

Does Avocado Research Pay?

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ABSTRACT

Many avocado producers often wonder whether it is a good investment to do research. During the past 11 years producers themselves have contributed R4,5 million to the total research cost of R26 million. The balance of R21.5 million was financed by the research institutions. The benefit to the South African Avocado Industry is estimated at R36 million per year. This means that the producers receive a benefit equivalent to R4,80 per carton for an investment of only 8c per carton. The contribution to our industry, by dedicated research workers is this not fully recognized. There are many challenges for the future and a realistic share of the cost will have to be earned by the industry.

INTRODUCTION

SAAGA research started in 1973 during a phase in which the industry had enormous technological problems.

Phytophthora was rampant and without any control measures. Black spot and post-harvest diseases created large amounts of damage. Post-harvest problems were common and the causes of symptoms were not identified. Nurseries sold up to 100% *Phytophthora* infected trees and no trees on clonal rootstocks were available. Packaging and transport systems were poor and unreliable.

In November 1973 the industry identified its needs and a small group namely Jan Toerien, Ronnie Lunt, Clive Mitchell and Willie Pretorius formed the first research committee. Prof Kotzé joined in 1977 and played an important role as co-ordinator.

It was decided that SAAGA would co-ordinate and finance projects. The basis there-of was that a financial contribution to running costs would be made without a contribution to any capital costs.

Over the years, role players such as Westfalia/MTS, University of Pretoria, University of Natal, RAU, H L Hall & Sons, the ITSC, University of Stellenbosch and the PPECB were major contributors. The contribution of Dr Joe Darvas and other researchers has been enormous and the industry could justifiably erect a monument in their honour.

COST OF RESEARCH

The question that should be asked is what was the cost there-of? Under the guidance of

Prof Kotzé as co-ordinator an enormous amount of work was done for very little money. The institutions who did research, financed expenses mainly from their own resources and thus the research projects of the avocado industry were largely subsidised. This was indeed the golden era in SAAGA history as predicted by Prof Kotzé in the first yearbook of 1977.

Times changed and in a new South Africa real economy has started to play a role.

- The Merensky Foundation looks at a more realistic allocation of costs for research.
- The funding of the Universities by the Government has been reduced and the Universities have had to cut costs drastically.
- The old research institutes were financially solely supported by the Government and industry made no contributions. The new ARC relies progressively more on industry funding. Small farmer projects will become a bigger priority in the future.
- Research instances in other avocado producing countries have also been scaled down.

What was the cost of research to SAAGA?

Table I

| <i>Year</i> | <i>Amount</i> |
|-------------|---------------|
| 1992 | 522 000 |
| 1993 | 497 000 |
| 1994 | 654 000 |
| 1995 | 728 000 |
| 1996 | 598 000 |
| 1997 | 600 000 |

Over a period of 11 years the SAAGA research costs were R4 450 000 at an estimated total real cost of R26 000 000.

Currently what are the real costs?

Table 2

| <i>Institution</i> | <i>Cost of Research 1997</i> | <i>SAAGA 1997 Contribution</i> |
|--------------------|----------------------------------|------------------------------------|
| Westfalia/MTS | 1 200 000 | 165 000 |
| ARC.ITSC | 1 390 000 | 185 000 |
| Univ of Natal | 420 000 | 75 000 |
| Univ of Pretoria | 530 000 | 95 000 |
| Other | 460 000 | 80 000 |
| Total | 4 000 000 | 600 000 |

A further real contribution by universities to research is the many students who have been, and who are involved in the avocado industry. They are all products of an investment by the partnership between the universities and SAAGA.

Table 3

The annual total potential value of previous research results

| | | |
|--|--|-------------|
| 1. Nurseries | | |
| Rootrot-free trees, clonal rootstocks, breeding and selection contribute to nearly 1 ton/ha on 5000 ha at a very conservative R1 000/ton | | R5 000 000 |
| 2. Disease control | | |
| The minimum annual advantage is estimated as: | | |
| Direct advantage 2,5% = | | R2 500 000 |
| Cost effective spray programme = R2,5m | | R2 500 000 |
| 3. <i>Phytophthora</i> control | | |
| Production increase of 1 ton/ha on 5 000 ha | | R5 000 000 |
| Cost advantage R1 000/ha on 5 0000 ha | | R5 000 000 |
| 4. Packaging systems | | |
| Total Transport cost R18,145/Container | | |
| Old systems 2 000 cartons/container = | | |
| R9,07/carton | | |
| New systems 2 520 cartons/container = | | |
| R7,20/carton | | |
| Cost saving = R1,87/carton | | |
| Total cost advantage R1,87 x 7,5M cartons | | R14 000 000 |
| 5. Temperature Management | | |
| The 'step down' temperature management resulted in harder fruit with less cold damage. Conservative R2M and more realistic perhaps R5M | | R2 000 000 |
| Total annual advantage from Research | | R36 000 000 |

CONCLUSION

Many economic problems have effectively been solved by dedicated research workers over the years. The major costs were carried by the different institutions. This means that the research was heavily subsidized in the past. The annual investment of 8c for a benefit of R4,80/carton proves that research was an excellent investment for the South African Avocado producer in the past. For the future there are many challenges which include for example: selecting dwarfing rootstocks, a larger Hass type cultivar, reliable storage systems, cost effective insect control, constant higher production, non-destructive firmness testing and sorting and increasing the local and overseas demand for avocados in any form, shape or size through promotions, advertising and innovation.

The funding for the future will have to be more realistically shared by the total industry. I am sure that the future challenges will be treated as opportunities by the South African Avocado Industry.

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