

## PHOSPHORUS NUTRITION OF AVOCADOS THROUGH TRUNK INJECTION — A PRELIMINARY REPORT

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An experiment was initiated in 1982 to establish the feasibility of applying  $H_3PO_3$  and  $H_3PO_4$  through stem injections to enhance the phosphorus status of avocado trees. Administration of the phosphorus compounds was done similar to the technique described by Buitendag & Bronkhorst (1980) and at the rates according to the schedule presented in Table 1. Established Fuerte trees of equal size were used and there were ten single-tree replicates in each treatment. Leaves were collected from the various trees in December 1983 and analysed for phosphorus according to the molybdenum blue method described by Chapman & Pratt (1961).

Increases in phosphorus content of up to 2.75 fold over the control were achieved by trunk injection of Fuerte avocado trees with  $H_3PO_3$  and  $H_3PO_4$  (Table 1). However, since this was a preliminary experiment, the results were not analysed statistically. Furthermore, no comparison was made with soil applications of phosphorus. Nevertheless, the promising findings warrant further investigation of this aspect.

Table 1 – Effect of stem injection with various rates of  $H_2PO_2$  and  $H_2PO_4$  on the phosphorus status of Fuerte avocado trees.

Treatment	Compound	% $H_2PO_2$ or $H_2PO_4$	% ai per m <sup>2</sup> tree canopy	Time of application						% P in leaves
				Oct 1982	Jan 1983	March 1983	May 1983	Aug 1983	Oct 1983	
1	$H_2PO_2$	1.5	0.075	+	+	--	+	--	+	0.08
2	$H_2PO_2$	3.0	0.15	+	+	--	+	--	+	0.10
3	$H_2PO_2$	15.0	0.75	--	--	--	--	+	+	0.08
4	$H_2PO_4$	10.0	0.50	--	--	+	+	--	+	0.11
5	Untreated	--	--	--	--	--	--	--	--	0.04

### References

- BUITENDAG, CH and BRONKHORST, GJ. 1980. Injection of insecticides into tree trunks – a possible new method for the control of citrus pests? Citrus and Subtropical Fruit Journal 556:5-7.
- CHAPMAN, HD and PRATT, PF. 1961. Methods of analysis for soil, plants and water. University of California Press, Berkeley.