

Information Sheet

2. DISEASES

2.6 Red rot

Red rot is a stalk rotting disease caused by the fungus *Glomerella tucumanensis*. It is common in all areas but is most likely to be severe in the cooler areas, in old or stand-over cane or following frost, drought or borer damage. Some varieties are more susceptible than others.

Symptoms

- Red rot causes an internal red discolouration of the stalk tissues, with characteristic white blotches in susceptible varieties. These are best observed in stalks that have been split longitudinally (Figure 1).
- Rotting often occurs at the nodes, affecting the buds. If stalks affected in this way are planted, they germinate poorly.

- Seriously rotted stalks may die and become 'mummified'.
- Elongated red lesions on the leaf midrib (following injury by insects). These midrib lesions can be very common and are not always an indication of a variety's susceptibility to internal damage caused by red rot (Figure 2).

Spread

The fungus produces spores which are spread by wind, rain and irrigation water. Infection takes place through wounds in the stalk, such as insect borings, growth cracks and damage by implements, or at the buds.



Figure 1. Stalk symptoms of red rot.



Figure 2. Midrib lesions occur following insect damage.

Importance

Losses are mainly due to reductions in the sucrose content of infected stalks. Surveys have shown that red rot causes a loss of 1-2% of annual sucrose production in the rainfed areas (Anon, 1989). Losses from red rot can be extremely serious if, for example, the crop is severely infested by borers or an old crop suffers drought or frost damage. Reductions in the yield of individual fields can be as high as 20% or more.

Red rot can cause ratoon failure if the stubble of the preceding crop is severely infested by stalk borers.

Spores produced on the leaf midrib lesions are an important source of infection of the stalks but infection of the leaves has little direct effect on yield.

Varietal susceptibility

Among the widely grown or popular varieties, N19 and N25 are somewhat susceptible to red rot, N12 and N16 are intermediate in reaction, and N27 and N29 are relatively resistant (Figure 3). Substantial losses can, however, occur in any variety if, for example, the crop is old at harvest and/or is severely infested by stalk borers.

Control measures

- Avoid highly susceptible varieties.
- Plant healthy seedcane.
- Avoid stand-over or excessively mature cane.
- Any steps taken to minimise borer damage will reduce infection by red rot.
- Crops known to be infected with red rot should be harvested early, before further deterioration takes place.

REFERENCE

Anon (1989). Incidence of red rot in rainfed cane. Annual Report of the South African Sugar Association Experiment Station, 1988-89. p 51.

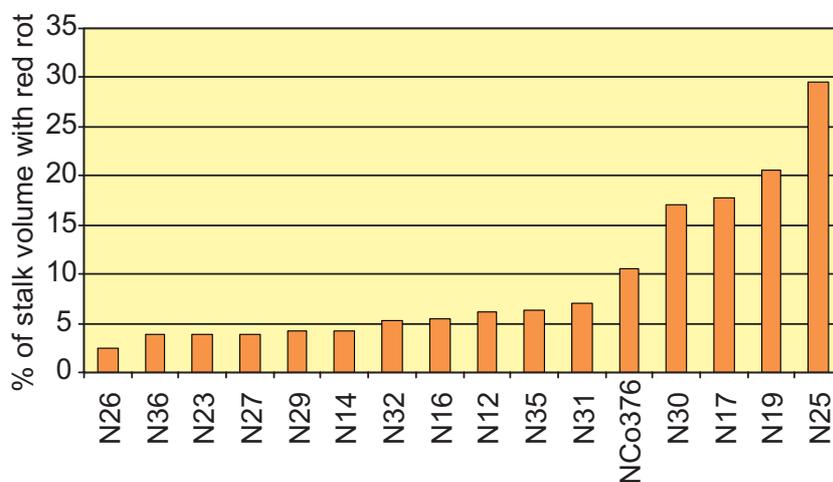


Figure 3. Reaction of varieties to inoculation with *Glomerella tucumanensis*.

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