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Organic Kiwifruit Survey 2003

Introduction

In 2003, ZESPRI Innovation organized a survey of organic kiwifruit growers and engaged John Fairweather, Andrew Cook and Lesley Hunt (who are now in the ARGOS team) to analyse the data. The results have already been circulated to organic growers but this research note has been prepared to circulate the results more widely. More detailed information can be found in the full report which will be available on the ARGOS website.

Purpose of Research

The main aim was to identify factors involved in organic kiwifruit production that either positively or negatively impacted on production. The goal was to learn how to improve production levels on organic orchards.

Method

A total of 220 growers were asked to take part in the survey and 80 participated, giving a response rate of 36 per cent. Tests for representativeness compared the production for the sample of 80 with the population of 220 and found that they were similar. This suggested that the sample reasonably represented all organic orchards. However, there may still be differences between the sample and the population and this could explain why some of the results presented here do not match those from the database analysis.

Some Key Findings

Factors affecting premiums:

- **Type of orchard management** i.e. compared to managed orchards, a greater proportion of owner-operated orchards attained Kiwistart premiums but they also tended to produce smaller fruit.
- **Growing area** i.e. compared to orchards in Tauranga, a greater proportion of orchards in Te Puke received both the Kiwistart and Taste Zespri premiums.



Fig. 1: Orchard Mowing

- **Pollination management** i.e. a greater proportion of orchards which undertook hive inspections received Taste Zespri premiums compared to those that did not. Also, orchards with KPA registration received less Kiwistart premiums.

- Those orchards which gained a Kiwistart premium also tended to gain a Taste Zespri premium.

Factors affecting fruit yield and size:

- **Training structure** i.e., pergola tended to produce larger fruit when compared to T-bar.
- **Orchard size** i.e., larger orchards tended to produce larger fruit.
- **Sward management** i.e. orchards which were mowed more often tended to produce larger fruit, which may reflect a greater intensity of management on these orchards. Also, orchards which underplanted tended to produce smaller fruit.
- **Vine health** i.e. orchards with *Armillaria* tended to produce smaller fruit. Also, orchards which banded for Fuller's rose weevil tended to produce larger fruit and more trays per hectare.
- **Nutrition** i.e. orchards which applied foliar fertilisers and sprays tended to produce smaller fruit but a greater proportion attained the Kiwistart premium.

Conclusions

- Owner-operated and managed orchards appear to have different production outcomes. This means that the tailoring of recommendations to the needs of these two distinct groups may be more rewarding than simply providing blanket recommendations.
- Productivity differences between growing areas suggest the dissemination of information about favourable and unfavourable growing areas would enable better choices regarding the location of orchards.
- Pergola rather than T-bar should be the preferred structure for producing large organic kiwifruit.
- *Armillaria* is common and detrimental and efforts should be targeted to address this problem.
- Applying foliar fertilisers and sprays appears to be counter productive or

being undertaken by those already experiencing serious production problems. Applying these sprays does not necessarily improve production and should be considered carefully.

- Encouraging hive inspections is rewarding in terms of gaining the Taste Zespri premium and should be encouraged.



Figure 2: Bee on kiwifruit flowers

- There were indications that better production was associated with more intensely managed orchards e.g. orchards which mowed frequently, banded or inspected hives.

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