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THE ROLE OF FRUIT FLIES ON AVOCADOS EARLY IN THE SEASON

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OPSOMMING

Die Natalse vrugtevlieg speel 'n ekonomies onbelangrike ml by avokadovrugval op Fuertes in die eerste twee maande na blomblaarval. Vrugtevliegsteekplekke op Edranol vrugte tot gholfbalgrootte neig om heeltemal toe te groei by oestyd,

SUMMARY

The Natal fruit-fly plays an economically unimportant role in Fuerte avocado fruit drop for the two month period following petal drop. Fruit-fly sting marks on Edranol fruit of golf ball size and smaller tend to be outgrown at harvest.

INTRODUCTION

Experiments were conducted to determine the role of fruit-flies on young avocado fruit for the two month period following petal drop.

PROCEDURE

a. To determine the natural infestation of fruit-flies on young Fuerte fruit at Westfalia Estate, Tzaneen, fallen fruit from two trees were collected in 70% alcohol and examined under a stereo microscope for possible fruit-fly stings.

b. In a second experiment Edranol fruit were artificially exposed to the Natal fruit-fly, *Ceratitis rosa*. Fifty fruit were individually enclosed in nylon gauze bags, 300 x 180 mm, each containing approximately 25 adult Natal fruit-flies. The same number of untreated control fruit were also covered in bags.

This was done at two fruit sizes viz. peach-stone size (20 mm in diameter) and golf ball size (40 mm in diameter). The fruit were examined at regular intervals with a final evaluation at harvest.

RESULTS AND CONCLUSION

a. In an attempt to determine the natural infestation of fruit-fly on young Fuerte fruit, a sample of 531 fallen fruit over a period of 34 days, commencing with petal drop, were examined. Only 2,6% of this sample showed possible sting marks. No fruit-fly eggs

could be found in these sting marks, therefore it is uncertain whether this insect is responsible for these lesions. During the first two weeks after petal drop the normal fruit drop is about 90%, irrespective of any surface damage. At this time of the season a peak in the numbers of Natal fruit-flies occur in these orchards according to high pheromone trap numbers viz. 60 males per trap per week.

b. Two weeks after the artificial exposure of Edranol fruit in bags to the Natal fruit-fly, it was found that a mean of 25% of the fruit exposed to fruit-fly at both fruit sizes of 20 mm and 40 mm diameter, showed definite sting marks. At the final evaluation at harvest only 35% of the fruit that was originally damaged by fruit-fly, retained the lesion in a reduced form (Fig. 1). The remainder of the damaged fruit had completely outgrown these lesions.

It has also been found that certain outgrowths and malformations on Edranol fruit (Fig. 2 and 3) which was previously misinterpreted as possible fruit-fly damage, occur to the same degree with the control bagged fruit as those infested with fruit-fly.

These results show that the Natal fruit-fly does not play a prominent role in the first months of the avocado season in the Westfalia, Tzaneen, area.

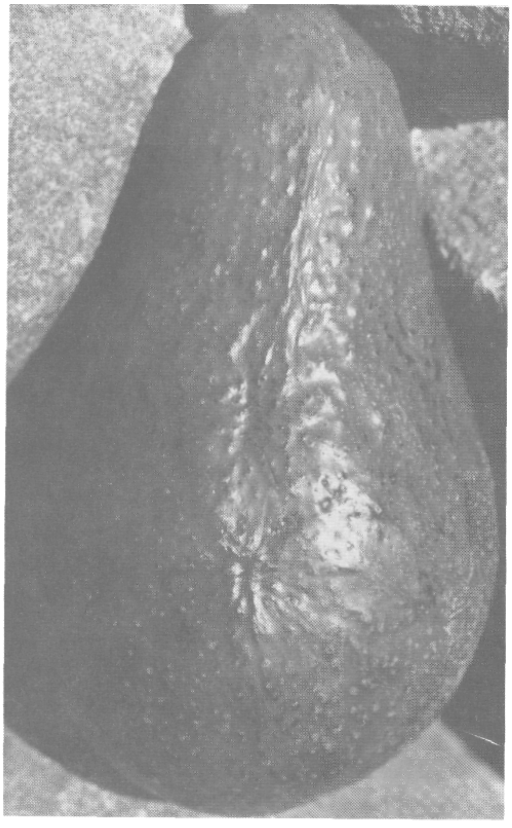

FIG. 1: Reduced fruit-fly lesions at harvest time (stings induced at golf ball size fruit)

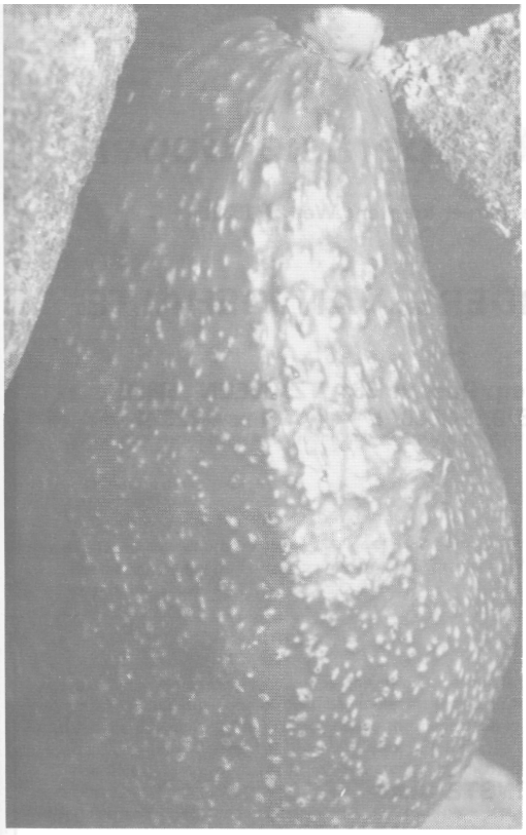

FIG. 2: Small protrusions on the surface of an Edranol control fruit

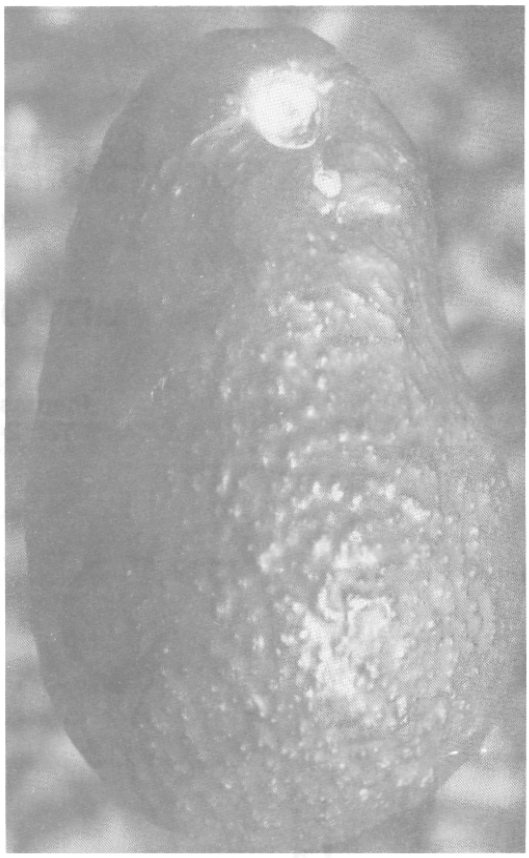

FIG. 3: Malformation on an Edranol untreated control fruit

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