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CHEMICAL CONTROL OF POST-HARVEST DISEASES OF AVOCADOS BY PRE-HARVEST FUNGICIDE APPLICATION

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PROGRESS REPORT:

OPSOMMING

Naoes antraknose kompleks (veroorsaak deur Colletotrichum gloeosporioides en Dothiorella aromatica) was bevredigend beheer deurvoor-oes bespuitings met verski/lende swammiddels. Koperoksichloried, 'n vioeibare formulasie (2 bespuitings), koperoksichloried, benatbare poeier (3 maal). Difolatan (2 maal) en Benomil (2 maal) hel goeie beheer verskaf.

SUMMARY

Post-harvest anthracnose complex (caused by Colletotrichum gloeosporioides and Dothiorella aromatica) was effectively controlled by pre-harvest applications with several fungicides. Copper oxychloride flowable fungicide (2 applications) copper oxychloride W P (3 times), Difolatan (2 times) and Benomyl (2 times) gave good control.

INTRODUCTION

Avocados are subjected to a complex of post harvest diseases causing serious losses on the overseas markets. The purpose of this field trial was to evaluate pre-harvest fungicidal sprays for control of the anthracnose complex (caused by *Colletotrichum gloeosporioides* and *Dothiorella aromatica*).

PROCEDURE

The field trial was conducted in an orchard of 6 year old avocado trees (cultivar Fuerte) at HL Hall & Sons. Mataffin.

Experimental design:

Randomized (blockless) design with 4 replications of 2 tree plots. At harvest a total of

32 fruits were picked per replication and used for further assessment.

Harvest date:

19.04.82

Method of evaluation and disease assessment:

After picking, the fruit was stored for 37 days at 5,5°C and subsequently ripened at room temperature before disease assessment commenced. Anthracnose complex was assessed by rating individual fruit according to the following Key:

Class 0 = No lesions

1 = 1 to 10 lesions

2 = More than 10 lesions

After analysis it was found that differences between treatments were more reliable when the percentage fruit in class 0 (i.e. clean fruit) was used as criterium.

Treatments and dates of application:

Fungicide Treatments	Rate (grams product/100l water)	Dates of Application		
		30.11.81	30.12.81	25.1.82
Control	—	—	—	—
Virikop WP (50% Cu)	150 g a.i.	x		x
Virokop WP (50% Cu)	150 g a.i.	x	x	x
Difolatan WP	100 g a.i.	x		x
Kocide WP (50% Cu)	150 g a.i.	x		x
Benlate WP	25 g a.i.	x		x
Virokop Flow (60% Cu)	150 g a.i.	x		x

No additives were applied.

Method of application: Fungicides were applied by means of a high pressure sprayer with hand lances (high volume).

RESULTS:

TABLE 1: Effect of fungicide treatments on the anthracnose complex *(Colletotrichum & Dothiorella)* expressed as the percentage clean (healthy) fruit.

Fungicide Treatment	Mean % Clean Fruit Replicates I	II	III	IV	Treatment means*
Cu Flow	78,13	75,0	78,13	100	82,81 a
Cu OC1 x 3	93,75	96,88	50,0	56,25	74,22 a b
Difolatan	81,25	45,63	71,88	93,75	73,12 a b
Benlate	59,38	81,25	53,13	71,88	66,41 a b
Cu OC1 x 2	68,75	79,16	31,25	50,0	57,29 a b c
Kocide	68,75	43,75	59,38	37,50	52,34 a b c
Control	43,75	40,63	31,25	28,13	35,94 c

C.V. = 26,87

*Values followed by the same letters do not differ significantly (p = 0,05) according to Duncan's multiple range test.

DISCUSSION:

The best results were obtained with Copper Flow. The treatments wit copper oxychloride WP (3 times), Difolatan (applied 2 times) and Benlate (applied 2 times) were all significantly better than the control, but did not differ significantly (p = 0,05) from treatment with Copper flow.

Copper oxychloride (applied twice) and Kocide (applied twice) did not differ significantly from the control treatment.

Earlier reports showed that copper oxychloride WP has an effect against all the avocado fruit diseases, viz Cercospora spot, sooty blotch, stem-end rot and the anthracnose complex (Kotzé *et al* 1982). At this stage in time copper oxychloride WP seems to be the best all round fungicide for avocados. The copper oxychloride flow should be further evaluated as it shows considerable promise.

REFERENCES:

KOTZÉ, JM, DU TOIT, FRANCIS & DURAND, BJ, 1982. Pre-harvest chemical control of anthracnose, sooty blotch & Cercospora spot of avocados. *S.A. Avocado Grower's Ass. Yrbk.* 5,54 - 55.