

## SYSTEMIC FUNGICIDES APPLIED AS TRUNK PAINT AGAINST ROOT ROT OF AVOCADOS

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### **OPSOMMING**

*Wortelvrotbeheer is verkry met fosetyl-Al wat as a stamverf toegedien is op volwasse avokado borne teen 'n 20 g a.b. dosis per boom, 'n Mate van beheer is waargeneem bv Dowco 444, terwyl metalaxyl as stamverf geen beheer uitgeoefen het op die siekte nie.*

### **SUMMARY**

*Some degree of root rot control was observed with fosetyl-Al painted on the trunk of fully grown avocado trees at the rate of 20 g a.i. per tree. Some controlling effect was shown by Dowco 444, while metalaxyl failed to check the disease when applied as a trunk paint.*

### **INTRODUCTION**

The present recommendations for the control of Phytophthora root rot of avocados in South Africa are as follows: Foliar sprays with fosetyl Al applied with high volume applications of metalaxyl granular applied to the soil under the trees followed by irrigation or rain. In California, Ethazole is applied through the irrigation system. In search of new application methods three systemic fungicides were tested as trunk paints against root rot on fully grown avocado trees. A similar technique has been tested on young avocado trees by Snyman (1982).

### **MATERIALS AND METHODS**

Ten year old Fuerte trees on susceptible Guatemalan rootstocks were selected in 1980 in block 14 of Westfalia Section of Westfalia Estate. There were ten single-tree replications in each treatment.

The treatments used were as follows:

1. Fosetyl-Al 80 WP: 20 g a.i. in 40 ml water/tree, painted on the main trunk in a 30 cm wide band, monthly from September until March.
2. Metalaxyl 25 WP: 10 g a.i. in 80 ml water/tree, painted on main trunk in a 50cm wide band, eight-weekly from September until March.
3. Dowco 444 EC: 10 g a.i. undiluted/tree, painted on main trunk in a 10cm wide band,

monthly from September until March.

#### 4. Untreated control.

The assessment of the results took place during the winter months each year and trees were rated on a disease index of 0 to 10 (0 = healthy and 10 = dead) (Table 1).

## RESULTS

TABLE 1: Root rot control on ten year old avocado trees with fungicides painted on the main trunk.

Treatments	Mean disease rating of trees N = 40		
	1980	1981	1982
1. Fosetyl-AI g a.i./tree	5,0	4,6	5,1
2. Metalaxyl 10 g a.i./tree	5,7	5,5	6,5
3. Dowco 444 10 g a.i./tree	5,1	4,8	5,8
4. Control	5,0	4,8	6,4

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## DISCUSSION

The condition of the trees showed some improvement in all treatments (including control) a year after the experiment was started, but a considerable degree of deterioration occurred in the second year.

The treatment that showed the greatest promise was the trunk paint with fosetyl-AI. It held the condition of the trees at the disease severity where they stood at the beginning of the experiment. These results seem to be in line with those obtained with foliar sprays after two years. The stem paint technique has also been found to be an effective treatment against root rot of young avocado trees (Snyman, 1982).

Dowco 444 appeared to have some effect on root rot and it slowed down the rate of retrogression of the trees. Slight phytotoxicity has been observed on a few Dowco 444 treated trees in the form of leaf scorch and stem burn.

Metalaxyl showed no control of the disease in the trunk paint form, contrary to the findings of Snyman (1982) on young trees.

## REFERENCES:

- DARVAS, JM, 1982. Chemical control of *Phytophthora* root rot on fully grown avocado trees. *SAAGA Yearbook* 5: 96 - 97.
- SNYMAN, CP, 1982. Die evaluasie van swammiddels teen avokadowortelvrot. *SAAGA Jaarboek*.5: 85 - 93.