated. Even at 9 months after planting (Figure 3), Sinker demonstrates a significant reduction in the secondary infection of sugarcane smut compared with the untreated inoculated plants.

SINKER YIELD RESPONSE

Sinker applied at 500 mL/ha as a spray over setts in the BSES trials resulted in significant yield increases (refer Figure 4) compared with untreated inoculated and untreated un-inoculated plots.

COMPATIBILITY

Sinker is compatible with: Chlorpyrifos 500EC, Shirtan®, Senator® 700WG, Nuprid® 350SC and Astral® 250EC.

For more information on Sinker, contact your local Nufarm Territory Manager.

nufarm.com.au

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