

## AN INVESTIGATION INTO THE TREATMENT OF AVOCADO GRAFTWOOD WITH ANTI TRANSPIRANT PRIOR TO GRAFTING

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Progress report

### OPSOMMING

*Afsterf van avokado-ente is 'n algemene probleem in kwekerye. Behandeling met verskeie swamdoders, verskillende ent-metodes en gebruik van verskillende entwakse, het nie die relatiewe hoë persentasie mortaliteit van ente verminder nie, 'n Observasie dat ogies uitdroog en afsterf voor die afsterf van die entstokkie het gelei tot 'n proef om uitdroging van entmateriaal te voorkom, deur 'n antitranspirant te gebruik. Enthout wat vir 5 minute gedoop is in 'n oplossing van Vapor Gard teen 20 cc/l het 97,5% sukses gelever in vergelyking met 72% in onbehandelde kontrole.*

### SUMMARY

*Dying of avocado grafts presents a problem for the nurseryman. Treatment with various fungicides, different grafting methods, grafting under shelter and using different tree seals, failed to prevent the reasonable high percentage of grafts dying. An observation that buds dehydrate prior to the dying of the grafts led to a trial to prevent dehydration of buds by treating propagation material with an anti-transpirant prior to grafting. Graftwood soaked for 5 minutes in Vapor Card at 20 cc/P gave 97,5% success compared to 72% of the untreated control.*

### INTRODUCTION

Success of grafting varied much over many years at Westfalia Estate and it was suspected that the main reason for the die-back of grafted wood was due to pathological reasons. Many fungicides were tested as a pre and post grafting treatment with no success. Different tree seals were tested on thousands of trees with very little success. Different methods of grafting also gave negative results. Grafting completely under shelter to protect the plants from rain also had no effect. After careful observations it was noticed that the buds first dry out while the graftwood was still green and alive. This indicated that dehydration of the buds occurred. With no live buds to produce new growth, the graft stick died.

It was then decided to test an anti transpirant, Vapor Card, which is used on other crops like tobacco or tomatoes during transplanting. Vapor Card has a base of Pinole oil.

## PROCEDURE

Seedlings: Duke planted 1978-12-29.

Graftwood: Hass with lateral buds swollen to size of a match stick head with 2 — 3 buds/graft.

Method of grafting: Standard whip-graft with all cut surfaces treated with commercial tree seal.

Date of grafting: 1979-05-04. Replication: 200 Plants per treatment.

Treatments:

- a). Grafting material soaked in mixture of Benlate 5 g/l + Vapor Card 20 cc/l for 5 minutes.
- b). Grafting material soaked in Benlate 5 g/l for 5 minutes.

Evaluation: Total number of buds were counted and inspected on regular basis and number of dead buds recorded.

At the end of the trial on 1979-06-07 the grafted trees were classified into trees with dead grafts and trees successfully grafted and ready for transplanting.

## RESULTS

**TABLE 1: Percentage dead buds after treatment with Vapor Gard**

Treatments	Days after grafting				
	18	28	35	42	56
1. Vapour Gard	1,2	2,4	3,8	4,7	6,7
2. Untreated	16,7	32,5	39,4	42,6	44,3

**TABLE 2: Percentage successful grafts growing well 62 days after treatment with Vapor Gard**

Treatment	% Success	% Died
1. Vapor Gard	97,5	2,5
2. Untreated	72,0	28,0

## DISCUSSION AND CONCLUSIONS

- a) There is a close correlation between number of dead, dehydrated buds and the number of grafts that die.
- b) Vapor Card successfully controlled the percentage of buds that died and consequently prevented the grafts from dying.