

## "DIEBACK" - ON THE MOVE

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### Introduction

In the past two years the research section at Dwellingup has established 18 rate-of-spread plots on Dieback areas throughout the Dwellingup division. The main species being assessed on these plots is *Banksia grandis* because of its susceptibility to the dieback fungus (*Phytophthora cinnamomi*).

### Aim

The aim of this experiment is to investigate the uphill movement of the fungus. Little has been done in the past on this subject.

Listed below are some of the different factors which are being studied at Dwellingup.

- (1) The effect of steepness of the slope on movement of the fungus.
- (2) The effect of soil type.
- (3) The effect of aspect.
- (4) Whether there is a difference between the Western and eastern region of the Dwellingup division where there are considerable differences in rainfall.
- (5) Slope position; slopes are divided into upper, middle and lower thirds.

### Method

The requirements for rate-of-spread plots are a reasonably straight line of dead banksias with at least two chains of healthy banksias on the uphill side of the line. The line is between two and five chains long with individual pegs at one chain intervals. The banksias already dead and bordering the "Green Line" are painted to identify them. The "Green Line" is defined as the most recently dead banksias bordering the healthy green forest.

### Assessment of the Lines

All banksias which have died or are dying since the previous assessment are surveyed by right angle offsets from the pegged base line. They are then plotted on graph paper to determine the spread. The plots are assessed at twelve monthly intervals. Originally, species such

as *Zamia* palms, black boys and some scrub species were assessed but these have since been omitted as there are very few of these dying on the plots.

### Results

At this stage of the experiment we have recorded some results but it is too early to accurately determine the spread of the fungus in front of the "Green Line". One interesting point we have established is that over the past two year period the average spread of the fungus on the 16 established plots is only 4.84 links. The range of forward spread on all the plots ranged from .1 of a link to 26.1 links. The larger of these figures was excluded from the calculation of mean spread because it greatly exceeded the average taken from each of the remaining plots.

We are now trying to establish additional plots on low lying areas and on very steep slopes to cover a range of sites throughout the jarrah forest.