

# CONIOTHYRIUM CANKER OF EUCALYPTUS

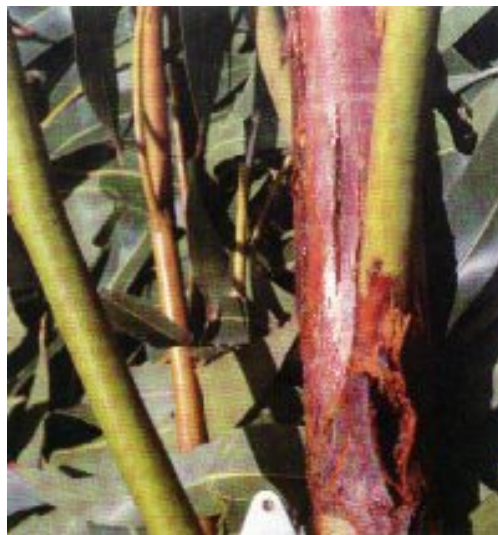


## INTRODUCTION

*Coniothyrium* canker of *Eucalyptus* has emerged as one of the most serious threats to the South African forestry industry. The disease was discovered in Zululand in 1990 and has rapidly spread from a single and relatively limited area, to most parts of that forest area. It has also been found in other parts of the country, although at this stage, the disease is less damaging in those areas.

A number of species of *Coniothyrium* are known to cause leaf diseases of *Eucalyptus*, but the species associated with stem cankers in South Africa is apparently unique. The disease is, as yet, not known to occur elsewhere in the world, although this does not necessarily imply that the

Infection typically occurs at the start of the growing season on young green stem tissue. In susceptible clones, these infections give rise to spindle-shaped swellings on the stems of trees. These cankers occur annually and thus occur interspersed along the stems. In case of severe infection, epicormic shoots are produced on the stems around the spindle-shaped swellings and the tops of trees begin to die. Lateral branches will attain apical dominance but these will in turn also become infected resulting in cessation of height growth.



Severe coalesced canker on young tissue.

## DISEASE MANAGEMENT

At present, the most effective means of avoiding *Coniothyrium* canker is through planting of resistant clones and hybrids. It is, thus, imperative that trials for clonal evaluation include careful inspection for this disease, and that susceptible clones are never planted in high risk areas.



*Coniothyrium* canker and spores of the fungus.

pathogen is native to South Africa. It is, for example, possible that it occurs in the areas of origin of *Eucalyptus*, in an ecologically balanced situation, thus making it relatively inconspicuous.

## SYMPTOMS

*Coniothyrium* canker in South Africa is often referred to as "measles disease". This is due to the fact that initial infections occur on the young, green stem tissue and give rise to small discrete dark spots on the bark. On clones that are highly susceptible, these lesions merge to give rise to large patches of dead, black, bark that is often cracked and exudes copious amounts of kino.



Spindle-shaped canker on stem.



Single and multiple lesions.

## BIOLOGY OF THE PATHOGEN

Very little is known about the biology of the *Coniothyrium* sp. responsible for stem cankers. It has, however, been shown that the small, single celled spores infect the stems directly through the epidermis of the young stem tissue. *Eucalyptus grandis* appears to be the most susceptible host species and different clones and hybrids of this species differ dramatically in their susceptibility to the *Coniothyrium* canker. Trees appear to be most severely affected in areas of highest rainfall and optimal growth.



Lesions in wood associated with infections.

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