

PREHARVEST CHEMICAL CONTROL OF POSTHARVEST AVOCADO DISEASES IN THE 1981/82 SEASON

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As gevolg van die lae voorkoms van stingelendbederf en antraknose, het die vooroes bespuitingsproewe teen hierdie siektes onoortuigende resultate gelever. Die spultprogram wat betekenisvolle beheer teen Dothiorella / Colletotrichum komplekse vrugtevrot gegee het, was kaptafol toegedien in middle November en gevolg deur Cu-oksichloried plus bitertanol in middle Januarie.

SUMMARY

The low incidence of stem-end rot and anthracnose rendered inconclusive results. The spray treatment which controlled Dothiorella / Colletotrichum complex fruit rot significantly was captafol applied in mid November and followed by Cu-oxychloride plus bitertanol in mid January.

INTRODUCTION

The most important postharvest avocado diseases found at Westfalia Estate are stem-end rot, anthracnose and Dothiorella/Colletotrichum complex fruit rot (Darvas, 1978; Darvas and Kotzé, 1979). A number of fungicides have been tested against postharvest diseases and some of them showed good control (Darvas, 1978; Darvas, 1981; Kotzé, Kuschke and Durand, 1981; Kotzé, du Toit and Durand, 1982).

This is a report on the results of the continued testing of the various preharvest fungicidal sprays and spray programmes for the control of postharvest diseases of avocados at Westfalia Estate.

RESULTS

MATERIALS AND METHODS

Fuerte trees of six years of age were used for the experiment at block 34B of Westfalia Estate. Six randomly selected trees were included in each treatment and trees were sprayed with high volume ground sprayers. A total of 360 fruits were harvested per treatment on 8 April 1982 and evaluated for postharvest diseases after a 28 days cold

storage period at 6°C

The following fungicides were tested: Benomyl, captafol, Cu-oxychloride, Cuhydroxide and prochloraz. Nu Film 17 wetting agent was added to all fungicide mixtures except the January spray with Cu-oxychloride and bitertanol, where Agridex was used at 0,1% concentration.

TABLE 1: Control of post-harvest diseases on Fuerte with pre-harvest fungicidal sprays.

Treatments	Date of applications	Mean disease severity (0-10 scale)		
		Stem-end rot	Anthracnose	Doth./Coll. complex fruit rot
Benomyl 0,025% a.i. + Nu Film 0,02%	Nov. 1981 Jan. 1982	0,00a	0,05a	2,01ab
Cu-hydroxide 0,23 a.i. + Nu Film 0,02%	Nov. 1981 Jan. 1982	0,01a	0,00a	1,74b
Cu-oxychloride 0,25% a.i. + Nu Film 0,02%	Nov. 1981 Jan. 1982	0,01a	0,05a	1,63b
Captafol 0,08% a.i. + Nu Film 0,02%	Nov. 1981	0,00a	0,01a	1,52b
Cu-hydroxide 0,23% a.i. + Nu Film 0,02%	Jan. 1982	0,01a	0,01a	1,58b
Captafol 0,08% a.i. + Nu Film 0,02%	Nov. 1981	0,01a	0,01a	1,58b
Cu-oxychloride 0,25% a.i. + Nu Film 0,02%	Jan. 1982	0,01a	0,01a	1,58b
Captafol 0,08% a.i. + Nu Film 0,02%	Nov. 1981	0,00a	0,00a	0,84c
Cu-oxychloride 0,25 Bitertanol 0,0125% a.i.	Jan. 1982	0,00a	0,00a	0,84c
Captafol 0,08% a.i. + Nu Film 0,02%	Sept. 1981	0,01a	0,00a	1,41b
Captafol 0,08% a.i. + Nu Film 0,02%	Nov. 1981	0,01a	0,00a	1,41b
Cu-oxychloride 0,25% a.i. + Nu Film 0,02%	Jan. 1982	0,01a	0,00a	1,41b
Prochloraz 0,04% a.i. + Nu Film 0,02%	Nov. 1981 Jan. 1982	0,01a	0,14a	2,49a
Control	—	0,00a	0,06a	1,84b

Means with letters a, b and c differ statistically at 0,05 level (Duncan's multiple range test).

DISCUSSION

The treatment that gave a significant control of Dothiorella/Colletotrichum complex fruit rot disease was a spray programme in which captafol was applied in mid November and was followed up with a Cu-oxychloride plus bitertanol combined spray. All other treatments were ineffective in reducing the disease to a statistically lower level. Prochloraz sprays resulted in a statistically more severe Dothiorella/Colletotrichum complex fruit rot incidence when compared to the control.

The incidence of stem end rot and anthracnose was exceptionally low in the 1981/82 season and the statistical analysis of the results showed no significant differences

between the untreated control and fruit that was sprayed with fungicides.

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