

## FOREST DISEASES: REGIONAL INACTION IS A THREAT TO SUSTAINABLE FOREST MANAGEMENT IN SOUTHERN AFRICA

### Introduction

The highlights presented in this fact sheet on the current status of forest diseases in southern Africa are based on a review of literature and country visits to gather information and expert opinions conducted in 2015. The study revealed that in the last decade and a half, a rise in the number of forests diseases coincided with the widespread planting and movement of germplasm of exotic species of trees such as eucalyptus and their hybrids, in woodlots and large industrial plantations in both eastern and southern Africa.

### The worrying status of forest diseases in southern Africa

In general, countries in southern Africa should be concerned since key diseases that attack Eucalyptus species and their hybrids appear to be present in both southern and eastern Africa (Roux et al, 2005); a situation that requires regional collaboration in disease management. With respect to forest diseases on *Eucalyptus*, the *Chrysosporthe* canker is probably the most damaging since it can cause mortality of up to 70% of trees attacked. This has necessitated ongoing work on resistant clones. Besides *Chrysosporthe*, cankers caused by *Botryosphaeria* and *Coniothyrium zuhlense* on *Eucalyptus* species are important; as are leaf and shoot diseases caused by species of *Mycosphaerella* and *Cylindrocladium* on *Eucalyptus*. *Phytophthora* root rots, *Diplodia* die-back on pines and wilts caused by *Ceratocystis albifundus* on wattle are also noteworthy.

What is worrying here is the increasing acreage of industrial and small scale plantings with cloned Eucalyptus hybrids; namely those of *E. grandis* and *E. camadulensis* (GC) and those of *E. gran-*

*dis* and *E. urophylla* (GU) in the whole of eastern and southern Africa. This presents large areas with suitable hosts and it is conceivable that new virulent strains of a disease such as the canker

causing *Chrysosporthe* can 'wreak havoc' if suitable preventive measures are not put in place in time by countries in eastern and southern Africa.

The study findings provide strong support for the urgent activation of the SADC Sanitary and Phytosanitary Protocol of 2008, in addition to constituting and facilitating a regional technical committee on sanitary and phytosanitary issues and a Specialist Working Group on Forest Diseases. These measures will provide a strong framework for addressing forest and tree diseases in the region.



Figure 1. *Chrysosporthe* canker causing rapid wilting of a young Eucalyptus tree (Source FABI)



Figure 2. Superficial bark cracks caused by *Holocryphia eucalypti*

## Priority forest diseases in southern Africa

Disease	Damage and disease distribution
Chrysoporthe canker Chrysoporthe austroafricana	Stem cankers on older Eucalyptus trees Mozambique, South Africa, Zambia, Zimbabwe.
Kirramyces stem canker Teratosphaeria zuluensis	Small sunken necrotic lesions on young stems, measles-like spots. Mozambique, South Africa, Zambia
Leaf blotches on Eucalypts Mycosphaerella and Tetratosphaeria species	Leaf spots first appear on lower branches, causes defoliation and growth loss. Mozambique, South Africa, Zambia and Zimbabwe
Pitch canker Fusarium circinatum	Attacks pines, mostly occurs in nurseries but also on trees less than 5 years. It is mostly in South Africa
Botryosphaeriaceae cankers	Attacks pines, Eucalypts species and wattle. Common on trees planted off-site hence stressed. Mozambique, Zimbabwe, Zambia, Malawi
Phytophthora root rot	Attacks wattles and some Eucalyptus species causing rapid wilts. Occurs in the whole of Southern Africa
Calonectria canker & blight – nursery and small trees	Causes seedling deaths in nurseries, leaf blight in planted trees – mortality and growth loss. Mostly found in Mozambique
Holocryphia canker Holocryphia eucalypti	Stem cracking, stem lesions. Mostly in Mozambique



Figure 3. Root rot of *Acacia meurnsii* caused by *Phytophthora*



Figure 4. Bark cracking and swelling at the base of a Eucalyptus tree caused by *Chrysoporthe austroafricana*, (Source: Mause Siteo et al 2015)

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