A SURVEY OF ORGANIC FARMING IN NEW ZEALAND

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Abstract
The characteristics of organic farms and farmers were studied and management factors determined. The effects of changing over to an organic farming system were also examined.

A postal survey was send to 77 organic farms and 32 conventional farms around New Zealand.

Farmers use organic methods for pragmatic rather than spiritual reasons. The majority come from diverse occupational backgrounds before becoming a farmer, unlike most conventional farmers who had been farmers all their working life.

Organic farms averaged 123 hectares, of which 83% was used for actual organic production. The conventional farms averaged 410 hectares. Properties usually had two or more types of farm enterprises present, with organic farms being more diverse: beef, vegetables and fruit being the more popular choices. Conventional farmers tended to stay with the more traditional enterprises of sheep, beef and wool.

Grazing and cropping systems on organic farms were not significantly more soil conservative. Compost and fish fertilisers were the most frequently used fertilisers on organic farms with reactive phosphate rock as a phosphate source. Conventional farmers used the traditional superphosphate, potassic super, longlife super and urea. Lime was used by both groups.

Organic farmers ranked internal parasites worse than any other problem, whilst conventional farmers felt it to be about equal to flystrike. Facial eczema and grass staggers noted as problems by the conventional group, were not even mentioned by the organic farmers. Thistles were a much bigger weed problem on organic farms than on conventional properties. Changing to organic farming did not change these problems, nor was there any significant difference in intensity of control methods used between the two farming systems.

Over a quarter of the organic farmers were involved in some processing of produce on their property, and on average labelled this as organic. Forty percent of organic produce was sold to conventional outlets.

Fifty-four percent of organic farmers and 94% of conventional farmers had all or nearly all of their income provided by their property.

There was no significant difference between organic or conventional

properties concerning labour.

Organic farming did not significantly change yields and income per hectare, either in the first or subsequent years after changing from conventional farming. Labour requirements also remained the same.

In conclusion, the majority of all the farmers surveyed felt satisfied with their present farming system.

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CHAPTER ONE - INTRODUCTION AND OBJECTIVES

The widespread use of agricultural chemicals and manufactured fertilisers has been a characteristic feature of modern agriculture. With the use of these, farmers have been able to obtain higher yields per unit of land at lower labour and overall costs, thus leading to their becoming a standard feature in New Zealand agriculture.

The decreased profitability and rising rural debt of New Zealand agriculture that occurred during the late 1980's resulted from declining traditional export markets, high exchange rates and low commodity prices. Shrinking export quotas and protectionism were also to blame. Market restrictions on chemical use, such as the ban on beef hormones by the European Economic Community, and the removal of price supports and input subsidies have also played a part in the lower returns to New Zealand farmers.(Fisher 1989)

Publicity and concern over the dangers of chemicals used in the production and processing of foods is increasing along with the awareness of the vulnerability of the world's ecosystem as a whole. Animal welfare groups are also increasing the public profile of stock management methods, especially with respect to intensive stock systems.

A growing concern over the use of agrichemicals combined with current economic conditions indicated a need for alternative production technologies. One alternative available is a return to farming without the use of synthetic fertilisers and chemicals, a system presently known as organic farming. Organic farming embodies the removal of chemical inputs from production, an environmental philosophy and an emphasis on soil husbandry.

The public, farmers and research institutions are showing a high level of interest in organic farming. The Ministry of Agriculture and Fisheries has committed research and marketing resources to organic farming, setting up two organic production systems, one at

Flock House, Bulls and the other at the Levin Horticultural Research Centre. This is done with a view to developing a commercial export industry (Scott 1987, Galloway 1988). Consumer demand for organic produce is increasing both domestically and overseas (Horticultural Market Research Unit 1986).

The Ministry of Agriculture and Fisheries has carried out two surveys of organic farming in recent years. The first by Gunning and Cullen (1983) and the second by Haystead (1987). The latter monitored paired farms over a three year period. These reports showed that there is potential for profitable organic production.

A later survey carried out by Fisher (1989) focused on identifying barriers to the adoption of organic farming. Pest control was identified as the main technical problem for organic farmers, and the period of transition from conventional to organic agriculture was a major barrier due to investment costs and low income.

However, Gunning and Cullen (1983), Haystead (1987) and Fisher (1989) did not answer some questions regarding organic farming practices. There was little information on the management of organic properties, the type of farmers involved, labour input and the effects of changing from conventional to organic farming. In the project described here it was proposed to answer some of these questions by a postal survey.

The objectives of this survey were:

a) to identify the farm and farmer's characteristics

b) to determine management factors of organic farmers

c) to assess effects of changing from conventional to organic farming

GLOSSARY OF TERMS

Bio Gro is the organic food trademark owned and administered by the BPC.

bio-dynamics (BD) is a farming system that incorporates all of the Bio Gro standards and regulations, but is based on a series of 1924 lectures by the philosopher Rudolf Steiner. Bio-dynamic farmers use homeopathic sprays, an astrological calender, and other practices to stimulate cosmic and terrestrial forces into their farm. The system features a distinctive philosophical base, and a strong sense of community between BD farmers and consumers. Bio-dynamic farming has been practised in New Zealand since the late 1920's.

Bio-Dynamic Farming and Gardening Association (BD Assn.) owns and administers the Demeter label.

Biological Producers Council (BPC) is a semi-voluntary organisation that owns and administers the Bio Gro label.

conventional farming refers to a production system which uses a full range of production techniques such as pre- and post-plant tillage practices, synthetic fertilisers and pesticides.

conventional producers are those farmers that are using conventional techniques and are unaware, uninterested or not presently employing organic methods on their farm.

Demeteris the trademark and production standard of the BD Assn.

ecological agriculture is the concept and design of the farm as an ecosystem. As a management philosophy, it emphasises farm design as a solution to production problems, the interconnection between and hierarchy of systems, and the environmental effects of management practices. Using a wholistic approach, therefore, chemical use is not precluded where the environmental costs of chemicals are less than non-chemical management strategies (Fisher 1989). **Permaculture** is based on these concept.

fertiliser is a material which enhances the fertility of the soil (MacIntyre 1987).

International Federation of Organic Agriculture Movements

(IFOAM) is an international OF organisation to which the BPC is affiliated. IFOAM standardised production specifications for organic produce, and coordinates scientific research on OF.

low input farms are designed to reduce the amount of materials brought onto the farm from outside to a level substantially below that required to maximise net production per hectare (Vine and Bateman 1981). Unlike OF, low input farming refers to the quantity, not the quality of farm inputs. Low input farms tend to intergrate all suitable techniques rather than exclude chemicals.

MAF Ministry of Agriculture and Fisheries of New Zealand.

organic farming as strictly defined for this thesis is the **Biological Producers Council Standard for Organic Food Production.** There are several differing interpretations of the terms organic farming which will be discussed in the literature review.

organic produce refers to produce grown by organic farming methods.

pesticide is the generic name referring to most of the lethal chemical techniques employed by humans to limit or prevent pest damage to agricultural products.

pests are organisms which are declared or perceived as detrimental to agricultural enterprises. They include weeds, fungi, nematodes, insects and other animals.

sabbatical farming is an organic farming system where every year one seventh of the farm is fallowed for one year. The area fallowed is rotated around the farm.

sustainable farming systems involve the succesful management of resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of the environment and conserving natural resources (Chantalakhana 1990).

transitional organic producers are those which have achieved transitional Bio Gro status and usually have converted less than two years ago to organic farming.

Willing Workers On Organic Farms association (WWOOF) is an international volunteer organisation which allows members to experience life on organic farms in other countries. Participants work on organic farms in exchange for their board and keep.