

## THE TOLERANCE OF THE THREE AVOCADO CULTIVARS DUKE, EDANOL AND FUERTE AGAINST *PHYTOPHTHORA CINNAMOMI*

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### 1. INTRODUCTION

Avocado root-rot caused by the fungi *Phytophthora cinnamomi* is one of the most serious problems in most of the avocado producing regions in the world. Various attempts, which range from chemical control to cultivars offering resistance, have been and are still being made to restrict this disease. A valuable contribution in this field has been made by Zentmyer of the University of California at Riverside, on the selection of tolerant rootstocks. It is generally known that rootstocks such as Duke 6, Duke 7, G22 and several others are tolerant to a greater or lesser extent against the fungi *P. cinnamomi* (Zentmyer & Richards, 1952; Brokaw, 1975).

Because the best of these rootstocks are not yet available in South Africa and because the available tolerant rootstock cultivars (Duke 6 and 7) have not been fully tested in South African conditions, it was decided to start with a selection of local rootstock material supposedly resistant to the fungi *P. cinnamomi*. In addition to this, the object is to determine the tolerance of the three avocado cultivars, Duke, Edranol and Fuerte to wards the fungi *P. cinnamomi*.

### 2. PROCEDURE

A compartment of a greenhouse was cleared for the purpose of this experiment and then thoroughly washed out with a 10% copper sulphate solution. A copper sulphate pit was installed at the drainpipe as well as a copper sulphate foot bath at the doors, to ensure that no *P. cinnamomi* was introduced.

A pot experiment consisting of three cultivars, six treatments and two replicates was started on 11th August 1977. The plants were put on asbestos sheets approximately 100 cm above the floor.

The contamination technique of Tsao & Garber (1960) which was developed for *P. citrophthora* and *P. parasitica* in citrus and which was refined by Zentmyer (1973) for *P. cinnamomi* was used.

On the recommendation of Dr A. Hough, of the Citrus Exchange at Nelspruit, a similar experiment was laid out, but in a water culture instead of soil. This experiment was started on 4th November 1977 and it consists of four treatments and two replicates. With the aid of this method, in contrast with the above mentioned method, more plants per unit area can be inoculated at a time.

The pot experiment is mainly directed at comparing the resistance ability of the three avocado cultivar seedlings, Duke, Edranol and Fuerte towards the fungi *P. cinnamomi*. In

contrast to this an attempt will be made to select resistant seedlings with the aid of the water culture experiment.

### **3. RESULTS**

Both these experiments are still under way and the results will be reported in due time.

### **References**

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