RECENT DEVELOPMENTS IN ORGANIC FOOD PRODUCTION IN NEW ZEALAND:

Part 4: The Expansion of Organic Food Production in Nelson and Golden Bay

BRAD COOMBES
HUGH CAMPBELL

June 1998

Studies in Rural Sustainability
Research Report No. 5
Department of Anthropology,
University of Otago

Published by
Department of Anthropology,
University of Otago,
P.O. Box 56,
Dunedin, New Zealand.
1998

Phone 03 479 8751. Fax 03 479 9095.
Email: anthropology@otago.ac.nz

ISBN 0-9582015-1-X

Studies in Rural Sustainability

Research reports

1. *Recent Developments in Organic Food Production in New Zealand: Part 1, Organic food exporting in Canterbury*. H. Campbell 1996

2. *Recent Developments in Organic Food Production in New Zealand: Part 2, Kiwifruit in the Bay of Plenty*. H. Campbell, J. Fairweather & D. Steven 1997

3. *Men and Women as Stakeholders in the Initiation and Implementation of Sustainable Farm Practices: Organic Farming in Canterbury*. R. Liepins & H. Campbell 1997

4. *Recent Developments in Organic Food Production in New Zealand: Part 3, Exporting of Organic Produce from Gisborne District*. B. Coombes, H. Campbell & J. Fairweather 1998

Contents

Acknowledgements

This report forms part of the findings of a Foundation for Research Science and Technology (Public Good Science Fund) funded programme entitled 'Optimum Development of Certified Organic Horticulture in New Zealand'. The authors would like to gratefully acknowledge the importance of this funding in the success of this research programme.

We would also like to acknowledge the contribution of various companies and organisations in Nelson District for their cooperation with our research activities. In particular, we would like to acknowledge our debt to Seager Mason who assisted with our fieldwork activities and the preparation of a final draft of this report. We would also like to thank Brian Fullick for his assistance. Likewise, our thanks to the many growers and other industry participants who cooperated with our research activities.

Finally, we would like to thank Les O'Neill for his excellent standard of formatting and presentation of this report.

While acknowledging the contribution of these individuals and organisations, the final content of the report remains, as always, the responsibility of the authors.

Authors

Dr Brad Coombes was a Junior Research Fellow on the PGSF programme 'Optimum Development of Certified Organic Horticulture in New Zealand'. His Ph.D thesis in Geography examined issues of rural economic development on the East Coast and Catlins Coast. His current publications provide a critical examination of the political economy of sustainable development. Dr Hugh Campbell is based in the Department of Anthropology, Otago University, and is the leader of the PGSF funded research programme. He has ongoing research interests in the development of alternative agriculture and low-input systems of food production.

Chapter 1

Introduction

This report presents the fourth and final case study in a program of research on the changes within organic production in key regional areas of New Zealand. The four reports are the results of a body of research funded by the Public Good Science Fund and titled 'Optimum Development of Certified Organic Horticulture in New Zealand'. Specifically, the present report examines the evolution of organic production in the Nelson / Golden Bay[1] area of the South Island. During the early 1980s, inhabitants of that area were some of the first in New Zealand to become involved in sales of organic produce, with an even longer history of non-commercial, self-sufficiency-oriented organic production.

In this historical respect, the area stands in contrast to some of the other regions examined in the current series of reports. Of the other three, it is most similar to the situation in Canterbury (Campbell 1996), where organics also started in the domestic and informal sectors of the economy. However, while the domestic component of organics has grown in Canterbury, it has also become secondary in terms of both volume and value to the organic goods exported from that region. It is the lack of a sizeable export organic industry in Nelson which has drawn the attention of the current authors. Organic wine / grapes (*Vitus vinifera*)[2], hops (*Humulus lupulus*), kiwifruit (*Actinidia deliciosa*), nashi (*Pyrus pyrifolia*) and bee products are exported from the Nelson region but their volume is relatively small when placed alongside the volume of exports in other organic producing areas with a similar number of producers. The relative absence of organic exporting means that the structure of the organic industry in Nelson is radically different from that in the export-oriented Bay of Plenty (Campbell *et al.* 1997) and Gisborne District (Coombes *et al.* 1998). In the latter case, there is almost no sign of a domestic industry, this highlighting the differing extremes of regionalisation in New Zealand's organic industry. While these comparisons are interesting, and while they will be made at various points throughout this report, extensive comparisons have been set aside for a future publication devoted singularly to that task.

1.1 Site selection: the choice of Nelson as a case study area

Nelson is the third largest horticultural area in the country, smaller only than the Bay of Plenty and Hawke's Bay (MacBean 1991). In total, there are 7500ha of land devoted to horticulture in the area, nearly 7% of the national total for horticultural production (Table 2.8, Agricultural Statistics 1995). Horticulture is the single largest income earner for Nelson's people and earns more than fishing, forestry and dairying which are the area's other major sources of revenue. Because horticulture, rather than the meat or dairy sectors, has thus far provided most of New Zealand's organic producers, it would be expected that many people interested in organic production should position themselves in such a prominent horticultural area and, indeed, this is the case. However, while 11% of the nations's organic growers are situated in Nelson, only 4% of the country's certified organic land is in the area[3] – the average size of organic properties in Nelson is considerably smaller than elsewhere.

As is shown in Figure 1.1, most of the area's horticultural land is situated on the Waimea Plains which dominate the eastern coast of Tasman Bay, with some areas of suitable land in the Motueka Valley, the Moutere Hills and in Golden Bay. Three major rivers deposit alluvial soils on the Waimea Plains. However, the quality of soils, while satisfactory for most forms of fruit and vegetable production, is not as good as in New Zealand's other important growing districts. There are no volcanic deposits, as is the case in the Bay of Plenty, and the soil is relatively thin. The Waimea Plains are only just above sea level and a sterile layer of prehistoric sand – deposited during episodes of higher sea levels – leads to relatively high levels of alkalinity. Consequently, fruit crops require constant fertilising and some crops, like grapes, become water-logged in high rainfall years.

Nelson's climate is the main reason for it becoming a significant horticultural area. Waimea and Golden Bay are bounded by the Richmond and Bryant ranges in the east and the Tasman Mountains and Arthur Range in the west. These relatively high mountain ranges block the prevailing south-westerly weather patterns, creating a unique and warm micro-climate. The sheltering effect of these ranges means that the Waimea

[1] Henceforth and notwithstanding occasions where specific placenames are required, the study area will be referred to as Nelson for purposes of summation. In this sense, 'Nelson' comprises the area under the auspices of the Nelson City and Tasman District councils (see Figure 1.1). It is also pertinent to mention that locals involved in Nelson's organics industry sometimes refer to their domain as 'Top of the South Organics'. This parallels the membership areas of the Top of the South Organic Producers Group, which includes Marlborough as well as Nelson and Golden Bay. The Marlborough organics industry has not been considered in this report because it has its own historical and physical characteristics which should remain separate in analysis.

[2] Latin species names are given for only the first occurrence of a plant or insect.

[3] calculated from BIO-GRO NZ's grower lists.

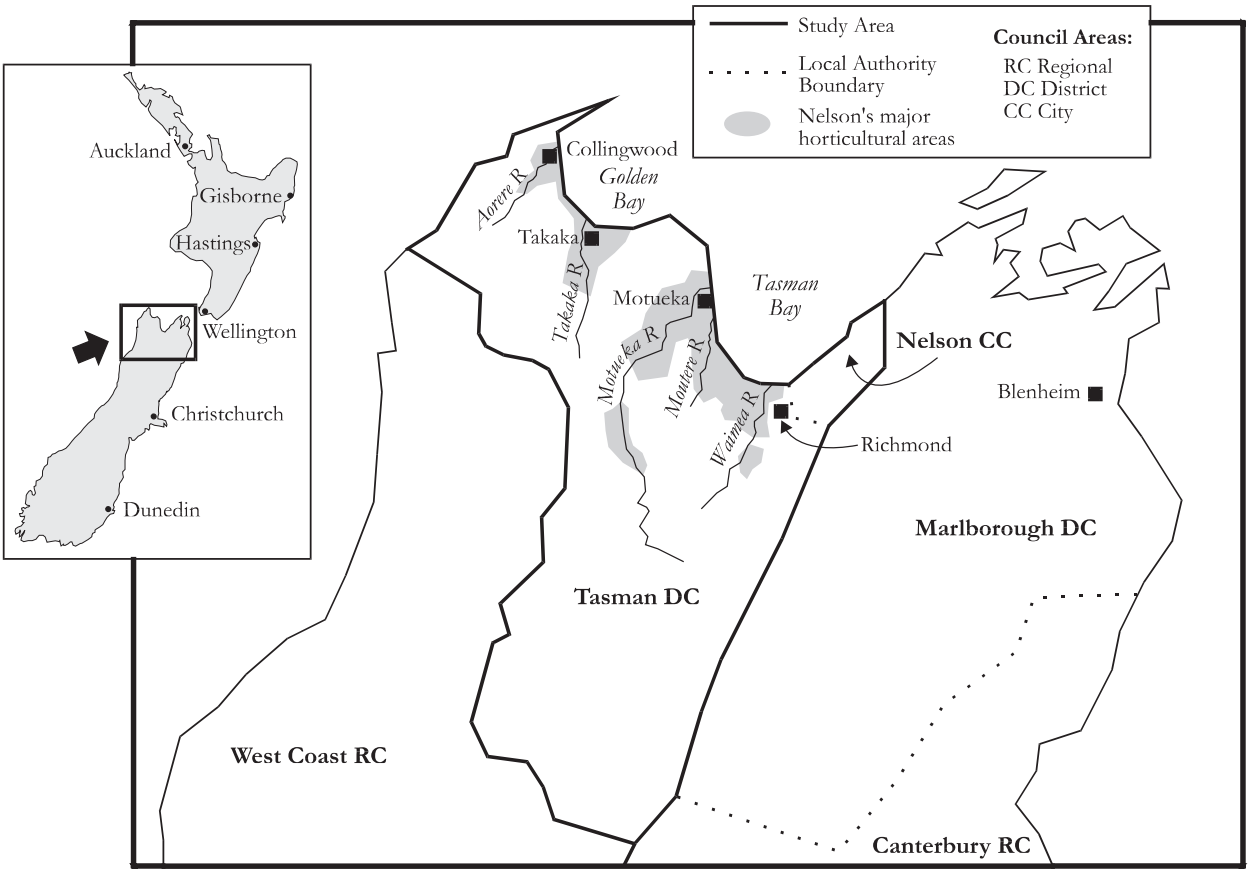

Figure 1.1: The Nelson study area

Plains receive one of the highest levels of annual sunshine in New Zealand. Nelson receives a total of more than 2,400 hours of sunshine a year, and the coastal areas of Golden Bay receive 2,200 (NCC-DO 1998). The mean summer temperature is 16.5°C which is more than sufficient for the ripening of fruit crops. However, with up to 1500mm of rain per annum – the majority of which falls during the summer in highly intensive storms – in areas like Golden Bay, fruit crops are highly susceptible to fungal diseases. This tendency towards fungal disease is an important barrier to those orchardists who desire to convert to organic production and will be frequently discussed in the remainder of this report.

Hops and tobacco were Nelson's first sizeable commercial crops. Both crops were mainly grown in the Motueka-Moutere area and were initially trialed by German immigrants from the 1860s (Briars & Leith 1993). Commercial growing of tobacco and hops began in the inter-war period. In the 1950s, at the peak of its importance, the tobacco crop represented one quarter of total earnings in the Nelson district (McAloon 1997:157). Mechanisation of tobacco and hop production began in the 1960s, increasing the size of farms and decreasing the labour required for harvesting. Nevertheless the area planted in tobacco increased, especially after Rothmans opened its Motueka processing plant in 1968. Removal of tariff protection in 1981 led to a rapid reduction in the number of tobacco farms. As part of a government funded compensation package, growers were paid substantial sums to convert into other forms of horticultural production. The last harvest of tobacco was in 1994. Hop growers also suffered from the removal of governmental import controls and large-scale importing of hops by New Zealand's two largest brewing companies almost eliminated the local hop industry.

While hop growers have recently enjoyed better fortunes, many left the industry and along with former tobacco growers, have diversified into a variety of other horticultural crops. In 1977, there were 80ha on which kiwifruit was grown in Nelson but this figure had increased to 1100ha by 1986 (see Figure 1.2, Agricultural Statistics, 1977/78, 1986/87). Much of this kiwifruit was grown on land formerly used for hops or tobacco. Wine was another industry that former hop and tobacco growers entered into. Grapes were first grown in the 1870s by German migrants to the Moutere Valley but it was not until the mid-1970s that intensive commercial production began (Briars & Leith 1993). The innovation which was necessitated by the changes within the hop and tobacco industries has an important influence over the future potential for adoption of organic methods. Local growers are already experienced in changing their production and may be willing to do so again. O'Conner (1995:96) warns that:

> "Changing from being a tobacco grower isn't an easy move. Replacement crops that offer similar returns, such as apples, pears, hops and grapes, are costly to establish and take years to come into production".

By 1997, however, many growers have successfully replaced crops. Consequently, these growers are "relatively open to the idea of changing the way they produce crops in order to gain the best prices and there will be more ex-tobacco or hops growers who go into organic kiwifruit or apple orcharding" (Interview 8).

Many growers who converted to kiwifruit production in the 1980s have subsequently been marginalised by falling prices. As is shown in Figure 1.2, this has led to a reduction in the amount of land dedicated to kiwifruit production during the 1990s. Replacement crops are frequently more oriented to niche production. Nashi, tamarillo (*Cyphomandra sendtner*) and avocado (*Persea gratissima*) production is becoming more common and yields relatively high prices. Berryfruit production has also increased markedly in the 1990s. These tendencies have been accelerated by the number of farms converting from pastoral agriculture to orcharding in the 1990s. Sheep numbers in Nelson have fallen by 25% over the last ten years (NCC-DO 1998), and lost income is often recovered by a new phase of growth in orcharding. When these new orchards come into establishment, they also often target niche markets. It was discovered in the Gisborne case study that orchardists who target niche markets are more likely to convert to organic production than those who target bulk fruit production. Thus, another factor which may influence the uptake of organic production in the Nelson district is this recent tendency towards high-quality, niche production.

Notwithstanding the importance of these niche industries, Figure 1.2 shows that apples (*Malus spp.*) – a fruit which is not usually part of niche marketing strategies – form the bulk of Nelson's horticultural production. Indeed, there is more Nelson land devoted to apple production than the combined total for all other forms of horticulture in the area (NCC-DO 1998). Apple orcharding was an important form of horticultural production from the time of first settlement by European migrants in the 1850s. However, it was not until the inter-War period that it became the region's chief form of production for export. In the 1920s and 1930s, there was a sizeable increase in the area planted in fruit trees (McAloon 1997:159). Direct shipment of apples to northern hemisphere markets began in 1926 and was aided by increased use of coolstores after the First World War. Direct overseas shipping increased after the Second World War, as fruit exports were needed for the population increase in Europe. This expansion was fuelled by the establishment of the Apple and Pear Marketing Board in 1949. Provided with consistent prices and a stable market, many new growers entered into pipfruit production in Nel-

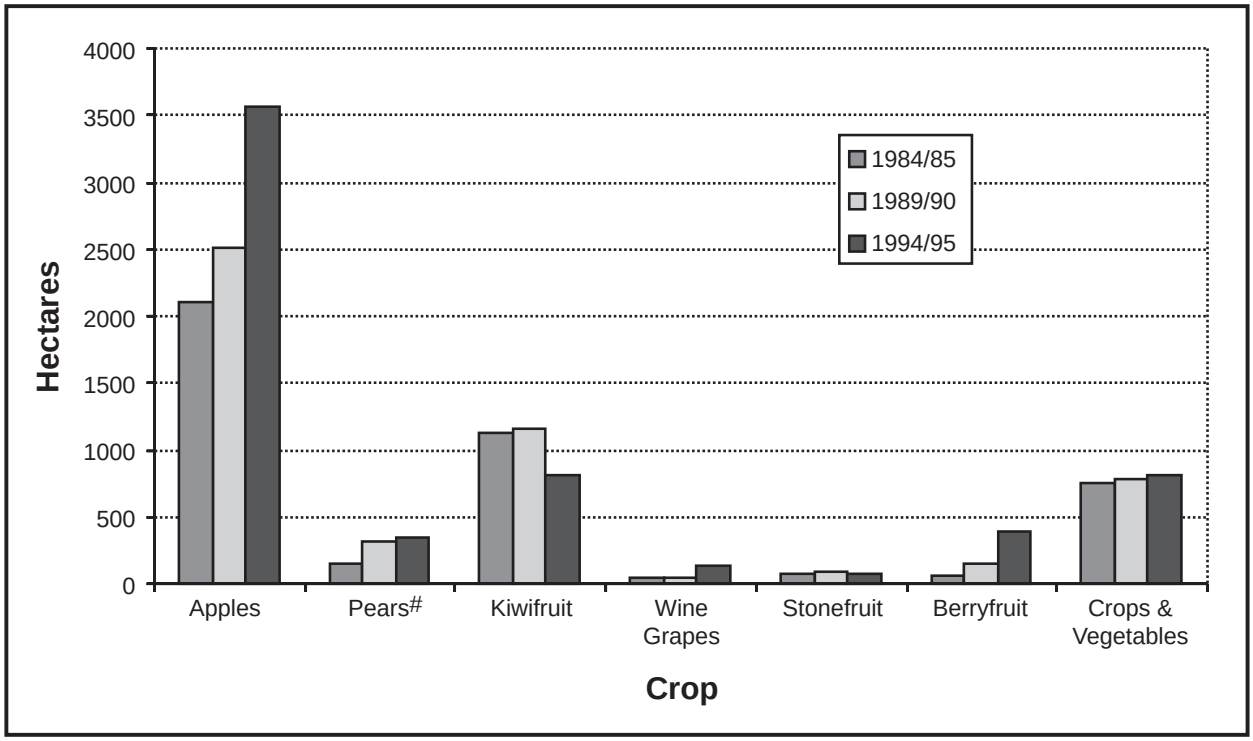

Figure 1.2: Nelson horticulture: total area planted in major crops (Includes data for both organic and conventional properties. Source: Agricultural Statistics, various years, Department of Statistics: Wellington.)

[#] Includes nashi

son, which had till then been considered marginal for commercial sized apple orchards because of the high incidence of fungal disease (MacBean 1982). In the 1950s and 1960s, land was cheaper in Nelson than in North Island horticultural areas and many pastoral farms were bought and converted to fruit production (McAloon 1997:161). Apple production increased again when the Board opened a sizeable processing and coolstorage plant at Stoke, near Nelson City. It is also indicated in Figure 1.2 that apple production has expanded considerably in the 1990s, part of a national level export drive (Le Heron & Roche 1996).

While the region's suitability for horticultural production is an important factor which has led to the influx of organic producers to Nelson, cultural and demographic factors are also important. It was found in the Canterbury case study that immigrants from continental Europe tend to provide a strong impetus for the establishment of organic production. Two waves of German migration to Nelson have taken place and both have had a significant bearing on the direction of local horticultural production. The first such wave occurred during the 1850s and 1860s. The area now known as Upper Moutere was a popular destination for German migrants and at that time it was known by the German title Sarau. The Sarau community pioneered horticultural production when most other migrants attempted to create pastoral farms. The form of horticulture imposed on the landscape by these migrants – very small but highly productive orchards and market gardens – still exists in eastern Tasman Bay (Briars & Leith 1993). In the 1990s such properties have proven relatively popular for conversion to vineyards and some have also been converted into organic farms. The second wave of German migration has occurred in the 1990s. Several small-scale producers from reasonably high-income backgrounds have migrated to the Waimea Plains in search of properties free from the pollution that generally inspired a departure from Germany. Many of these migrants first came to the Nelson area as tourists and have subsequently made the decision to return and settle. As shown in Section 2.2, they have played an important part in the development of the local organic industry.

Other migrants who have come to Nelson for 'lifestyle' purposes are also important pioneers of organics in the area. Because of Nelson's warm climate many people decide to retire there and such retirees often enter into part-time orcharding. Part-time orcharding and market gardening is particularly common for those that retire early. Because they are largely from urban backgrounds and have a reduced need for profitability, organics can often be attractive to this group of migrants. Others have come to the district for 'alternative' forms of living. The Golden Bay area, and to a lesser extent the Wairoa, Aniseed and Waiti valleys near Nelson City, has gained a reputation as a suitable place for various forms of 'rural escape'. Often inspired by philosophies of self-sufficiency or environmental preservation, members of this group are usually interested in consuming or producing organic food. The reputation of Golden Bay as a site for 'alternative lifestyles' has led to the Nelson area gaining an increasing reputation as a haven for organic producers: the two sets of images are mutually reinforcing. Thus, specific climatic features along with a number of complementary cultural and demographic factors provide the context for the development of organics in the Nelson area.

1.2 Research strategies

These facts about Nelson and its people make it ideally suited as a site to examine the domestic aspects of organic production. In the 1990s, there has been a considerable change in emphasis in the New Zealand organic industry, with the export market becoming the more important in terms of value and expansion. This is very different to the situation during the 1970s and 1980s wherein production was largely in the informal or semi-commercial sectors, with the domestic market consuming almost all the resultant produce. During that time, organic production was a philosophical stance – a direct critique of conventional methods – and it appealed to the same lifestyle groups which had already started to migrate to Nelson. The philosophical stance of the 70s and 80s differs markedly from the predominant motivations of those entering organics during the 1990s. The Canterbury, Bay of Plenty and Gisborne reports show that, while some of the new growers experience a "progressive conversion" to the wider merits of organic farming, they are generally more pragmatic in their attitude to organic production.

1.2.1 Research objectives

There are many potential issues of interest which emanate from this growing commercialisation and export-orientation of organic production in New Zealand. These are outlined in more detail in the Canterbury and Gisborne reports (Campbell 1996:3*ff*, Coombes *et al.* 1998:1-2), but include such aspects as:

- The development of distribution networks and industry structures which are specific to organics or which highlight the general link between farmer decision making and the capitalist market;
- Impediments which prevent conventional growers from converting to organic production;
- The development of suitable methods, structures for certification and technology which

may allow for the successful commercialisation of organics and yet will also maintain appropriate organic standards.

While those issues are examined in this fourth case study, the main issue of concern in this report is the condition of the domestic-oriented and philosophical producers. Some researchers might suggest that the growth of an export and commercially targeted organic industry is a direct threat to the philosophical stance of the former group. Given a level of demand which far exceeds supply, prices for organic produce in New Zealand are relatively high compared to other food products. With superior economies of scale and scope, the ability to dump export rejects on the domestic market, and existing lines of distribution, there is some potential for the pragmatic producers to overwhelm their philosophical counterparts by offering organic products at lower prices. Furthermore, with the arrival of large corporate entities in the organic industry – such organisations as Heinz-Wattie Ltd. and Zespri International Ltd. which were shown to have a major influence over the other case study areas – there is potential for the predominantly small-scale producers who have thus far serviced the domestic market to be negatively affected. As yet, such companies have shown limited interest in the domestic market but, in future years, that may well change. An examination of events in the more recent history of organics in Nelson illuminates this issue for, as already indicated, growers in Nelson are, and always have been, interested in organics for 'lifestyle' purposes. Nelson provides a test or 'control' case: have local people involved in organics been negatively affected during the time that the export and commercial focus of organics has become prominent in other regions?

1.2.2 Research process: strategic interviews

In December, 1997, an interview program was conducted with 21 participants who have a stakeholding in the local organics industry. These interviews were 'interactive' in the sense that the form of interviewing was not the survey method. Rather, no set list of questions was asked and the interviewee was given as much room as possible to direct the structure of their interview. The composition of members in this interview program is presented in Table 1.1. That composition differs from the other three case studies in that there are few processors or distributors and a large proportion of growers, reflecting the different structure of organics in Nelson. Produce in Nelson is often distributed directly from farm, orchard or market garden to consumer, whereas in the other areas such distributors and processors as Zespri International Ltd., and Heinz-Wattie Ltd. played a major role as intermediaries.

Position in organics industry	Interview No.
Processors of organic products	1 and 2
Retailers of organic products	3 and 4
Local BIO-GRO inspector	5
Organic orchardists	5, 6, 7, 8, 9, 10, 11, 12, 14 and 15
Organic market gardeners	5, 11, 13, 14 and 16
Organic viticulturists	16 and 17
Producers of organic bee products	18 and 19
Producers of other organic products	4, 11 and 20
Mainly growing for export	8, 17, 18, 19 and 20

* Where necessary, participants were placed in more than one category

Table 1.1: Participants in the strategic interviews

Chapter 2

The evolution of organic production for the domestic market in Nelson

This Chapter adopts a broadly historical perspective on the changes that have occurred within organic production in Nelson since the 1970s. Stereotypes about the organic industry are numerous and are probably a key marketing ingredient for the accelerated commercialisation of organic production. It may be tempting for some to consider only the export sector of organics to be dynamic, bold, and highly marketable, while imaging the domestic sphere as Luddite, static and maybe, even, uneconomic. The recent advertising campaigns of the Organic Products Exporting Group (sponsored by Tradenz), Zespri and Heinz-Wattie help solidify the former set of images of organics, and also influence the views of industry commentators. It is suggested in this chapter, however, that the rapid growth and constant promotion of the export sector has obscured real and important changes that have occurred in the domestic market.

It was not until Saunders et al. (1997) conducted a broad analysis of the organic industry in New Zealand that surprising levels of growth in the domestic market for organic produce were identified. This finding was to the great surprise of those researchers, but it even surprised some core members of the organic agriculture movement. In part, the Nelson case study provides a test case to confirm such findings. Initially, Nelson's organic industry was, perhaps, "the domain of the jandalled and bearded" (Interview 8) and it is undoubtedly true that there remains some evidence for that particular stereotype. Nevertheless, in the 1990s some of the initiators of organics in the region and other, more recent organic producers have expanded their involvement in the national and local markets for organic food. Although these operations may be smaller than export farms and while the philosophical commitment and the 'self-sufficiency'-type lifestyle may remain, many of these units are profitable, part of large and expanding distribution networks and reasonably productive.

2.1 The pioneers of organic food production in Nelson

The changes that have occurred within the local organic industry during the 1990s are important, but so too are the initial directions of the industry during the 1980s. Much of what characterises the Nelson organics industry today was the result of the work of industry pioneers. However, the following is only a partial account. Many of those who commenced with organics in the 1970s and 1980s have since left the district and, with the relatively high turnover of 'lifestyle' organic farmers, it was impossible to contact all the pioneers of organics[4].

2.1.1 The Riverside Community

Although several small-scale farms had offered uncertified organic produce on an informal basis at various times throughout the 1970s, the Riverside Community of Lower Moutere was the first operation to offer commercial volumes of organic food for sale to the public of Nelson[5]. Riverside was started after WWII as a pacifist commune, with links to the Methodist Church. From its commencement, agriculture and horticulture were prime concerns for the Community because it had been gifted an apple orchard, which became its principal site for expansion. From the beginning, therefore, Riverside was a commercial operation with non-commercial ideals – a characteristic which has been preserved in Nelson's organic industry of today. An organic garden was started in 1977 and, initially, the purpose of this garden was to supply only the Community, part of a wider concern about the environment and self-sufficiency (Interview 13). During the 1970s, the pacifist ideals gradually became secondary to the ideals of new members from alternative lifestyles, and interest in environmental preservation became a considerable focus of the Community. In 1981, it began to sell organic produce to the public, not because its members had a strong desire to profit from their organic garden, but because they had been requested to do so by organic consumers in the area. Organic supply was inconsistent in the early 1980s, so consumers considered Riverside a good substitute for the lack of a formal enterprise that would supply organic food (Interview 4). This trade was soon formalised into a significant roadside stall, then a shop and, in 1985, the community gained organic certification. Later, this certification was extended from the (by then sizeable) vegetable garden to a small portion of Riverside's

[4] A database of contacts in the organic industry – which included 15 growers (9 of whom were certified) – was compiled by Rimmer (1991) in the early 1990s. In the few years since that time, 6 of those growers have exited from organic production and many have left the area.

[5] Hazel Dell Farm was also very important in the initial growth of the local organic industry, but it was not possible to contact representatives from that property.

apple orchard, with apples being sold at the Community's shop and also nationally by mail order.

The gardener responsible for the vegetables and the shop stated that Riverside became certified "to have the proof, even though having proof wasn't really a big thing back then as organics was so marginal that only committed people became involved" (Interview 13). He also stated that the success of the Riverside garden was largely the result of compost from the large, conventional dairy and boysenberry operations associated with the Community. This highlights some of the changes that have occurred within organic certification in New Zealand since the early 1980s. Several of the distinguishing aspects of the Riverside Community – including the fact that it had parallel conventional and organic operations – would not be acceptable today[6].

Although commercially successful, the organic garden at Riverside was abandoned two years after the gardener left the Community because of a failure to find a suitable successor. Not long after this, the organic orchard failed because of difficulties in overcoming pest infestation on apples and because the organic orchardist also left. However, another reason for these respective failures was that organics was controversial within the community. Some members believed that organics had adversely affected the image of the conventional aspects of the farm and others wanted the entire property to be converted to an organic regime. So many of the Community's members became interested in organics that the larger, conventional operations stagnated. The fate of the organic orchard and garden was one of a number of reasons for the Community gradually losing members throughout the late 1980s (Interview 13).

2.1.2 European migrants and food cooperatives

The same gardener that pioneered Riverside's experiment in organics moved on to work at a health lodge that served organic food, establishing another successful organic garden. This represents the beginning point in a wider theme in Nelson organics: the positive relationship between the growth of tourism and the growth of organics. Today, tourists comprise a considerable portion of the market for organic produce, especially for those growers in the Marahau area who capitalise on the large number of tourists travelling to the start of the Abel Tasman National Park (Interviews 4, 7, 12). One of those growers estimates that he sells over half of his produce to tourists (Interview 7). Tourism has not only provided Nelson with consumers of organics, but also many of its producers. The owner of the health lodge had first come to Nelson as a tourist and, having seen the potential for "selling the green lifestyle and capitalising on the growth of the health industry in New Zealand" (Interview 16), later decided to migrate from Germany. Migration from Europe is also an important theme within the evolution of organics in Nelson. Two of the growers interviewed are migrants from Germany, and a third emigrated from Switzerland in 1991. A number of other European migrants have had important roles in organic production in Nelson since the mid-1980s but, like so many of the 'lifestyle' growers, have left the industry after only a few years.

In general, trade in organics in Nelson had informal beginnings. Several properties that had formed organic gardens and orchards for purposes of self-sufficiency sold – and sometimes bartered – their surplus to friends and also to food cooperatives. Indeed, it was often through supplying food cooperatives that such producers were drawn into the market as suppliers to the general public. Several large food cooperatives developed in Nelson during the 1970s and the growth in their popularity was directly linked to the area's popularity as a lifestyle destination. Believing that "middle-men in the food industry had artificially increased the price of food since WWII" (Interview 3), alternative lifestylers often formed into cooperatives of about 10 families, each taking a turn to buy goods at wholesale rates or, as became common in Nelson, direct from other lifestylers on larger plots of land or farmers sympathetic to their ideals. Given that food cooperatives formed around 'alternative' ideals, it is not surprising that they were also foci for the spread of organic philosophies (Interview 4).

When food cooperatives became less fashionable in the first half of the 1980s, and most were disbanded in Nelson, one such cooperative reformed itself to become the owners of a health food shop situated in Nelson City. The organic producers who supplied the food cooperative continued and expanded their involvement in the organic market by supplying that shop (Interviews 5, 11, 13). A second health food shop in Nelson City was later to sell organic produce, as did a similar operation in Motueka. A Richmond supermarket also experimented with displays of organic food, but because presentation of this stall was in the hands of growers – who could not come to the store every day to arrange the produce – little was sold there (Interview 5). Given inconsistencies in

[6] With the solidification of BIO-GRO criteria during the late 1980s and early 1990s, it became unacceptable to exhibit the intention to certify only a portion of a property, without seeking to eventually certify the entire property. Even at the time, the latter was controversial in the Riverside case. BIO-GRO inspectors had expressed a desire that the Community "be all or nothing, but they allowed Riverside some slack because of its overall philosophy. Usually when growers aim to certify only portions of their property with no intention of certifying the rest, they are doing it to make a profit. It was obvious that we weren't doing that" (Interview 13).

both supply and demand, none of these retail operations sold large volumes of organic produce (Interview 3). In Takaka, another food cooperative also transformed itself around this time to become the managers of the Community Gardens, which also provided an intermittent supply of organic food. Many of the producers that supplied the health food stores and Community Gardens only later became certified organic. Consumers bought produce on the basis of the grower's reputation and there was a high degree of personalised informality in the trade of organic goods (Interview 4).

2.1.3 Towards formalisation of organic food distribution

By the mid-1980s, the number of organic consumers in Nelson had grown considerably, but the area lacked a suitable distribution network which would satisfy demand and also encourage other growers to convert to organic production (Interview 5). Informality in the Nelson organic industry, while it was highly valued by local adherents of organic philosophies, appeared to be a key reason for it not developing to its fullest extent. A level of cooperation which is not common among conventional market gardeners was to provide the major boost to formalising the trade in organics. In 1987, the then recently formed *Top of the South Organic Producers Group* met to consider options for linking growers to consumers. The Group decided to open a cooperative stall in the Nelson flea market, held on Saturday mornings. This move brought organics more formally into public knowledge and accessed a far larger market than the health food shops. The Nelson flea market has become a considerable financial and tourism success, with a high degree of professionalism distinguishing it from similar operations in other towns. Two growers are responsible for running the stall and selling produce on behalf of other growers, for which they take a small percentage fee. Initially, seven growers were associated with the stall, and some of these began to increase their production as a result of good sales (Interview 5).

Growers also began to cooperate over the mix of products that they were growing because of the stall:

> "To run the market stall successfully we decided to have as wide a variety of organic products as possible. So we sat down and said 'you grow that, that and that' and I'll grow 'that, that and that' and each of us went away with a clearer understanding of who should grow what. That cooperation back then has meant there is little competition between the local growers today." (Interview 14).

Maintaining a situation where there was little competition between producers remains a goal for many of the current cohort of growers (Interviews 4, 7, 9, 10, 11, 14). Notwithstanding this motivation, which is unusual in the context of capitalist markets, the stall has been a considerable financial success. Some growers did abandon the cooperative stall, but two have consistently brought supply along with other less consistent contributors. At present, the stall turns over approximately $2000 a weekend during the summer (Interview 14). Its role as a focal point for organics has been more important than its revenue, however, and since its inception the stall has aided the growth of the local organics movement. It encouraged many growers to pursue BIO-GRO certification because it provided a consistent market that would justify the expense of certification. Following the establishment of the stall, certification became the norm, whereas previously it was the exception within the organic fraternity. The more consistent supply offered to organic consumers attracted more people to consume organic produce, leading to an acceleration in the evolution of Nelson organics.

2.2 Attitudes of domestic-oriented organic growers

Many of the factors that make the Nelson organic industry unique are the result of the attitudes of those who became involved in organics for lifestyle reasons, so these attitudes and their outcomes need to be examined. As is the case in many areas where a local organic industry has a strong link to lifestyle concerns, organic growers in Nelson tend to stress social and environmental aspects of their operations. Nevertheless, it will be shown that the issues of profitability and, even, exportation are not necessarily precluded by social and environmental concerns.

2.2.1 Lifestyle and organics

According to the local BIO-GRO inspector "the one thing that separates Nelson from other organic producing areas is the number of small growers, especially those in it for a green lifestyle" (Interview 5). The Nelson public often associates organics with alternative lifestylers and, undoubtedly, this depiction was correct at least for the early development of organics, so there is need to examine this association in more detail. Lifestyle has become an important concern within rural studies over the last decade (see Cloke & Goodwin 1992; Cloke & Milbourne 1992; Cloke *et al.* 1995; Woodward 1996). However, there is a tendency within both academic literature and popular media to portray lifestylers as uninterested in economic activity. While some lifestylers do attempt to escape all forms of employment and to become involved in the informal or even the subversive economy, other lifestylers are interested in making

their alternative lifestyles a profitable business. In previous research by one of this report's authors this was found to be especially true in the case of the tourism industry wherein part-time or seasonal self-employment was particularly desirable for lifestyle groups (Coombes 1997). Generally, early retirees and urban escapees – those who, for example, attempt to avoid a welfare dependant and expensive existence in cities by moving to what is perceived as the lower cost of living in the countryside – are more interested in making their lifestyle a 'business' operation. These varying motivations need to be taken into account so that lifestyle does not become a cover-all term which assumes a desire to avoid any form of employment. They may also help to explain the expansion of domestic-oriented organic farms during more recent years.

Nonetheless, the reasons for the development of an organic industry in Nelson can be linked to a strong desire to form alternative lifestyles in the informal economy:

> "It was the time of the back to the land thing anyway. So there was the Whole Earth Catalogue[7] and that sort of stuff. A whole alternative lifestyle thing, and organics was part of that. It was weird to conventional farmer types, but not that strange to those from the urban background of the time. And Nelson has a lot of German people, and North Americans too. So it didn't take long to find people interested in what we were doing. People came here to get out of the smog of the city. They were here for environmental reasons, so both consuming and producing organic food was part of the lifestyle, part of a collective package of ideas that were about easy living in a good environment" (Interview 5).

Many of the interviewees had similar recollections of the late 1970s and early 1980s. In general, the pragmatic, premium-oriented attitudes of growers in Gisborne and Bay of Plenty were not common amongst the Nelson sample of organic growers. Rather, most Nelson growers emphasised social and environmental reasons for their involvement in organics. A broader range of concerns characterise the practice and collective ethos of the majority of Nelson growers. These concerns highlight the lifestyle component of organics in the region and include:

- General concern for keeping organic properties on a small-scale. Many of the properties evaluated in the interview sample were under 5ha, and a large majority were under 20ha. While this reflects the financial resources of the particular growers, it also reflects preference, as small-scale was considered to be environmentally and socially appropriate;
- Commitment to avoiding monoculture on organic properties, with many growers interested in permaculture (Interviews 4, 5, 6, 7, 9, 10, 11, 16, 17);
- Desire to avoid the use of even 'restricted' organic inputs under the BIO-GRO standards because to do otherwise was to exploit certification loopholes at the expense of the environment. This was parallelled by a strong support for composting and 'closed-system' farming, with little or no external inputs (Interviews 7, 9, 11, 14, 15, 17);
- Strong desire to avoid debt or engaging in any financial transaction with transnational companies because this would compromise philosophical standards (Interviews 10, 11, 17, 19);
- Recognition that being a non-certified organic producer[8] was a fully acceptable ethical stance because it helps to evade the formal economy and, thus, avoids a compromised philosophy (Interviews 4, 9, 10, 11, 15, 17). There was also a much more accepting attitude to growers under the (Steinerist / Biodynamic) Demeter label than in other areas;
- Preference for using WWOOFer[9] labour over increased use of machinery during the busy months of the growing season "because agricultural machinery damages the soil and reduces the need for outside labour – organics should be labour intensive to employ people" (Interview 16). However, there was also a general desire to avoid the use of labour as much as possible, with several growers being particularly interested in self-sufficiency (Interviews 10, 11, 12, 14, 16, 17);
- Repetition of the idea that growers were involved in organics mainly for the purpose of meeting their own food needs, with only the surplus being offered for sale. It was suggested that this was a different situation than for export or larger organic growers, who were believed to be primarily interested in profit (Interviews 4, 10, 11, 17).

It appears that the repetition of these beliefs has formed something of a publicly recognised "lifestylers' code of ethics" (Interview 11), and that this has provided the Nelson area with a national reputation as a haven for lifestylers oriented to-

[7] A volume which provided advice on, *inter alia*, means of pursuing a self-sufficient lifestyle.

[8] Especially those who practise under an organic regime but either refuse to certify under BIO-GRO NZ or abandoned that certifier because of its perceived "links with international capital and its new emphasis on profit" (Interview 13).

[9] Willing Workers on Organic Farms – a scheme designed to match up travelling workers interested in organics and working-for-keep with organic farmers requiring temporary labour.

wards the environment and organics.

Three couples interviewed were attracted to the Golden Bay area because of its reputation as a site for "green lifestyles", believing on the basis of that reputation that it would be relatively easy to find suitable properties for organic production (Interviews 9, 10, 19). In all three cases, they had entered food production with little or no relevant background knowledge or experience. This may well be because food production was only one part of the experience that they were seeking:

> "Well one of the things we wanted to do for about ten years was to make a fairly dramatic lifestyle change. Coming straight from Sydney was quite dramatic, but we wanted to do something like this. But if you wanted to do it – to get away from it all – why do it with all the chemicals? I could have stayed in Sydney for that. It was the only sensible way to go. I couldn't imagine us coming out to a place like this and doing it conventionally. We've always been fairly aware of that sort of thing – that's just the way we went. We were looking right from the start for a property that could go organic. 'Philosophical' – I suppose that phrase would depict our reasons rather than anything else. We're certainly not price motivated: we're not trying to make a fortune out of it. Our means are fairly small and we can survive on a small income" (Interview 10).

That particular couple, as well as a number of other growers, had retired early from professional careers. Therefore, they had sufficient capital to buy their properties with little or no mortgage and could afford a small-scale, close to subsistence existence.

Another lifestyle aspect of Nelson organics that became obvious in the interview program is the commitment of individuals to other environmental concerns. Several organic growers "wear a number of different hats in the underground environmental movement and are involved in organisations ranging from the Maruia Society to the more radical environmental activist groups" (Interview 3). Some of the interviewees were involved with EcoNet, a group set up to protest against horticultural spray drift from conventional orchards. Spray drift is a regular concern in local media, often because of articles written by Nelson's organic growers. Organic growers tend to present a considerable number of submissions on District Council plans. There tended to be more involvement of growers in the Soil and Health organisation than in other organic producing regions (Interview 4), which indicates grower commitment to wider environmental issues and their preference for small-scale organic production. In the interviews, many growers were easily distracted into talking about some of the larger environmental problems in the district, especially the contamination left at Mapua, a former site for the stockpiling of agricultural and forestry chemicals.

2.2.2 The profit motive?

This concern for environmental issues does not necessarily mean that a desire for profitability was absent. However, the attitude to profitability portrayed by Nelson growers was, on balance, different from growers in the other case studies that comprise this research program. It appears that the level of profit that a grower should extract from organic production has been disputed within the alternative agriculture movement since the earliest developments in the Nelson organic industry. The growers on the smallest lifestyle properties tended to suggest that they had little interest in profitability. Growers on the larger lifestyle properties were interested in a maximum return for effort, even if that amounted to little profit because their investments – large in the local context – are relatively small in the national context. All the European migrants interviewed had been keen from the very start to make a profit from their organic operations. They were "there to make a living just like any other market gardener or orchardist" (Interview 12). These differing attitudes to profitability were formed in the early evolution of organics in Nelson. They are important contexts for the local expansion of domestic-oriented organic farms during the 1990s, to be discussed in Section 2.4.

The profitability issue is tied to the setting of organic premiums. The notion of an organic premium is not easily applied to those growers who target the domestic market – the majority of Nelson's organic growers. Growers that offer produce from roadside or flea market stalls usually set their prices at supermarket level, but with much smaller retail margins than a supermarket, their returns are relatively higher than conventional market gardeners who supply wholesalers and supermarkets (Interviews 7, 9, 13, 14). They also earned more than comparable conventional growers who sell at similar stalls. Most believed that "[p]ricing organic produce is a joke. Pick a figure, any figure, then ask for it: there's nothing to gauge against" (Interview 10). In other words, the local market for organic produce is not transparent with respect to pricing because of relatively limited and inconsistent supply. It is, therefore, difficult to evaluate whether domestic growers were deliberately seeking an organic premium.

In any case, many of the growers that fit into a lifestyle category were insistent that they did not support the idea of organic premiums. They often stated that poor people in the district were also interested in organics and that they should not be

dissuaded from buying organic food because of higher prices. One grower commented that:

> "…one of the things that may be different about organics in Nelson is the attitude to the idea of an organic premium. The lifestyle ethos – or whatever you want to call it – around here is generally against making unwarranted profit, against making organics the reserve of the wealthy. When pricing, we like to cover any extra costs of organic production, but we aren't so concerned about premiums. We've proved that our ideals weren't all talk in the market too. I didn't think that organic food should be exclusive. I didn't want people that were, for example, ill and needed organic food to have to spend all their money on healthy food. That sort of idea is common, especially when applied to the poor up here" (Interview 13).

Another grower prefers not to sell through intermediaries. He mainly sells direct to families to which he has a personal link so he "can do it at a price they will afford – and I like to think I'm being of benefit to my neighbours" (Interview 11). There is, therefore, some evidence to suggest that, while growers seek recompense for the higher costs of organic production and for their limited economies of scale, many do not attempt to gain the maximum possible price.

Yet, other courses of action are taken by those very same growers to ensure that their farms are managed efficiently and productively. Most growers wanted to sell as much as possible: there was a general agreement that the best and most ideologically acceptable way to make profit from organics was to have a high turnover with a lower premium. At least three of the growers have planted their crops so that harvest times are cycled over the course of a year, rather than having all produce harvested in late summer (Interviews 6, 10, 11). This ensures both a consistent income over the course of a year and the ability to take advantage of the generally higher winter prices, showing that even lifestyle growers attempt to maximise returns in at least some ways. Most growers attempt to apply their labour efficiently to their crops. For example, many only pick fruit when a buyer has been found so as to avoid wasting their labour on unsold fruit (Interviews 6, 7, 9, 10, 11, 12). In several cases, growers are working to increase their efficiency, so that they use less inputs but have a higher profitability. Two growers expressed with pride that they were more profitable than their neighbours in conventional production (Interviews 10, 14), also revealing that profitability can be a concern for lifestyle growers. In general, therefore, domestic-oriented growers exhibited considerable inconsistency over the issue of profit from organics. This is not an unusual situation for the organic agriculture movement globally but is generally unrecognised in New Zealand. In fact, one of the most consistent and unresolved debates within organic movements the world over is both the degree to which organics should be economically profitable, and the extent to which growers should price their produce in a way that does not make organic food inaccessible to poorer consumers. BIO-GRO NZ has followed the general lead of IFOAM by stating that one of the aims of organic agriculture is 'financial sustainability'. Individual growers throughout New Zealand have interpreted this in various ways, and the Nelson case represents one extreme of these interpretations.

2.2.3 Lifestyle/domestic grower attitudes to organic exporting and the commercialisation of organic production

Issues of profitability and the environment serve to introduce the question of whether lifestyle / domestic growers perceive negatively the ongoing commercialisation and growth of exporting in the New Zealand organics industry. Several academics suggest that there are reasons for this to be likely: large companies, especially those involved in exporting, are frequently presented as the natural enemy of the small-scale organic producers who target the domestic market. MacRae *et al.* (1993) contended that large companies are gradually coopting the wider sustainable agriculture debate, thereby corrupting the philosophies behind such alternative agricultural movements as organic farming. Friedmann (1993) and Kneen (1995) believe that large companies are stealing the ground of organic farmers by outwardly attempting to display a commitment to 'green ideals', but only minimally changing their production practices. This serves to satisfy the public that all is right with large food companies, leading the consumer to believe that there is no need for organic food, or that organic producers are extremist. Buck *et al.* (1997) go further, suggesting that transnational food corporations see the organic industry as a potential source of profit. Because of this, such corporations have become more involved in Californian organic agriculture, slowly displacing the smaller growers because large companies have economies of scale and scope. Growers are either taken over by large companies or are so restrained in terms of outlets for organic produce that the profits from their endeavours are appropriated.

Summarising these different perspectives there appears to be two types of argument:

- Large companies marginalise by stealth the market share of small-scale producers through false imaging of both their own products and the nature of organic production;
- Large companies directly commodify the or-

ganic production process, especially its most profitable sectors. In particular, this occurs through the price mechanism: large companies increase production, thereby reducing prices below the level where small producers can profitably exist but where companies with scale-economies and significant market share can still extract profit.

It is possible that both these arguments are correct. However, their relevance may also be specific to the northern hemisphere countries of their origin: according to Nelson's organic growers, organics in New Zealand has, thus far, taken a different path.

Generally, domestic-oriented producers in Nelson supported the growth of organic exporting and, while there were some generalised reservations, they also supported the increasing involvement of large companies in organics. One reason for this support relates to the perceived need to increase the legitimacy of all people involved in the consumption and production of organic food:

> "We found that at the A&P show – where Top of the South Organics put on a large display – that the way organics is viewed is changing rapidly and it's because of those big exporting companies. We had a wide range of big companies – Frucor, Zespri, and Watties all supplied promotional material. The response there showed that organics is now mainstream and credible, and it wasn't last year. The point is that it's not only those companies who suffer because organics is considered as something for hippies. They suffer because they can't get the growers to convert, but we also suffer because most potential consumers are not hippies" (Interview 10).

The argument is that the involvement of large exporting companies has brought a sense of legitimacy to the organic *consumer* as well as producers of organic food. The more normalised organics becomes in New Zealand, the more organic food will be sold on the domestic market. Because large companies normalise organic food through their promotional activities and through their acceptance as industry leaders by the general public, their foray into organics has been well received. Indeed, "the rule appears to be that the more they export the more markets there are for us locally" (Interview 12). In this sense, the main complaint that the domestic/lifestyle growers have about large companies is that they do not do enough advertising in New Zealand. Several cited Watties removing its organic lines from supermarkets in October 1997[10] as bad press for organics.

Thus, in terms of creating an image, small-scale organic producers from Nelson support the export industry and its commercial aims, and do so with convincing arguments. However, the reasons given by lifestyle/domestic producers for discounting the second type of argument outlined above are less convincing. Growers argue that large companies will not try and take over organic production for the domestic market in New Zealand because maximum profits are to be gained in the export, not the domestic market (Interview 4, 5, 9, 10, 12, 16). Their argument is that domestic and export producers exist in two thoroughly different spaces within the market for organic goods. As large companies are seen to be attracted only by profit, they will not target the domestic market where the volume of organic trade is much lower than in the European Community, the US or Japan. The difficulty here is that this argument may be specific to the present situation. The volume of organic trade in New Zealand is increasing rapidly (Saunders *et al.* 1997) and it may only be a matter of time before large companies involved in exporting turn to the domestic market. If this happens, small-growers will be vulnerable to the dumping of export rejects in the local market. This will reduce the overall prices for organic food, possibly rendering the smaller organic farms uneconomic.

However, Nelson's organic growers argue that even if large companies turn their attention to the domestic market, the commercial players will always produce commodities which are different from, even complementary to, those of the smaller producers (Interviews 5, 11, 13, 14, 16). The idea here is that companies such as Heinz-Wattie Ltd. produce processed, frozen vegetables while smaller organic market gardeners produce for the fresh market. Thus, it was predicted that there will be no conflict. This may be true in terms of what is consumed presently within New Zealand, but it does mean that small producers may miss out on the potential market of new consumers of organic food. Small producers may well find themselves restricted to 'alternative' consumers, while mainstream consumers who will most probably be drawn into organic consumption by the power of the large companies' advertising and their lower prices may find 'processed' organic food more appealing. The domestic/lifestyle growers were not ignorant of this possibility, but remained steadfast in their belief that there would always be a market for their goods:

> "Large companies will take over here. It's just a progression that has occurred elsewhere in the world. There's nothing you can do to stop it. Then the average shopper will start to

[10] Watties have sent small consignments of their processed vegetables to national supermarkets from 1996. The turnover of these goods was not high, so the company severely reduced the practice during October 1997.

go to those large companies. The prices will start to fall and we will be marginalised. When that happens we will rely on developing relationships of trust with our individual clients and we'll work that way. Providing them a quality product, working in a niche, a wee bit above the rest. I don't see that that large companies will cause us a problem" (Interview 9).

While this outcome is highly speculative it remains significant that the small-scale producers do not necessarily see the large, export companies as their 'natural enemy'. The Nelson sample of growers was generally supportive of organic exporting and of the involvement of large companies. Likewise, they also supported the larger-scale growers who supplied the large processing firms:

> "The more commercially oriented organic farmers won't have to have the contact with us. Price is going to be the motivation for those growers. That's not the best motivation, but who cares as long as they are going to get into it: it's all good for the environment so you can't be parochial. The people doing it for self-sufficiency reasons like myself just aren't going to meet up with those others, so there will be no conflict. For example, we'll go to Soil and Health for technical advice and they will go to their producer board or company." (Interview 7).

This, once again, highlights that the basis of their optimism is the notion that the 'philosophical' and the 'pragmatic' sectors of organics are separate industries. There was a strong belief that these two industries could co-evolve in a mutually reinforcing manner, without one being marginalised by the other.

2.3 The relationship between BIO-GRO NZ and small-scale organic producers

The New Zealand Biological Producers Council – later to be renamed BIO-GRO NZ – was formed as an umbrella group for a variety of alternative agriculture groups and other interested parties in 1983. At that time, the large companies that have such a prominent position within organics today had not yet shown an interest in organic production. In the 1980s, therefore, the main institution of the organic industry in New Zealand reflected the ideals of small-scale producers, and such producers alone. Ritchie and Campbell (1996:16) argued that a main force for change in the BIO-GRO structure was the desire to extend educational, promotional and scientific assistance to growers and the perceived need to formalise the standards for organic production. Many believed that New Zealand agriculture was about to experience a major paradigm shift towards organic production, but that this would only occur with a coordinated program of technical transfer. However, with much of the work conducted on behalf of BIO-GRO NZ being voluntary, the organisation faced difficulties in resourcing a major program of that type.

When large companies and their growers became interested in organics in the 1990s, therefore, the motivations of those companies and growers were compatible with BIO-GRO's need to expand its resource base. Such companies were welcomed by many existing members of BIO-GRO NZ, partly because they would inevitably pay large levies on their high volume of organic exports, thereby providing the basis for the professionalisation of BIO-GRO itself. As one grower commented:

> "Organics for export, especially by transnationals - the likes of Watties - was really controversial at first. Some of the really committed organic people believed that there was no point producing food in an environmentally acceptable way if you were going to transport it half-way across the world using up heaps of fossil fuel in the process. But you see, BIO-GRO had to come out in favour of the export thing in order to increase the grower base and pay the bills. They welcomed all the growers who had converted from about 1989 when organics started to become popular again, but they couldn't expect their inspectors to certify all those growers for free" (Interview 7).

Liepins and Campbell (1997, see also Coombes and Campbell *in press*) argue that the large companies have not attempted to deliberately manipulate either the criteria for certification or BIO-GRO's highly democratic political structure. However, those authors also accept that the sheer volume of contributions made by export / processing oriented companies, as well as their infrastructural weight, has inevitably influenced the restructuring of BIO-GRO during the 1990s. It is relatively common knowledge that many of the smaller-scale organic growers have been concerned about these changes in direction. The Nelson case study – with its abundance of small-scale growers isolated from the influence of exporting companies and larger organic growers – provided an opportunity to examine the ongoing relationship between lifestyle / domestic growers and the organisation that they, originally, formed.

2.3.1 Grower concerns about the direction of BIO-GRO NZ

In the other regions growers often complained about the fees charged by BIO-GRO NZ. At the time of interviewing the BIO-GRO fee structure was changing. This section will discuss growers' attitudes to the pre-1997 fee system and the next section will examine their response to new fee initiatives. The status quo after 1994 was that a two tier system was in place and growers with over $15,000 turnover per annum paid $800 (excl. GST) for inspection of their property, while those under $15,000 paid $450 (excl. GST). Growers also paid a 0.5% levy on their annual turnover. Obviously, the inspection fee represented a higher proportion of total costs if the producer had a low turnover and, in the other case study areas, it was generally the smaller growers who most bitterly complained about the size of the fee. Many also complained about the increase in the inspection fee, which was imposed in 1994, and Saunders *et al.* (1997) identified a significant decrease in certified organic producers in response to the higher fees. While complaints were widespread in all regions, the concern over BIO-GRO's fees was more pronounced in the Nelson area. Growers argued that:

- Because their properties and turnover were so small, they did not take as long to be certified and so should not incur the same fees as larger, export oriented farms (Interviews 4, 7, 10, 11, 16, 17);
- Because they were not involved in export and sold mainly in their localities where people would know whether they were breaking rules, they did not need such strict supervision from BIO-GRO and so should not pay a high certification fee (Interviews 4, 7, 11, 14, 15);
- The level of the annual inspection fee was a force which would dissuade small growers from joining or would force them to leave BIO-GRO (Interview 7, 9, 10, 12, 7, 15, 16). This was perceived as "particularly unfortunate because organic growers should be encouraged to stay on a small, environmentally-friendly scale" (Interview 17).

BIO-GRO NZ are probably unconcerned about the first two of these arguments. The Nelson inspector, for example, has a case load of over 60 farms ranging from Golden Bay to Marlborough and even to North Canterbury, yet he is only paid on a part-time basis (Interview 5). The costs of certification are relatively high, especially because of the travel involved in inspecting farms which – as is standard amongst small-scale organic producers – are often in relatively inaccessible areas, where land is inexpensive and suitable for the 'reclusive' aspects of alternative lifestyles. Furthermore, many growers in other parts of the country complain of the need for BIO-GRO to become involved in information transfer or export marketing: demands on BIO-GRO's resources are indeed high.

The third argument, however, must be of the utmost concern for the organisation. BIO-GRO NZ are at present attempting to finalise full registration under the International Federation of Organic Agriculture Movements[11] which, given its European origin, has considerable sympathy for small growers. In any case, many of the BIO-GRO executive themselves are, or have been, small growers, so have a natural sympathy for the plight of small-scale producers (Interview 25 from Coombes *et al.* 1998). The Nelson case study provides some evidence to support the claim that the high registration fees are disadvantaging small growers. All the growers who have been certified since 1990 recalled growers that had abandoned BIO-GRO certification in recent years, with those people citing their low turnover as not justifying BIO-GRO fees. The local inspector believed that there had been a more significant turnover of organic growers in the Nelson area than in other parts of the country (Interview 5). While he suggested that this was partly to do with the transitory nature and the general lack of farming experience of lifestyle growers, he also admitted that "some growers simply couldn't afford the fees and so dropped out" (*ibid.*). Often, the growers that abandoned BIO-GRO were the original pioneers of organic agriculture in Nelson – those who were most committed to the organic philosophy (Interview 3).

A number of growers recalled one particular grower who had abandoned BIO-GRO NZ on philosophical grounds. Apparently the grower was concerned about BIO-GRO's relationship with large exporting companies. As shown in Section 2.2.3, however, most of the domestic-oriented or lifestyle growers supported the exporting of organic food. It might have been expected that growers who favour the domestic market and who are interested in 'green' lifestyles would be against the international trade in organic food because of their social and environmental attitudes[12]. Growers were concerned about the "potential for BIO-GRO [certification] criteria to be influenced by export companies [and the possibility]…that the extra costs of certifying large, export growers would be charged to smaller growers" (Interview 12), but not about organic exporting *per se*. This shows that the most important concern of Nelson organic growers *vis-à-vis* BIO-GRO NZ is the continuing survival of small growers. There was a

[11] Henceforth, **IFOAM**.
[12] Refer to Section 2.2.1.

general desire to see both the large, export growers and the small-scale growers accommodated within the one organisation.

One grower had allowed his certification with BIO-GRO NZ to lapse in 1996, ten years after he first certified:

> "...mainly because of the cost of certification. Also they have increasingly focussed themselves on export and we are not interested in export. We are local market and we think the certification actually is nonsense really for local production" (Interview 15).

He believed that there were similar numbers of certified and uncertified organic growers in Nelson and that many in the latter group would have certified if the BIO-GRO's cost structure was more favourable for small growers. His estimates of the number of uncertified growers might be accurate[13] but not all of the uncertified growers produce for the formal market. As indicated in the second half of the above quotation there is also a strong belief that certification is not necessary. Many of Nelson's organic growers produce organic food 'on trust' for neighbours and friends. Some only sell food in particularly good years and would not certify even if the cost of certification was much lower (Interview 16). Several growers in these latter categories "would have liked to become certified to know that we are doing it right, but since the local Soil and Health started three years ago we get enough peer review out of that to make BIO-GRO unnecessary for us" (Interview 4). Thus, it would be incorrect to assume that all uncertified growers are necessarily concerned about the BIO-GRO fee structure. Yet, some growers were particularly vocal about the cost of certification and while few have left BIO-GRO because of these costs, many more growers have avoided certification because they believe that the expense is unwarranted (Interview 15)

Nevertheless, it must also be said that growers offered many positive comments about BIO-GRO. They were generally content that BIO-GRO executives listened to their concerns as is shown in the following quotation:

> "We've all got inputs into it. We say what we think and sometimes we are quite vocal with things we don't like. But when there is something we don't like you have the ability to elect a new management. That's been done. One of the new directors was voted in because we didn't like the direction of a former director. If we don't like what they are doing, the management structure changes and growers, even small growers like me, still have control of the organisation" (Interview 11).

Other growers commented on the relative freedom of choice under BIO-GRO. They liked the ability to choose their own methods (excepting those prohibited under BIO-GRO rules), rather than being forced to follow the strict procedures outlined under Demeter certification criteria (Interview 7, 9, 17). Several also suggested that, as there was no real alternative and that organic premiums tended to outweigh the costs of registration, they were likely to always remain BIO-GRO certified.

2.3.2 A preliminary analysis of the BIO-GRO small grower scheme

Nevertheless, the abandonment of BIO-GRO by some of its pioneer, philosophically-committed growers was a public embarrassment for a certifying agency attempting to maintain both national and international credibility (Interview 5). However, BIO-GRO's resources were strained and the problem was not easily resolved. To address this situation in a manner that would satisfy small-scale growers and yet not place further pressure on its resources, BIO-GRO announced a trial small-grower scheme in July of 1997. The main aspects of this scheme are:

- Participants were to form certifying 'cooperative' groups with a minimum of two and a maximum of five members;
- Individual participants in the scheme must have a turnover of less than $10,000 and must not be involved in exporting;
- Participants must be within a 50km radius of the other members in their group;
- To reduce the cost to BIO-GRO NZ, the group members must agree to self-policing of BIO-GRO rules, with a number of field-day excursions to group members' properties. Together with input diaries and the appointment of an administrative leader within the group, this allows for the annual certification of all participant's of the group with only one field-check by a BIO-GRO certifier per group;
- The participants would be charged a lower annual registration fee ($200-$250 each depending on the number in the group, rather than the standard $450 for small growers).

The interviews for the current report were conducted only shortly after the adoption of the scheme in Nelson. Because of this, and also because the number of relevant interviewees is limited to three, extensive conclusions about the success of the scheme cannot be made.

[13] For the other reasons outlined in this paragraph, it was impossible to determine the number of growers who produce organically, but do not take an active part in the trade of organic goods.

However, initial indications are that the lifestyle growers of Nelson are satisfied with the concept. A number of growers – both those within the scheme and a number who are too large to participate but have an empathy for small-scale growers – commented that the scheme was particularly applicable to the Nelson area. As has already been explained, there are many growers on small plots of land and without a significant turnover in the Nelson district. For this reason, adoption of the small grower scheme has already been relatively rapid when compared to other organic growing areas in New Zealand (Interview 5). At the time of writing, there were three small grower groups which were centred around Marahau, Dovedale and Takaka. The scheme has been particularly popular with those at the 'alternative' end of the lifestyle continuum, as is explained by one group's leader:

> "The other people in my group are all on a much smaller scale than us – two of them are growing Echinacea[14] and probably have less than half a hectare between them. The third isn't even selling anything off his property, though he might one day sell a couple of beef cows. They are all alternative people. The fourth person is beef as well and growing blackcurrants but, once again, nothing much. They're all people who have wanted to become BIO-GRO certified for ethical reasons – mainly peace of mind that they are doing things properly – but previously could not afford it" (Interview 17).

The opinion of many of the interviewees, whether they were part of the scheme or not, is that there would be many others who would now become certified whereas previously they could not afford to. Many also believed that some that had drifted out of certification would now rejoin under the small grower scheme. These beliefs were validated by two pioneer growers who have recently formed a small grower group along with a recent entrant into organics:

> "For the last three or four years I've been preparing to drop out of BIO-GRO. I just didn't earn enough to justify their ever increasing fees. Now, because I can be part of a small grower group, I think I'll continue my registration. The turnover of my operation can justify a $200 fee, but no more than that" (Interview 17).

> "I left BIO-GRO a number of years ago because of the sheer cost of registration. We're only coming back now with the small growers' scheme. But there is no way that we would have worried about it before because we just have a handful of cattle. We sell 10 animals a year at the most. We're not making a lot out of it by the time we buy in the hay. We're only going with the small growers' scheme to give BIO-GRO some support because they are heading in the right direction with this scheme. It's not going to give us anything but piece of mind" (Interview 4).

The scheme appears to have dispelled the notion that BIO-GRO no longer considered the small growers oriented to the domestic market as important, providing – as the following shows – a new sense of legitimacy:

> "They've had to look at the export market and ignore the local, smaller growers to some extent over the last few years just to survive. But now they've got that scheme where the small people can get involved. That's good because organics is still about the small grower – well it should be. It's regained BIO-GRO some legitimacy because some of us felt that they were being corrupted by the export manufacturers" (Interview 19).

One grower did not have a long-term objective of staying within the small-grower scheme (Interview 17). At the time of writing, he was establishing an organic vineyard. Because the vineyard will not reach full production for at least two years it would have been prohibitively expensive to certify on his own. Utilising the small-grower scheme, he can go through the transition phase of certification at a relatively inexpensive price while his vines establish. He would like to continue within the small-grower scheme because it suits his philosophical views on organics, but ultimately desires to export and would also eventually exceed the $10,000 cap on turnover. Along with several other growers, he commented that the cap was too low, because it was based on revenue not profit. Some growers were also concerned about the prohibition on exporting. BIO-GRO included that prohibition because the scheme was expressly designed for domestic producers for what they saw as a problem that affected them only (Interview 5). Notwithstanding these minor complaints, however, the scheme appears to have gained BIO-GRO a heightened sense of legitimacy with small-scale, domestic producers.

2.4 New directions for the lifestyle/domestic growers

The concern for environmental and social issues outlined in Section 2.2, as well as the sympa-

[14] A herb used in the health product industry.

thy for small-scale growers shown in Section 2.3, might possibly be seen as attitudes that would lead to stasis in the local organics industry. However, this is not the case and there has been considerable expansion of organic production by Nelson growers in recent years. This expansion has been fuelled by the solidification of systems of distribution for organic production on the national scale. Although local consumption of organic food in Nelson has also increased, lifestyle and domestic oriented growers are increasingly sending their produce to other parts of the country. As is indicated below, this expansion has attendant consequences for the organic product mix grown in Nelson district.

2.4.1 Expansion within the domestic market

Almost all of the growers who service the domestic market initially intended to supply all or nearly all of their produce to people within the Nelson area only. This was partly for philosophical reasons – the desire, for example, to reconnect consumers and producers at a personal level and to avoid overuse of fossil fuels for transport. The expectation that product distribution would be entirely within the Nelson area (and, for some growers, entirely within even more geographically confined spaces, such as Golden Bay) was also related to the expectation of remaining on a small-scale because of a truncated national demand for organic food. Few of the long-term growers had envisaged that organics in New Zealand would grow to the point where national distribution would become a reality. Nevertheless, many of these growers have since diversified in terms of the range of people and outlets that buy their goods and, in so doing, have expanded their operations:

> "We started really small, then later we looked to expand but it definitely started with the local market and then looked outwards to the national market" (Interview 14)

That grower has tripled the size of his property in progressive steps during the last four years and has erected a tunnel house to extend growing to the winter months. He also started to lease land for organic production during the last three years, as has another grower who now farms his 20ha property more intensively (Interview 5). Indeed, intensification of existing land has been a common response of growers to increasing demand for their goods. The expansion of the domestic oriented organics industry in Nelson is also highlighted by the number of growers who started their efforts on a part-time basis alongside off-farm work, but have recently moved to full-time organic production (Interviews 5, 7, 11, 14). Several growers had been investigating the possibility of leasing land suitable for organic production because of the perceived increase in the national market for organic food (Interview 4, 6, 9). However, none of these other growers have succeeded in the search for leasehold land: prices were too high and it is difficult to certify such land unless there is a long term lease (see Coombes *et al.* 1998)

Taken together, all these factors indicate that a considerable expansion of production and a significant increase in demand for organic food have occurred over recent years. One grower stated her conclusions as to why small-scale Nelson growers have been able to take advantage of these circumstances:

> "Domestically there is no problem in finding buyers for your produce. We don't want to go export. We find that the domestic market is suitable and we can rid ourselves of everything there and they still come hammering on the doors. We've found that the domestic market has been neglected. The larger organic growers are in the same mindset as the large conventional growers with markets overseas and with the local market having no potential. For us, I'm quite happy for them to think like that as it means good prices for us without having to take the stuff too far" (Interview 10).

This suggests that while the export market has been expanding and attracting the attention of large growers and processors, domestic-oriented growers have had a free hand in the national market for organic produce without competition from farms and distributors with scale economies. For some types of growers, there may well be more potential in the domestic market than they could ever take advantage of in the export market. One grower initially started with the intention of exporting but, while he still exports a quarter of his production overseas, he has increasingly targeted the national market because "that appears to be where the most consistent, hassle free market is – it grows without me having to try to grow it and there's good, easy money to be made" (Interview 9). He also commented that he found the export market too fickle: his pack-out rates for export nashi were relatively low given pest damage and export standards, whereas his pack-out rate for nashi on the domestic market was almost 100% because consumers in New Zealand were less concerned with cosmetic imperfections on fruit.

Growers commonly cited the growth of dedicated organic food shops in cities as the main reason for the expanded demand for their produce. Excepting those who grew only for export, all of the growers interviewed sent produce to dedicated organic shops in Dunedin and Christchurch. Taste Nature in Dunedin appeared to be the largest 'extra-local' buyer of Nelson's organic pro-

duce. Although Christchurch stores are closer, stores there could source much of their supply locally as there is a considerable number of organic market gardeners in Canterbury (see Campbell 1996:31*ff*). In the Dunedin case, Taste Nature has few local growers to source from and was particularly keen to source organic fruit from Nelson. Piko Whole Foods, Organics Organics, the Bio Shop as well as St Martins New World supermarket were all regularly cited as Christchurch shops which sourced organic food in Nelson. More recently, dedicated organic stores and health food stores in small, regional towns have also started to source produce from Nelson, with organic food being traded as far away as Timaru, Riverton, Gore and Invercargill.

From the perspective of these shops the consignments from Nelson are probably considered small and intermittent. However, from the perspective of Nelson growers – with their relatively small volumes – these new outlets have led to a sizeable increase in annual turnover. One grower commented that he has doubled his revenue since 1995, with all of this growth coming from trade with retailers in Christchurch and Dunedin (Interview 11). Several growers commented that there had been an especially large increase in demand from these shops since 1995 (Interviews 5, 6, 9, 14).

While most of this extra-local trade has been to the larger South Island towns and cities, organic retailers in the North Island have also started to source produce from Nelson. Three growers have regular contracts with Auckland organic retailers. One of these growers could only afford to sell his produce locally in Golden Bay before he converted to organic fruit production (Interview 6). Margins for his conventional fruit were so low that he made a loss if he incurred transport costs. Since converting, he has transported fruit all over the country. The three who trade with Auckland retailers, as well as another three of the interviewed growers from Nelson, also send produce to Wellington. It was noted by these growers that one particular store, Commonsense Organics, has increased its demand for their produce so rapidly that they can no longer fulfil all orders.

Not only have more retail outlets been found for organic produce but, according to Nelson's organic growers, the system of distribution has improved dramatically in recent years. One suggested that "with more organic food being traded around the country, there are more retailers ordering bulk shipments by pooling orders with a number of growers" (Interview 6). This trade in bulk orders has reduced transport costs and, thus, increased returns for growers. While some growers believe that the cost of transporting produce across Cook Straight remained an impediment to their desire to sell produce in the North Island, it is evident that the distribution network for organic food within New Zealand has been improved to the point where there is now scope for an accelerated growth in the trade of organic produce.

At the same time that this extra-local trade has been expanding, local trade within Nelson has also increased. It appears that there has been a sizeable increase in gate sales in some parts of the district, particularly those near sites of attraction to tourists:

> "Well, I'm in the fortunate position where we have a yearly increasing number of people walking past the gate – 40,000 last year I believe. Being from Europe and North America, they are usually educated and informed customers too and they'd always give preference to certified organic produce. I sell my apples for $2 or so a bag and I sell all of my apricots and pears that way. That may sound like a low price but because for those sales I don't have to do any storage or whatever, I get a healthy profit out of the tourists" (Interview 12).

> "I export the bulk of the kiwifruit as it comes in at the end of May and that's our quiet time for tourism. Even so, I have a little box down by the house here and sell one and a half tonnes at the gate of kiwifruit. That's all the reject fruit that we can't export so it's worthwhile. The big potential growth area for us has been in gate sales. To take advantage of that, I've planted pip and stone fruit trees because they are summer fruit. We get 100,000 people passing through here so we can sell a lot of apples to them. They tend to be the people who are more aware too" (Interview 7).

It should be noted that the expansion has not been consistent across all food commodities. The local supply of organic meat has, if anything, reduced during the 1990s. One grower has abandoned the organic husbandry of pigs, and another has reduced his organic deer herd to half of its size. By law, only registered butchers can process meat for sale, but growers have experienced difficulties in finding butchers that would slaughter and process their animals. Butchers were not prepared to take on contracts as small as one or two animals per month (Interviews 4, 5, 11). Growers also complained that they had been regularly cheated by butchers who would not return all the meat taken from slaughtered animals. There were similar infrastructural difficulties for one farmer who tried to export organic venison (Interview 11) – this failure leading the grower to concentrate more on the domestic market and on fruit and vegetables. Despite these difficulties related to organic meat production, the overall industry appears to have witnessed an "increase in professionalism and productivity brought about by the

reasonably rapid growth" (Interview 21) in the national market for organic food.

2.4.2 Niche production for the organic market

The increase in 'professionalism' is most evident in the flexibility of organic growers who attempt to take advantage of niche markets. This trend is reflected in growers who utilise the advantages of Nelson's unique seasonality *vis-à-vis* the rest of the South Island. The aforementioned grower who has built a (600m^2) tunnel house erected the structure for two reasons. First, it has enabled him to grow cucumbers and tomatoes during the summer months, with these crops being particularly difficult to grow organically in the South Island. In the winter, when he can take advantage of higher prices, he is able to grow vegetables in the tunnel house, for which he finds a considerable South Island demand (Interview 14). To a limited degree, however, Nelson growers can take advantage of higher winter prices without tunnel houses. This is especially so in Golden Bay which, because of the SW-NE declination of New Zealand, lies in the same band of latitude as Levin in the North Island. One grower from Golden Bay has recently been able to experiment in winter crops (Interview 9). While this is not usually possible for Tasman Bay growers, some have been able to double-crop during the summer while all are able to produce crops much earlier than in other parts of the South Island.

With transport costs across Cook Straight being high, at many times of the year these growers dominate production within the South Island. Although it was difficult to quantify, it seemed probable that organic growers in Nelson are able to extract a higher price in the domestic market than most growers because of this fact. Recognising this potential, some growers have deliberately altered their varietal mix. The production of organic avocadoes has proven worthwhile in Golden Bay, even though the area is climatically marginal for their production and the resultant crop is probably the most expensive in the country (Interview 6, 10). So far, the Golden Bay growers have been able to maintain their prices because North Island growers can supply all their fruit to North Island consumers, thereby avoiding inter-island freight costs. Avocadoes do not ripen until they are taken off the tree, so growers enjoy a long selling season, as they do with citrus varieties which are also grown in Golden Bay. Other subtropical organic fruits grown in the Nelson area and commanding high prices include feijoas (*Feijoa sellowiana*), tamarillos, mulberries (*Morus spp.*), macadamias (*Macadamia ternifolia*) and nashi. 1996 and 1997 have seen an upsurge in the planting of olive (*Olea europaea*) trees on existing organic properties as well as on properties that intend to covert to organic production when trees become established (Interview 5). Organic olive output from Nelson will eventually be high but it takes, even with the most quickly established olive trees, 5-6 years before trees mature for commercial production.

With these moves into niche products, some growers comment that they have become more interested in the technical aspects of organic growing. Some have adopted pest monitoring and such pest management tactics as pheromone disruption: the small-scale growers are following the lead of the larger, export growers in this respect. The same is true for the three growers with sizeable apple orchards on their properties. Apples are inherently difficult to grow under an organic regime, especially in Nelson where high rainfall leads to fungal infection. According to these growers, while they do not grow export varieties – which tend to be the most vulnerable to fungal problems like black spot (*Venturia inaequalis*) – they have, nevertheless, benefited greatly from organic techniques which are presently being developed for the export apple industry. Nelson growers also utilise some less conventional approaches to fertility and pest problems. Several run chickens or pigs under fruit trees to deliver soil-ready fertiliser, selling the eggs to pay for the organic stock feed needed for the animals (Interviews 7, 9, 11). Although the price of the latter cancels out the revenue from the former, the result is a free and effective fertiliser. Other growers are becoming involved in technical aspects of production in order to add value to their production. Several have begun to dry fruit, so it can be sold year round to organic retailers, with one grower investing in solar driers to create fruit leathers (Interview 11)

2.4.3 Domestic retailing of organic food

The increasing importance of dedicated organic food stores has been a local as well as a national trend. Not only have Nelson's organic growers been able to supply such stores extra-locally but, since 1993, they have also had the option of supplying the Organic Greengrocer in Nelson City. With the advent of the flea market stall, Four Seasons – the health food shop that sold a limited amount of organic produce in the late 1980s – gradually became less interested in retailing organic food (Interview 5). However, the arrival of the Organic Greengrocer did not have the same negative effect on the flea market stall:

> "The interesting thing was that the shop didn't affect the turnover of the stall at all. They both went better and better. They have complementary products – one is more oriented to fresh, and other to processed goods and complementary times that they are open in that we are only open through the week and

they are only open at the weekend" (Interview 3).

Part of this complementarity is undoubtedly that a main organiser of the stall is also a co-owner of the Organic Greengrocer. However, the reciprocity between the type of products sold is also important. The manager of the store said that it was established because of demand for organic grocery items (*ibid.*). Organic consumers in Nelson could purchase a good range of fruit and vegetables, either from roadside stalls or from the flea market, but the wider range of bulk groceries was difficult to source. The perceived increase in demand for this type of product shows that the local market for organics is increasing. The manager also stated that, with the increasing number of organic retailers in New Zealand, it was becoming cheaper to obtain dried goods and other organic groceries from importers such as Ceres and Chantal Wholefoods. The store attempts to cover the whole range in food products, so meat and poultry – products which are grown on a limited scale in Nelson – are sourced from Marlborough and Canterbury. Although there is a preference for sourcing local organic produce, the Organic Greengrocer obtains food from all over the country and so is part of the solidifying distribution network for organic food.

The Organic Greengrocer sells 'spray-free' produce and will even supplement its limited winter stock with conventional produce when there is a demand, though there is a marked preference for certified organic food. The decision to sell spray-free fruit and vegetables has had a positive effect for many of the growers who operate on such a small-scale that BIO-GRO certification is not justified. Indeed, several growers who left BIO-GRO during the early 1990s supply the Organic Greengrocer in this way. The business has started its own certification system: "basically affidavits – without the legal stuff – that attest to no chemicals having been used" (*ibid.*). Seven growers are on this scheme which, just like BIO-GRO NZ, tests for product, property and philosophy as the growers must prove they have a long-term commitment to organics.

The sales of the shop have increased by 25-30% every year since it has been in operation (*ibid.*). The main reason for this growth was a committed local clientele, especially foreign migrants who were considered "careful buyers with money", but the Organic Greengrocer attracts a wide variety of clients. Many such clients have come from all over the Nelson district to source organic grocery items, and some even come from Marlborough. Because so many people were travelling from the eastern Tasman Bay area, a grower from Marahau decided to establish an organic shop in Motueka (Interview 4). She had experienced increased demand for beef from her organic cattle and, because she is a member of a small-grower group, has existing sources of organic fruit and vegetables at her disposal. The shop was opening the week after interviews for this report ceased, so its success cannot be verified. Nevertheless, there are other local sources for retail becoming apparent in the area: "Food cooperatives are making a comeback – we alone supply ones in Takaka, Upper Moutere, Nelson, Invercargill, Christchurch, Westport, so that mounts up to quite a bit of fruit" (Interview 10). There is also an organic retailer in Richmond. Thus, the local retailing of organic food has increased considerably in parallel to the national-scale changes summarised earlier.

Chapter 3

The exporting and processing of organic food products from Nelson

Although the main reason for the choice of Nelson as a case study relates to its abundance of producers who target the domestic market, the area is also beginning to develop an export industry for organic food. At present, export volumes from Nelson are much smaller than from Canterbury, Bay of Plenty or Gisborne. Furthermore, those volumes are predominantly restrained to niche products like organic hops, wine, bee pollen and honey. The producers who grow the majority of conventional exports from Nelson – especially apple growers – are yet to show a firm interest in organic production. Consequently, the potential for growth in organic exporting from Nelson is relatively limited over the short term. Nevertheless, those that have adopted the exporting of organic food have encountered significant success, especially in terms of accessing niche markets for value-added products. This chapter analyses the growth in organic exporting from Nelson by considering each crop in turn. Even though there is as yet no export of organic apples, particular attention is given to the potential for exporting that crop. Apples are Nelson's main conventional export crop, so the future for organic exporting from the district is related to the possibility of converting apple growers to an organic regime.

3.1 Kiwifruit

Kiwifruit production in Nelson started much later than in Bay of Plenty and Auckland – the regions wherein most of New Zealand's kiwifruit is grown. Only three million trays of kiwifruit are grown in Nelson per annum, a small portion of the national total (in 1997) of around 65 million. However, Nelson has reached that total relatively quickly and its growers are considered to be innovative. As suggested in Section 1.1, this probably relates to the post-tobacco period of diversification when growers had to be innovative in order to survive. It is possible that this innovation will lead several of the Nelson growers to convert to organic production. So far, however, only one conventional grower has done so: organic kiwifruit exporting has, until recently, been carried out only by producers who mainly target the domestic market.

3.1.1 Small-scale growers' interest in organic kiwifruit

Further evidence that the small-scale, lifestyle growers are more influenced by profitability issues than might have been imagined is their involvement in organic kiwifruit exporting. Four such growers have become involved but between them they provide only 6000 trays per year – two orchards yield 2000 trays per annum each; and a further two yield 1000 trays (Interviews 7, 9, 11, 14). Each of the four properties has less than 1ha devoted to kiwifruit, and on each kiwifruit is just one of many crops grown. This is a significantly different situation than that of Bay of Plenty where the average size of organic kiwifruit orchards is 13ha, with a mean orchard yield of 24,255 trays per annum (Campbell *et al.* 1997:21). The Nelson growers all suggested that the size of their orchards was too small to be financially viable if they targeted only the domestic market for sales of organic kiwifruit. Exporting of organic kiwifruit – which attains a 75% price premium (presently $4.26 per conventional tray vs. $7.38 per organic tray, with organic yields being only 15-18% lower than conventional) – is a means to add value to overcome low economies of scale on these properties. One grower has always wanted to keep his property to a size that he alone could manage. To do that and yet still be profitable he decided to seek an export premium (Interview 7).

Each grower suggested that it would have been more difficult to export their organic kiwifruit if the other three had not entered kiwifruit exporting at around the same time. One packhouse deals with all four growers and has BIO-GRO approved protocols for parallel processing: because of the limited number of trays of organic kiwifruit there are no dedicated organic packhouses in the Nelson region. As part of the parallel processing protocols, the four growers have to clean the packhouse themselves and, although their total output is only 6000 trays, their individual harvests would not have justified the time and expense of cleaning the packhouse. The growers also suggested that it would have been difficult if they had wanted to export before the larger, Bay of Plenty growers had placed pressure on the New Zealand Kiwifruit Marketing Board[15] to allow for an organic export pool. It was believed that the Board considers these growers "a pain in the neck as they have to take the produce by law and yet our production is so limited" (Interview 9). Undoubtedly, there must be significant overhead costs for the Board to deal with such a small amount of organic kiwifruit from an area which is isolated from the main kiwifruit growing areas of New Zealand.

[15] Now Zespri International Ltd. (**ZIL**)

3.1.2 Towards the conversion of larger, conventional growers to organic kiwifruit production

The lifestylers who export organic kiwifruit represent a minor and relatively unimportant trend. If there is to be a significant future for organic kiwifruit exporting from Nelson, then it will be from within the existing conventional growers of the district. One such grower had just entered a BIO-GRO conversion year when interviews were being conducted and, as he is also prominent in the local Fruit Growers Association, he is in a good position to comment on whether more conventional kiwifruit orchardists will convert (Interview 8). That particular grower is from a Motueka property formerly used for tobacco growing. He has a 20ha orchard, which he has decided to convert to an organic regime in one step. Like many Bay of Plenty growers, his main reason for converting is to access the organic premium. The property is highly productive and he "is the type of grower who will accept the direction of the Board – and they are keen on organics now" (*ibid.*). Indeed, when he asked the Board for advice on moving to an organic regime he was encouraged to convert on the basis that his 100,000 tray per annum output would nullify the large overheads associated with the four lifestyle growers mentioned above. The grower also saw another incentive in converting to organics. The Board pays kiwifruit growers a storage incentive of around 20c per tray if their fruit is suitable for long-term storage. Because of nutrient deficiencies in the soil, most conventional Nelson growers do not receive this incentive and, with generally low margins for conventional kiwifruit, a considerable share of potential profit is forfeited. The organic premium would make up for this loss

It was suggested that growing organic kiwifruit is much more difficult in Nelson than it is in the Bay of Plenty, where volcanic ash soils are highly productive. Like many properties in the Nelson plains, this grower's property has relatively thin soils which cover a problematical layer of sand. Consequently, his most significant concern was soil fertility. Adding to this problem, the use of the property for tobacco had extracted much of the soil's fertility and applications of DDT to remove pests on the tobacco had adversely affected the soil. He decided to convert only after completing considerable research on the foliar feeding of fish fertiliser. Organic kiwifruit growers from other parts of the country have also used fish fertiliser, but few have foliar fed the product. It was hoped that foliar feeding along with bulk spreading of vine prunings and reject kiwifruit would overcome the soil fertility problems. The grower did not consider pests to be a significant problem because he had been growing under the low-input Kiwigreen system for three years. The only noticeable pest problem was leafroller (principally the brown-headed leafroller *Ctenapseustis obliquara*, the black-lyre leafroller *Cnephasia jactatana*, and the light brown apple moth *Epiphyas postvittana*), and this had been successfully controlled under Kiwigreen using *Bacillus thuringiensis* (Bt) sprays, which is also permitted under the BIO-GRO standards. As was expected in Report 2 of this series (Campbell *et al.* 1997), Kiwigreen is a useful stepping-stone to organic production:

> "Being Kiwigreen influenced my decision to go organic a lot. That really helped you get to grips with the pest side of it. It got you away from the spray consultants and got you into the real world of what went on in your orchard, rather than this spray every week stuff. It's a distinct possibility that I'd never have gone organic without it. I'd have had two barriers – pests *and* fertiliser – to overcome in my mind and it would have been hard to take both steps at once" (Interview 8).

The grower also commented that he was "being watched by everybody – they've all seen the reports on the organic premium for Bay of Plenty growers and want to see if I'm successful". Nevertheless, he also suggested that the general conservativism within Nelson's orchardists was preventing more kiwifruit growers from converting. This conservatism was supposedly related to the region being marginal for the crop, a result of the relatively poor soils on which kiwifruit orchards had been situated. One of the lifestylers producing organic kiwifruit suggested that the conventional kiwifruit producers in Nelson showed a general ignorance of what was permitted on organic kiwifruit orchards (Interview 14). When talking to such growers, he found that they believed that no sprays at all were allowed under BIO-GRO NZ, even though all necessary information was presented in the kiwifruit industry's own magazine. While this evidence is anecdotal, it appears that Nelson will always be behind the Bay of Plenty in terms of kiwifruit growers converting to organics. Even with the pending increase in output brought about by one grower – from 6000 to 106,000 trays per annum – the percentage of kiwifruit grown organically is much lower in Nelson than in other areas.

3.2 Pipfruit: the future of organic exports from Nelson?

> "Apples are about the toughest fruit to grow organically. They make a marvellous flagship for the organic movement because success with apples is a clear proof that any-

thing can be grown organically [and] commercially…Apples are important. They provide leadership for the rest of the growing industry" (J. Clearwater, cited in Hadyn 1997:17)

Currently, the total apple production in Nelson is greater than the output for all other horticulture in the district. Internationally, there is a considerable demand for organic fresh market apples, a demand which exceeds that for almost all other fruits (Interview 2). Apples have been associated with the excesses of conventional production, especially because of the practice of applying benomyl solutions to pipfruit which, although this is now less common[16], was the norm until only recently. The demand for organic apples, which is particularly high in Europe and Japan (Interview 12), as well as the abundance of apples grown in Nelson would appear to suggest that the future of organic exports from Nelson might be in apple production. However, it is perhaps the slowest of all horticultural sectors in New Zealand to adopt organic methods. As shown below, a mix of institutional arrangements – especially the attitude of the New Zealand Apple and Pear Marketing Board[17] – and specific difficulties in growing apples account for this slow pace of conversion. Furthermore, although Nelson is the second largest apple growing area in the country, the uptake of organic methods for apple production has been particularly slow there.

To avoid overlap, some issues relating to the domestic trade in apples are included in this section rather than in Chapter 2. Indeed, much can be learned from the domestic oriented organic orchardists about the difficulties of growing apples under an organic regime. Moreover, some of the domestic oriented growers have attempted to export organic apples, and their failure to gain approval to do this highlights some important institutional restraints. Although all of the ten orchardists who participated in the interviews grow apples, only four do so on a reasonable scale (Interviews 6, 9, 12, 15). Out of those four, only one grower has an apple orchard which would be equivalent in size to a typical conventional orchard (Interview 6). However, another grower has recently planted and grafted a large number of apple trees on a 120ha property and he will, when he has completed his planting program and his crop is established, create an organic apple orchard similar in size to those in the Hawke's Bay, where most of New Zealand's organic apples are grown. (Interview 12).

3.2.1 Difficulties in growing organic apples

It is notable that those growers who grew both organic kiwifruit and organic apples suggested that the former presented far fewer difficulties. Although difficulties specific to apple production include pest infestation from codling moth (*Cydia pomonella*) and leafrollers, the most significant fear of organic apple growers is the fungal infection known as black spot. The problem that black spot presents to the New Zealand apple industry has increased over the 1990s wherein Royal Gala and Braeburn varieties, which are particularly vulnerable to fungal infection, have rapidly increased in importance (see Peterson and Holland 1996). Conventionally, black spot requires an intensive fungicidal spray regime and such a regime is difficult to replace when converting to organics. In the respect of non-synthetic sprays, sulphur, copper and a combination of sulphur and hydrated lime known as Bordeaux mixture provide a reasonable prophylactic treatment. Under the BIO-GRO standards, these sprays are restricted to a 'proof of need required' basis. However, because growers can usually produce evidence of need, the use of copper and, especially, sulphur tends towards excess on some organic apples:

"From what I've seen so far, people getting into organic pipfruit, especially those who are trying to do it for commercial reasons, tend to be growing in a way which might – in some ways – be more threatening to the environment than conventional production. They simply substitute copper and sulphur for synthetic sprays and may actually decrease the spray interval. Copper is not that flash a thing to be throwing around at the environment... and you can reduce the productivity of your soil by overusing sulphur or Bordeaux" (Interview 8).

[16] Benomyl solutions (such as Du Pont's Benlate) are used to protect against the incidence of a variety of fungal problems including black spot (Foot 1997). For many years Benlate was the target of much concern from groups like Soil and Health and although there was inconsistent scientific proof, it has been associated with health concerns ranging from allergies to birth defects and cancer. Attention was drawn to Benlate in the national media in 1995, when it was unofficially linked to birth defects in babies born to women working at the Christchurch botanical gardens. The product also came into disrepute in Florida, United States, in 1991 where a particularly strong variant, Benlate 50 DF, killed a large number of fruit trees in the State. Several years ago it was common practice to dip apples in pools which contained a low dose of Benlate. Interestingly, the use of benomyl solutions for export apples was not curbed because of environmental concerns but because it was discovered that pipfruit storagability was reduced by this type of use.

[17] Henceforth, **NZAPMB**, which is also referred to as **ENZA** (the Board's export trade label) when specific export situations are considered.

This fear was supported by some of the organic apple growers interviewed. One suggested that he "used the sprayer a lot more now that I'm organic than when I was conventional" (Interview 6). The black spot problem is undoubtedly greater in Nelson compared with other apple growing areas in the country. In Nelson there are an average of 25 Mills infection periods[18] per year, compared with 15 in Hawke's Bay and only 3 in Central Otago (Interview 1). The potential overuse of copper[19] and sulphur sprays may lead to other problems, especially for future growers who will eventually convert from conventional production in order to attain an export organic premium. Russet is a cosmetic defect which renders apples unsuitable for export and can be induced by spraying, especially the application of copper sprays. Use of copper can also induce biennial bearing (Clearwater 1995). A further difficulty relates to trade barriers based on health or environmental grounds.

> "That much spray can lead to another problem. Environmental trade barriers are more frequent these days and you don't know which way you'll be hit; whether it will be for too many bugs on the fruit or too many sprays or spray defect on the fruit...It was a lot easier when we just paid duties. The 'free' market is a lot more difficult to get through than the old protected market system where we just paid 15% tariff or whatever to get through. Recently, there's been difficulties getting produce into Europe and the US – blatantly obvious use of health regulations to reduce external competition. It's much harder to get round that sort of barrier. Who knows, one day we could be producing organic apples which are considered too unhealthy to get into the States or Europe" (Interview 1)

For protection against black spot, conventional apple growers spray a fungicide at 7 to 10 day intervals during the primary infection period, which lasts until mid-December. If there are four days of rain within each interval, then an additional preventative application is necessary. Further to this, a conventional spray can be used as an eradicant to "kick back" up to five days within a disease infection period forecast. This means that growers can be incorrect in their forecasting but, as long as they apply the eradicant within five days of the point at which their prediction became incorrect, the crop will not suffer from black spot. Organic apple growers have no such eradicant[20] and, with only a prophylactic program at their disposal, have to anticipate every event correctly. This added risk in organic apple production is undoubtedly the principal reason for the slow uptake of organic production of pipfruit. Without the ability to make mistakes, monitoring takes on even greater importance on organic apple orchards than on other organic orchards. However, even the most advanced forms of monitoring cannot prevent a relatively high crop loss of organic apples.

Nelson's domestic oriented growers have few problems with black spot, but they do not grow export varieties like Royal Gala or Braeburn. Rather, they have carefully chosen varieties which were relatively black spot resistant: the newly introduced Prima and Dayton, which are highly black spot resistant but unfortunately have little storagability; and such varieties as Gravenstein and Sturmer which were popular in the domestic market during the 1960s and 1970s. One grower only sprays for black spot before blossoming and considers fruit abortion because of the disease to be part of the natural loss which can be expected on organic orchards (Interview 15). All the domestic growers who produced organic apples agreed that, if there was to be a large scale conversion of conventional apple growers, then it would only eventuate through research into black spot resistant varieties. Such research is presently being conducted within New Zealand as well as in many other apple producing countries, but it is not likely to produce acceptable varieties for at least 5-10 years (Interview 12). It will be difficult to find a variety which will meet the three necessary criteria: suitability for long-term controlled atmosphere (CA) storage, black spot resistance, and ability to meet export requirements for colour, taste and sweetness.

Insect pests which infest apples are also difficult to control under an organic regime, but these present fewer difficulties than the black spot problem. The main insect pest for apples is the codling moth. Pheromone disruption is considered to be the most effective biological control of codling moth but is less useful on small orchards (Clearwater 1995), so is seldom used on organic apple orchards in Nelson. One grower who converted from conventional production four years

[18] The black spot disease "needs the leaf surface to remain wet for a defined period in order for spread to occur. The period (known as a Mills period) varies with temperature" and rainfall (Foot 1997:62). Generally, a humid area like Nelson will experience more infection periods than a dry area.

[19] BIO-GRO standards limit the use of copper to 3kg/ha/yr and there is a stated intent in the standards to remove dependence on such materials, but the degree of dependence on off-farm inputs is variable among different farm types and different crops.

[20] Lime sulphur has recently been trialed as a fungal eradicant on organic apples in New Zealand. However, even under peak application conditions it will kick back only 72 hours into a Mills period (Clearwater 1995:9) and usually the kick back is only 24-36 hours.

ago controls the codling moth problem with up to five sprays of garlic and pyrethrum per year (Interview 6). Before converting to organics he had reduced synthetic pesticides to one application per year. Although this meant that he was applying far less than other conventional growers, some of whom apply 10 or more insecticides per season, this shows that organic apple production may be relatively input intensive. More promising has been the use of Granulosis virus, which is allowable under BIO-GRO criteria and has been shown to control codling moth in a relatively inexpensive manner by two other growers (Interviews 9, 12).

All three of these growers used Bt sprays to control leafroller and have had similar success with that product to that experienced by kiwifruit growers. Another grower has had even more success with neem seed oil, which disrupts the intestines of sucking insects. Greedy scale (*Saissetia oleae*) can cause organic apple growers considerable difficulty, especially when established because they are relatively difficult to eradicate. One of the domestic growers had particular difficulty with scale (Interview 15), but others have naturally occurring populations of ladybirds (*Coccinella novemnotata*) and parasitic moths that control the problem. Another biological control is the borrowing of Integrated Mite Control technology from IPM programs to manage populations of the spider mite (*Panonychus ulmi*) and the European red mite (*Tetranychus virticae*). One grower has totally eradicated the European red mite from his property by introducing the predator *Typhlodromus pyri* (Interview 9). The main problem with pests that affect apples is that many of them, such as leafroller and codling moth, have a status of nil tolerance for export. A further issue to consider is that organic apple growers have to do more thinning by hand, whereas in conventional production growers use sprays which make the trees abort fruit.

3.2.2 Fresh market exporting of apples and ENZA

So far in this series of reports the effect of producer marketing boards on the adoption of organic methods has been shown to be variable. In the case of kiwifruit, it was suggested that the NZKMB, at first sceptical about organic production, eventually provided a considerable impetus to the conversion of its growers (Campbell *et al.* 1997). The Gisborne case study showed that producer boards could also have a less positive effect if they adopted a conservative stance to organics, as was the case with the Wine Institute and Game Industry Board (Coombes *et al.* 1998). Perry *et al.* (1997) suggest that the nature of the NZAPMB and its relationship with growers has created a highly cooperative atmosphere within the apple industry. They also argue that this cooperative atmosphere has facilitated the uptake of Total Quality Management (TQM) protocols amongst apple growers. TQM is part of the wider adoption of methods which have been encouraged by the NZAPMB to ensure that New Zealand pipfruit is not compromised by environmental barriers in export destinations. It is an important component of the NZAPMB's Integrated Fruit Production-Pipfruit[21] scheme. However, the NZAPMB is far less consistent in its encouragement of organic apple production.

In order to understand the institutional restraints on the conversion of Nelson apple growers to organic orcharding, it is necessary to evaluate what has occurred in Hawke's Bay. After all, "there's quite a few conventional apple growers in Nelson who are thinking of going organic, but they want to see what happens with the Hawke's Bay growers first" (Interview 5). Initially, the NZAPMB attempted to avoid the issue of organics, favouring its plans for IFP-P. It doubted that apples conforming to export quality and favoured varieties could be grown organically (Interview 12). However, more recently it has encouraged, unofficially at least, organics as long as growers can meet export quality standards for conventional production. In reality, the NZAPMB does not have a coherent program for dealing with organic production that would match that of ZIL (Interview 1) and is reported as being both uninterested and disorganised with respect to organic production (see Haydn 1997). Nevertheless, there are presently 15 growers who are either BIO-GRO registered or are in conversion in Hawke's Bay. These growers received a price premium of 50-80%, depending on size and quality for their 1996/97 harvest. This amounted to 5,000 cartons but, with many more growers entering their transition years for 1997/98, this total is expected to increase to 20,000 cartons by 1998/99 (Interview 12). In a season when conventional red delicious growers had to pay back some of their advance payment to ENZA because ENZA could not sell enough of that variety overseas, the Hawke's Bay growers who grew organic red delicious received $14 per carton. However, most of these growers also succeeded in producing the difficult Royal Gala and Braeburn varieties and received an average of $16 per carton.

Despite this success there is some uncertainty over the management of the future of this trade. FreshCo. – a company which was shown to have a significant role in exporting organic squash in the Gisborne case study – were granted a consent to export BIO-GRO conversion and 'in-transition'

[21] Henceforth this will be referred to in the NZAPMB's own notation as **IFP-P**. See also, Le Heron and Roche (1996) and Perry *et al.* (1997).

apples, because this trade was seen to be 'complementary' / non-competing *vis-à-vis* ENZA's mandate. However, there is no certainty that this consent will be extended to fully certified apples (Interview 1). Part of this problem relates to political circumstance. Some of the more vocal organic apple growers in Hawke's Bay are associated with groups which desire to see the removal of the single desk monopoly on all apple exports. It seems unlikely that ENZA would avoid the potentially lucrative trade in fully-certified organic apples, but that would require the NZAPMB to declare such trade part of ENZA's mandate, rendering FreshCo's efforts to establish relationships with growers and overseas markets worthless.

There would, therefore, appear to be grounds for increased conflict between organic growers, ENZA and FreshCo. In turn, this conflict is likely to create an atmosphere of uncertainty. Although the premiums attainable on BIO-GRO transitional apples may encourage some growers to convert, others may be dissuaded from converting because of the overall uncertainty, further limiting the number of growers converting to organic production in Hawke's Bay as well as in other apple producing areas, such as Nelson. The uncertainty is increased by the fact that the NZAPMB has restricted what little effort it has given to organic production in Hawke's Bay. While it has appointed local committees to develop its IFP-P scheme in regional growing centres like Nelson, there are no local contacts for organic production amongst ENZA's Nelson staff. Unless a more satisfactory arrangement – including an organised national program of technical transfer – can be implemented in the next few years, New Zealand's organic apple producers stand to miss out on the opportunity to gain a comparative advantage by initial advantage over potential rivals. In recent years, Argentina, Chile and South Africa have competed strongly with ENZA for market share in the trade of conventional apples to the northern hemisphere. These countries are all formulating standards and plans for organic apple production and are rapidly catching up in terms of organic certification. Argentina is currently attempting to gain full registration with IFOAM (Interview 12) and it has already achieved preferred "3rd nation" status in terms of organic exports to Europe.

The rather disorganised approach of the NZAPMB to organic production is an important factor which accounts for the fact that so few of Nelson's organic growers have converted to organic production. Nelson growers desire direction from ENZA, and few will convert until it creates a firm policy for organic production. Moreover, the Board has already affected potential exports of organic apples from Nelson. While the domestic oriented growers do not grow export varieties, some have previously considered exporting their apples. In 1992, one grower conducted a marketing exercise in Europe and was able to find a buyer who would pay a premium of 50% higher than the conventional class 1 export grade, even though the apples in question would not have been acceptable for class 2 because of their variety (Interview 12). The grower returned to New Zealand and enlisted three other Nelson growers whose output would have fulfilled the 15t order. He then approached the NZAPMB and asked it to handle the order. The reasons for this move are complicated. The grower was not attempting to usurp the single desk status of ENZA, but knew that it would not bother to market organic apples when volumes were so low. His logic was that if he "did the ground work, then there was no way that they could turn me down, especially as they would still get their cut and wouldn't have to pay for my groundwork. It was easy money for them" (*ibid.*).

However, the NZAPMB did reject the consignment and, although no firm reasoning was given, it appears that they did so because of the varietal mix included in the 15t. As the grower explains there are reasons to suggest that this decision was short sighted:

> "When I approached the Board I said 'I totally accept the single desk marketing approach, but at the same time you have to accept that certified organic apples are different – different climate, different growing, different way of selling. It has to be done in a different way, so it should be parallel but within the Marketing Board and you should use the knowledge of those in the know'. *I* know that they have to distinguish between conventional varieties because you just can't, for example, sell conventional Sturmer overseas. But to the European market, an organic apple is an organic apple is an organic apple – there's no need to distinguish because they are after organic first, then particular varieties second" (Interview 12).

The problems of unfashionable varieties are manifest for ENZA, as shown in the aforementioned case of conventional red delicious apples in 1996/97. If it continues to accept such varieties from growers it may not be able to sell them on the international market, sometimes leading to a reduced price for growers who produce fashionable varieties for which high prices can be attained. Acceptance of such fruit would also discourage growers from grafting new varieties. Nevertheless, the requirement that all apples be from the class 1 pool might be overly inflexible when markets exist for unfashionable varieties grown organically. Certainly, the consumer in Japan will desire class 1 fruit whether it is organic or not. However, some European consumers may

well accept fruit of a different variety because they have been market-educated by European organic growers who also prefer the now unfashionable but disease resistant varieties.

The NZAPMB appears uninterested in evaluating these possibilities, partly because it has committed itself to establishing its IFP-P scheme. Le Heron and Roche (1996) show how the perceived need for this scheme grew out of difficulties experienced in the export of conventional apples to the US. In 1993, leafroller infestation which contravened US phytosanitary laws seriously threatened future apple consignments to the US. Growers could have used additional synthetic sprays to control the problem, but this may have contravened US health legislation. The immediate effect of this dilemma was the formation of a Code of Practice for apple exporting to the US (*ibid.*), but it also accelerated the need for IFP-P. IFP-P is a close relation of the Kiwigreen program and includes (see ENZA 1996):

- A desire to reduce systemic sprays with a stated preference for non-chemical controls of pests and disease;
- Encouragement of orchard monitoring in order to avoid calendar / blanket spraying. A general commitment to accountability through increased use of pest / disease control dairies and TQM;
- Encouragement of growers to attend education programs aimed at improving the efficiency and safety of chemical applications;
- Longer-term objectives relating to improving orchard management and design which will overcome many of the causes of pest and disease infestation.

According to the local president of the Fruit Growers Association, most Nelson growers are convinced that IFP-P will become the accepted standard over the next two or three seasons (Interview 8). Some of the interviewed growers suggested that this would change the mind-set of so many conventional growers that more would subsequently transfer to organic production. Likewise, the head of Frucor Processors (NZ) Ltd.'s (Frucor) organic program[22] believed that IFP-P would act as a stepping stone for growers to enter organic production. However, IFP-P in Nelson is slow to establish compared with other areas of the country (Interviews 6, 9). While a mutually beneficial relationship between IFP-P and organics may eventually develop in the Nelson apple industry, this is only likely to occur after IFP-P is firmly established, and this is not likely to be the case for some time.

The NZAPMB has other plans which may indirectly affect the uptake of organic apple production in Nelson. It has recently shown a desire to remove itself entirely from the domestic market (Perry *et al.* 1997). This has been especially so since deregulation of the domestic market in 1993. This deregulation has also had the effect of propelling some growers to go organic. Under the NZAPMB domestic monopoly that existed until 1993, growers were given a virtual monopoly in their own locality. Intra-national trade of apples was not encouraged if it led to competition for local growers. With deregulation, export growers have been able to dump export rejects anywhere in the country, severely reducing the profitability of small orchards that target the domestic market. Faced with this problem, one grower decided that "it was organics or the chainsaw for the apple trees because I had sold at $1 / kg and the export guys would dump their rejects at much less than that. Now you can get at least $1 / kg for organic apples and usually $2 / kg" (Interview 6). Because that grower had been practicing an 'integrated' approach to pipfruit production many years before the advent of IFP-P it is perhaps unwise to label him as Nelson's first 'conventional' apple grower to convert to organic production – he was already practicing 'alternative' horticulture long before he became BIO-GRO certified. From a previous position in horticultural research he had decided that 20% of the chemicals used on conventional apple orchards had provided 97% of the control and had successfully grown apples with only one pesticide and a maximum of three fungicides a season. Regardless, this example shows that when the NZAPMB totally abandons the domestic market, more domestic growers may convert to organics.

Even before deregulation there were some advantages in producing organic apples. One grower managed to sell his apples all over the country because it was uncertain whether the NZAPMB's domestic mandate covered organic apples:

> "I told the Apple and Pear Board what I was intending to do and they argued against it and said it was against the law. I always told them that `you don't sell organic produce and if you wish to make a case in court, you can take me to court if you wish. But I will represent myself and I will argue the case that we have fair trading acts and we have commerce commissions and you don't sell organic produce and if you are trying to keep my organic produce off the market then I think you have got a problem'. They never took me to court..." (Interview 15)

This appears to be similar to the logic of the local grower who attempted to export organic apples and foreshadows the problems for export growers of organic apples in the mid-1990s.

[22] Refer to Section 3.2.3.

3.2.3 Processing of organic apples

Exporting of processed organic apples is also in its infancy in New Zealand but it may play a significant role in the future. Frucor is presently the processing division of the NZAPMB but will soon separate from ENZA to become a complementary business company (CBC). The NZAPMB will own 51% of Frucor shares and the remaining 49% will be owned by shareholders and be tradeable in the market (Interview 1). It has manufacturing facilities in Hastings and Nelson and satellite processing plants in Kaiapoi and Roxborough. In 1996/97, the company processed 208,000t of apples, making it one of the largest pipfruit processors in the world. Traditionally, the processing division of the NZAPMB has served as a safety net for apple growers who send export rejects for processing, especially in years of abnormal weather events like hail storms. Although it has commercial aims, Frucor has also pursued, therefore, the social aim of preserving growers' incomes in poor years. Some of the processed fruit is used to make fruit juice for the domestic market and is sold under Frucor's popular labels such as Just Juice. However, Frucor is also an export-oriented company and most of its product is sent overseas as concentrates, slices or purees which are used by large companies in the food manufacturing sector.

With the move to CBC status, it is expected that the commercial aims will become more important. Included in this new emphasis on commercial objectives is a program of diversification, and the company's desire to move into organic apple processing forms part of that program (*ibid.*). Apple processing plants are a considerable fixed asset and, with high overhead costs, there is a continuing need to diversify in order to increase throughput, obtain maximum capacity and incorporate economies of scope. The company has also received a number of requests for an organic apple concentrate from among its existing clientele. Having completed some initial investigations into the potential market for processed organic apples, Frucor believes that there is a reasonably substantial international demand that can be accessed with little change to its existing methods of manufacture and distribution.

Like several other New Zealand companies attempting to establish organic processing, Frucor has appointed a dedicated staff member to manage its organic program. That staff member is located in Nelson, but this does not reflect an objective of the company to have Nelson as the primary source for organic apples. Just as Frucor gains reject fruit from fresh market conventional growers, it intends to obtain second grade fruit from organic growers who export most of their harvest. Frucor's plans should prove beneficial for fresh market organic producers because "[t]he existence of this large process grade market allows growers converting to organic growing to remain financially viable as they move up the learning curve" (Clearwater 1995:9). Given that most fresh market, export growers of conventional apples – especially those with high volume operations – are in Hawke's Bay, it is likely that Frucor's processing of organic apples will occur mainly in Hastings. However, Nelson is recognised as "an area with many organic growers that Frucor can learn from, so that's one reason why the program is run from Nelson" (Interview 1). Furthermore, Frucor's Nelson plant has a more significant problem with undercapacity in the off-season, so there might be a more concerted push for organic production there.

Given its partial dependence on the fresh market organic industry, which is – as stated previously – rather insubstantial and disorganised, Frucor will face some challenges in getting this programme established. As well as the state of the fresh market, it may have other difficulties in advancing the program. Processors such as Heinz-Wattie NZ have been able to convince their conventional growers to convert to organic production on the basis of an organic premium (see Campbell 1996, Coombes *et al.* 1998). However, given that Frucor is a supplier of a bulk product to other manufacturers, it does not attain the margins available to companies that can add-value to their product through branding or advanced processing (Interview 1). Premiums tend to increase exponentially as product is advanced down the organic food production chain, and Frucor operates at the wrong end of this chain to obtain maximum benefit. In the process market for organic food, companies that process, distribute *and* retail are in a better position to offer an organic premium as an incentive to gain new growers. It is also rather difficult to marginally cost a bulk product. For a variety of reasons, therefore, Frucor will struggle to extend a sizeable premium to growers and can offer little more to the fostering of organic apple production than a secondary option for growers interested in fresh market exports.

Although Frucor expects that its main source will be by-product from ENZA's export program for organic apples, it also believes there are future possibilities for some orchards to transfer output entirely to organic apples for processing (Interview 1). Traditionally, New Zealand apple growers have focussed less on processing than other major pipfruit exporting countries (Peterson & Holland 1996:135). Thus, the combination of growing organically and growing for processing represents "two jumps of mind-set – one from conventional to organic philosophy and one from an export to a processing mentality – but it's hard enough to get growers to go through one of those jumps" (Interview 2). Nevertheless, with the low

returns to export/conventional growers in the 1996/97 season expected to continue, these 'jumps' may be more logical in future seasons. Furthermore, with an orchard dedicated to organic processing, growers could alter their variety mix to such pest and disease resistant apples as Sturmer or Gravenstein, lowering their costs considerably. While Sturmer is considered an inferior eating apple, it is one of the best for processing. The expected price for processed organic apples, while considerably lower than for organic export grade, will be relatively consistent and much higher than the price for conventional processing, so might be considered by some growers to be a favourable, low-risk activity[23] (Interview 1).

Because, in the initial stages of this programme, Frucor has experienced difficulties in enlisting and converting large conventional growers, it has been prepared to enter into relationships with growers who would not usually be considered important to the company. Five of the small-scale organic orchardists in the sample of growers interviewed for this study have been contacted by Frucor, with all expressing an interest as potential suppliers. For these domestic-oriented growers, organic processing also presents a good option, especially for their second grade fruit (Interview 9). Already, some organic apple growers from Nelson supply one Christchurch and two local companies with apples suitable for processing. Only Organics NZ Ltd., situated in Christchurch, sources organic apples from all parts of New Zealand, these forming a substantial part of their baby food lines. The Good Health label associated with the Redwood Winery, near Richmond, produces organic cider vinegar (Interview 2). Most of the local growers have supplied the cidery at some time over the last few seasons. The cider is sent in both bottled and bulk forms to a variety of health food stores and organic shops throughout New Zealand. Robinsons Juices, a Stoke company, has also experimented with organic juices, sourcing product from throughout the Nelson district and selling it locally. While niche oriented companies like Only Organics, Good Health and Robinsons are important buyers of local organic apples, they account for only small volumes of organic product. Consequently, it is Frucor's plan for processing of organic pipfruit which will most likely become the predominant outlet in future years.

3.2.4 Organic pears

The NZAPMB also has a single desk monopoly on pear exports from New Zealand. However, so far only a small number of growers have attempted to export organic pears from any part of the country. Pears are even more susceptible to black spot than apples and they are also particularly vulnerable to cosmetic blemishes from insect and spray damage. Adding to this problem, there is a wider number of insects that attack pears – sucking insects like leafrollers, mites, codling moth and pear slug (*Caliroa cerasi*) to name but a few. One of the interviewees has almost half of his property in pear production. However, while he has certified the fruit from the rest of his property he believes that the pears will be too difficult to grow under an organic regime and has not sought certification for them (Interview 6). A second grower has certified his pear trees and sells them in the domestic market where they are highly sought after because of the rarity of organic pears. Yet, he believes that he "needs this price because there are so many rejects" (Interview 9).

By comparison, nashi – the 'Asian' pear – are relatively easy to grow under an organic regime. The trees are more vigorous and the fruit is not susceptible to black spot. They do get attacked by pear slug, but good mortality rates can be maintained with pyrethrum and garlic. Codling moth also attack organic nashi, but on both Golden Bay orchards where the fruit is grown, pheromone disruption and Granulosis virus have been successfully employed. One of the two growers supplies small volumes to the domestic market, but the other produces a much larger crop which he initially intended to be only for export. Usually, that grower exports his nashi to the US where the best premiums are found. Last year, however, leafroller were discovered at the packhouse and his harvest was not eligible for the US market, so it was sent to Europe, Malaysia, Japan and Indonesia (Interview 9). Even with this setback, he received an average price of $13.50 per tray, whereas conventional growers received $10.50 per tray.

Although, that grower is more than happy with this premium, he is gradually reducing the number of nashi trees on his property. Even though nashi are easier to grow than standard pears, his reject rate is relatively high because he has to produce fruit that conforms to ENZA's class 1 export pool. Without conventional fertilisers, it is relatively difficult to achieve the class 1 size requirements. He also stated that while organic nashi growers in Hawke's Bay were receiving some technical support from ENZA, he had received no such support – none of the staff at ENZA's Nelson office have an interest in organic nashi production. More interestingly, another reason for his reduction in nashi for export is that he believes there are better prices to be made if he targets the domestic market with a range of fruit types. For this reason, he expects to further reduce

[23] It may even be prudent to consider growing organic apples for processing on some conventional properties which target the fresh-market, especially where the composition of fruit trees has led to a disadvantaged position *vis-à-vis* ENZA's criteria for export fruit.

his commitment to export production of nashi in order to diversify into organic feijoa, avocado and stonefruit for domestic consumption.

3.3 Niche organic products

While pipfruit and kiwifruit account for the bulk of Nelson's conventional horticultural production, they as yet provide only small contributions to the organic food exported from the region. Although on a relatively small-scale, it is Nelson's niche market producers that have made the most concerted effort to become involved in the exporting of organic food. Three types of niche production are examined in this section:

- Organic pollen and honey (Interviews 19, 20);
- Organic wine (Interviews 17, 18);
- Organic hops (Interview 20).

In many respects, the more rapid conversion of niche producers to organics is not surprising. Producers that target niche markets are by nature innovative, the type of growers who search for premiums. Furthermore, consumers of niche products tend to be in higher income brackets. They are, therefore, more likely to pay an organic premium. It is also possible that niche products – totally separate from the large monocultural crops that may dominate in a region – will face fewer pest barriers.

3.3.1 Organic bee products

The honey industry is particularly vulnerable to public perception. Although honey is generally perceived as a 'healthy' product, most consumers know that bees and honey are readily affected by horticultural sprays and pollution. Currently, the 'clean green' image of New Zealand has been embarrassed by portrayals of pesticide overuse and chemical dumping in the international media, this being noted by European consumers of New Zealand honey[24]. However, New Zealand is still considered to have less pollution than northern hemisphere countries and, in recent years, New Zealand honey has been in high demand. Consequently, prices for conventional honey have increased by an average of 20% in the international market over the last four years (Interview 20). While this increase has been countered by New Zealand's increasing exchange rate over that time, the increase in demand seems set to continue. Partly to match European supermarket preferences for 'integrated' production and also to counter some of the negative press about the potential for pesticide residues in New Zealand honey, the honey industry has recently initiated moves towards a 'green' label for honey, which may be managed in conjunction with MAF. Another aspect of the need to position honey in this manner relates to pressures for value-adding. Bee keepers usually create a very high turnover, but enjoy only low margins for their product.

In the contexts outlined above, there is also considerable potential for the export of organic honey from New Zealand. Two Nelson apiarists have exported to the European market for a number of years. One has been BIO-GRO certified for five years and the other for seven years. They were among the first wave of apiarists certified in the country. Criteria for organic beekeeping were developed relatively late compared to other organic food sectors. When this first wave of beekeepers sought organic certification, there was no IFOAM standard for honey. It was discovered in the Gisborne case study that the strongest complaints about BIO-GRO standards came from producers within food sectors which had few organic producers (Coombes *et al.* 1998:32*ff*). A suggested reason for this situation was that BIO-GRO criteria, which are strongly influenced by IFOAM standards, also evolve over time and out of the experiences of a number of producers. Thus, producers of commodities like wine and venison believed that they suffered from relatively immature or unevolved certification criteria because they are so few in number. This reasoning may also apply to organic beekeepers. As a Nelson apiarist suggested, "when New Zealand beekeepers were being initiated into BIO-GRO, they [BIO-GRO] were being initiated to beekeepers and it was only natural that there would be some quibbling about procedures" (Interview 19).

There are many criteria for organic beekeepers to maintain under the BIO-GRO standards:

- Recommendation that organic hives be placed 5km or more from sites of intensive horticulture;
- Apiarists must obtain written and signed statements from all land users within 5km of hives as to chemicals used on their properties. Representative samples of honey must be independently tested for residues of chemicals indicated in these statements;
- In order to retain a 'natural' product, heating above 35°C is not permitted in the production process;
- No chemical fumigants may be used in the wood of the hive and no herbicides can be used around it – some organic growers use salt around their hives to control weeds;
- Honey cannot be fumigated[25] for wax moth. Given that most export destinations demand

[24] One organic apiarist said that he had nearly lost an order to the United Kingdom on the basis of a *New Scientist* article on toxic chemical waste sites, one of which is in Mapua, in eastern Tasman Bay (Interview 19). The article (Szabo 1993) was condemned by New Zealand politicians as spoiling the country's highly marketable green image.

treatment for wax moth, the only other option for export beekeepers is freezing their honey for a minimum of 24hrs;
- To preserve bioproductivity, no filtering of honey is allowed below 200 microns;
- Feeding of sugar syrup is restricted to an 'emergency basis', and must not be done within a month of, or to induce, honey flow.

Feeding sugar to hives is standard practice for conventional beekeepers, and so this last criterion has been controversial, especially in the case of one of the two Nelson growers:

> "What's the point in getting a 20% mark up when I've got to leave about $40,000 or $80,000 worth of honey on my hives because I can't feed sugar? In an area like this you have to leave a lot on your hives. Because it was so wet, last year I had to leave it all on my hives or they would have just died" (Interview 20).

He also claimed that BIO-GRO's criteria for honey far exceeded the new IFOAM standard. Certainly, organic beekeepers in the US are allowed to feed their hives and may even do so to induce honey flow. The problem relates to low production years during which, if the feeding of sugar is not permitted, the beekeeper has to leave one or two cases of honey in each hive to act as food for the following season (Interview 19). The problem will be difficult to resolve because scientific evidence cannot prove whether or not sugar taken into the hive by the bees for eating suffuses into the honey. Without such knowledge, BIO-GRO insist on caution so that the 'natural' quality of organic honey is unconditionally preserved. Under present rules there is considerable 'good faith' involved in organic beekeeping. An apiarist could simply take all honey with the knowledge that they will cause an 'emergency' in the following year for which they will probably be allowed to feed sugar. Both beekeepers believe that it is this one issue which usually prevents interested beekeepers from converting to organic production.

However, they also indicated that the cost and effort required for testing honey is a major barrier to more apiarists converting. Because of the limited number of land users around their two properties, they both spent less than $1000 on honey testing last year. However, on other properties with less favourable locations the cost could be prohibitive. Even with their low cost for testing there was considerable time commitments required for contacting neighbours who did not always desire to declare chemical inputs. One of the interviewed apiarists had to obtain statements from 18 neighbours, and the other beekeeper had to question 23 landowners. The issue is further complicated by the fact that broad spectrum tests do not cover common chemicals like Roundup, so often more than one test has to be made on supplied samples of honey. A further problem is that apiarists who produce liquid honey have to provide a sample from each batch of product, multiplying the cost. Partly because of this expense, one beekeeper has not certified his liquid honey (Interview 19). He prefers to certify only his comb honey, for which only one representative sample is required each season. While both beekeepers suggested that all other production costs are similar for conventional and organic production, they believed that the time and financial costs of testing tended to be prohibitive.

The level of testing and the prohibition on feeding sugar is reported to have soured relations between some beekeepers and BIO-GRO NZ. One of the interviewees suggested that the cause of the problem is that BIO-GRO are not sufficiently oriented towards commercial and export farmers:

> "Organics started with lifestyle people, but they were going to go nowhere with it. To make it more commercial they've had to put the fees up. But the people running it still do it for the philosophy – it's like a religion. If they stuck to their initial goals of getting all conventional farmers to go organic, then there'd be no problem. They are extremists, but we're just farmers like anybody else" (Interview 20).

Nevertheless, there remains considerable scope for profiting from the export of organic honey. The two beekeepers both exported directly to retailers in Europe and used intermediaries to export their crop. The single largest buyer of Nelson's organic honey crop is the New Zealand Natural Foods Company. It is based in the United Kingdom and handles a variety of processed products from New Zealand, with a preference for organic products with a relatively long shelf life (Interview 19). That company wanted to buy the entire crop of one of the apiarists. The beekeeper rejected this request, favouring a more secure situation involving three major buyers in Europe. While Britain imports most of the organic honey from New Zealand, there were sizeable markets in the Netherlands and Germany as well. It is notable that the interviewed apiarists were perhaps less interested in organic production for premiums than they were for market share and market security. This was because "organic beekeepers have to do less to retain their market and the BIO-GRO label is advertising in itself" (*ibid.*). The exporting of conventional honey is reasonably competitive and beekeepers often spend considerable amounts of their time finding new buyers.

[25] Conventional growers use a relatively toxic chemical, methyl bromide, for this purpose.

In terms of volume, one of the growers exported 5t of organic comb honey in the 1996/97 season and received a price premium of about 25%. He also exported 4t of manuka honey but that was not certified. As stated previously, this was partly because of the expense of certifying liquid honey, but there are other reasons as well. In recent years, the health benefits of manuka honey have been demonstrated by a variety of medical experts. Manuka honey is now used in conventional medicine to treat ailments as varied as intestinal bacteria to skin ulcers. With this publicity, the price of manuka honey has doubled in only five years. In fact, the price is so high that it may be beyond a level where an organic premium can be attained and there is no need for producers of manuka honey to certify because they do not need to search for premiums. Another characteristic of manuka honey which dissuades its producers from converting to organics is that it is never certain whether a beekeeper who desires manuka honey will in fact receive it. Bees tend to have fickle appetites and often decide to feed from honey dew in the same bush where in other years they will feed from manuka flowers. The only conventional export market for honey from honey dew is in Germany, and there are as yet no extensive markets for organic honey from honey dew[26]. This problem is exacerbated by the fact that pollen testing to accurately ascertain the floral source of honey is available, and minimum levels of pollen are recommended, but these are only enforced by a loose set of industry agreements which have no formal status. A further problem relates to the 'healthy' image of manuka as well as other varieties of honey. There is considerable debate within the honey industry about whether organic honey will tarnish the overall image of conventional honey which is usually considered a "healthy/green" product.

The second organic beekeeper exports smaller volumes of organic honey because his main emphasis lies in organic bee pollen products (Interview 20). In the most recent season he sold 3t of organic bee pollen, but this was all in the domestic market. Bee pollen has been a traditional eastern medicine for thousands of years and has only recently been sold in the western world as a health treatment. Because it is used by health conscious consumers, there is a potential to market the additional health benefits of organic production. In order to gain scale economies, but also because the domestic market for bee pollen has markedly increased over the last two years, the apiarist buys in other beekeepers' pollen, packaging and marketing it himself. All the bee pollen sourced from outside of his property is sold as conventional and amounts to 7t.

The beekeeper has a strong desire to export organic bee pollen, but faces a considerable barrier to doing so. Conventional bee pollen from New Zealand is produced at a cost of $25/kg whereas Chinese apiarists produce a similar product at $8/kg and control the international market. Thus, in order to export even his organic pollen the beekeeper would need to set his price in relation to the price for Chinese pollen and would inevitably make more by selling in the domestic market. So far he has spent $2000 and two years of marketing in order to find an export market for his organic pollen but has so far failed to do so. On the domestic market he obtains a $4/kg premium over his conventional pollen. However, he fears that the marketability of both types of pollen will be ruined by bad press about the use of pollen which emerged in late 1997[27].

3.3.2 Organic wine

Nelson produces about 1% of the national output of wine (Overton 1996:156). However, it contributes over 2% in terms of value, showing that it is developing the basis for high quality wines from boutique vineyards. This prevalence of boutique wineries means that the average size of Nelson vineyards is small. Small vineyards are better suited to organic production and also require value-added products to mitigate their lower revenue. Further, wine is often consumed by people with a high disposable income who might be prepared to pay an organic premium, so it is quite possible that more viticulturists will become involved in the export of organic wine in future years. Yet, as was the case in Gisborne, grape and wine production is considered to be difficult under an organic regime and so far only two of Nelson's viticulturists have converted to organics.

Viticulturists tended to be the most vocal of the Gisborne growers who complained about BIO-GRO's criteria for organic production. Of the organic viticulturists in Nelson, one has been certified for four seasons and established his property from 1991/92 and the second established his property from 1995/96 and will produce his first certified crop in 1997/98. Both these growers were relatively content with the BIO-GRO criteria for organic grape production. This suggests that the BIO-GRO rules are differentially perceived because of specific regional conditions. In Gisborne, physical conditions created the potential for the infestation of mealy bug (*Pseudococus longispinus*)

[26] Usually, honey dew honey is blended with other varieties to form multi-floral honey, for which there is a market in Japan, but prices are much lower for multi-floral honey than they are for manuka honey.

[27] The Ministry of Health released several warnings about the use of bee pollen in November of 1997. Some users of the product had experienced allergic reactions, and the Health Ministry could find no data which would support the use of bee pollen as a health supplement.

on grape vines, and the relative difficulty of controlling mealy bug under BIO-GRO criteria meant that the organisation enjoyed little praise from Gisborne growers. However, in Nelson a different set of weather conditions mean that this is not the case. The wetter conditions in Nelson meant that mealy bug infestation was unlikely, but fungal problems like botrytis (*Botrytis cinerea*), powdery mildew (usually caused by the organism *Uncinula necator*) and downy mildew (*Plasmopara viticola*) were more prevalent.

These latter diseases were controllable in Nelson, but required several applications of sulphur sprays per year on organic vineyards. Nevertheless, in wetter years yield was about half of the long-term average for those properties. It is, however, difficult to compare yields on conventional vineyards with those on organic vineyards because the latter tend to target a higher quality of wine production:

> "You can't compare us with an average conventional grower. You have to compare us with a small, comparable, boutique wine producer because a lot of the things that we have to do for organics we'd have to do anyway for the quality segment that we are aiming for. Hand weeding and thinning and that sort of thing. Activities that your average conventional grape grower just wouldn't do. When compared with a similar vineyard we'd do no worse. The reduced yield has as much to do with the quality of the wine that we are trying to produce. The only time that that isn't the case is when we get rot and mildew at the end of the season that our conventional counterparts wouldn't get. In that case, we either compromise quality by picking earlier or we pick later and lose yield. We hand pick everything anyway, removing rotten berries and that both reduces yield and is expensive, but it does improve quality" (Interview 18).

That particular grower had also experimented with Micosin and Micosan, products imported from Germany which control the causes of fungal disease in the soil rather than the effects of it on the fruit. He believed that his vineyard would not produce sufficient yield without these products. The other grower believes that fungal problems can be avoided with under-vine hand weeding and mulching. He has also experimented with the planting of chicory (*Cichorium intybus*) underneath his vines to attract water away from his rootstock (Interview 17). Both used Bt and garlic and pyrethrum sprays which were successfully employed on the green leafroller (*Planotortrix excessana*) and light brown apple moth (*Epiphyas postvittana*). One has also successfully trialed neem seed oil to control all sucking insects that infest his grapes.

By the 1998/99 season, the first grower will have 6.5ha of organic grapes and the other will by then have planted 4.5ha. Neither grower as yet owns their own winery, but the smaller of the two hopes to build one in the next three years. Until then, they will both use a large winery at Richmond to process their grapes, for which parallel production is required and is relatively easy to accomplish. The first grower believes that "the days of small wineries are numbered. The equipment is getting more expensive all the time as new technology comes in, so there's no point" (Interview 18). He grows Pinot Noir, Chardonnay, Sauvignon Blanc and Cabernet Sauvignon, although the best prices were gained from organic Pinot Noir. From these varieties he produces 6500 bottles in a good year. The second grower concentrates on organic Pinot Noir as well, but also grows some Chardonnay and has planted experimental varieties which are hoped to be mildew resistant (Interview 17). He had imported 20,000 seeds in 1993, when returning from work on an organic vineyard in Europe. After plant emergence, the young vines have been transplanted only if they appear to be disease resistant.

The notion of an organic premium is sometimes hard for grower-exporters of wine to calculate. Having recently completed market research in Japan, one grower was able to confidently predict a minimum of 20% premium on his wine, which would equate to a 50% premium on his grapes (Interview 18). Given that a considerable amount of the revenue from wine comes from bottling, packaging and marketing – which do not earn a premium because production is exactly the same whether it is for organic or conventional wine – it is only the grape part of wine that actually attracts the premium. Moreover, that particular grower does not know whether he achieves a relatively high price of $NZ16-18 per bottle because he is organic or because he recently won an Air New Zealand wine medal on his Sauvignon Blanc.

Of one thing these growers were certain: New Zealand consumers were not prepared to pay a premium for organic wine and they were both targeting wine quality as a means of adding value rather than seeking an organic premium in the domestic market. The more recently established grower believes that he has a different mind-set from the other six organic wine producers in the country. This is because it was always his intention to grow organically, whereas the other growers supposedly entered into organic production mainly for premiums. His first vines are now four years old and he made his first wine last year. However, that was only a trial and his first commercial crop will be in the 1998/99 season. It is hoped that most of this will be sold on-site, and he is not particularly interested in exporting.

The predominant export market for New Zealand wine is Britain, but one of the Nelson organic

wine growers believed that the markets with the most significant potential were the US, Japan and Germany. That grower is already exporting most of his product and does so mainly through two well-established suppliers of organic wine who are dedicated to that task. Using these British intermediaries, he can commit less of his time to marketing his product and the two companies already have existing relationships with restaurants and wholesalers that require organic wine. He also uses mail order extensively, the advertising for which is mainly through a wine tasting outlet that he has established with another grower. That outlet sells a reasonable volume to tourists who come to Nelson over the summer, further revealing the positive relationship between tourism and organic production in Nelson. His first order with a Japanese client involves a company which sends mail order brochures to tour busses that travel throughout Australia and New Zealand. This will amount to 300 cases per year and he hopes to formalise two further contracts with Japanese buyers in 1998.

That grower is also involved in the Integrated Wine / Grape Production (IWP) program, yet another IPM-type scheme. His involvement is mainly restricted to an advisory role, from which he hopes to share organic methods with grape growers coming to terms with the need to do more monitoring and less spraying. Given that the IWP program is intended to slowly evolve towards more 'green' approaches and is based on a score-card system, he believes that there is potential for it to develop into a multi-tiered program, with the top tier being organic (Interview 18). Indeed, this is how the score-card system has developed in Switzerland, its country of origin. However, at the moment he fails to meet IWP criteria. The products he uses that are imported from Germany are allowable under BIO-GRO but are not registered chemicals in New Zealand. Instant disqualification from the IWP program occurs when unregistered products are used.

Because the IWP program is in its infancy there is as yet little cooperation or exchange of growers between organics and IWP. However, the grower admitted that he had already benefited from the wider adoption of IFP / IPM methods in his vicinity. His vineyard is situated in some of the most intensively cropped horticultural land in the country and previously he had experienced problems with spray drift. With his neighbours changing their crop management to IFP-P and Kiwigreen, this is now less of a problem. Furthermore, inputs such as pheromone traps and other pest monitoring equipment are now more easily and less expensively purchased in Nelson because of increasing demands from IFP growers. Previously, he was one of only a few growers in the district to use such inputs and so paid a relatively high price. The grower who has established his organic vineyard more recently was more wary about the IWP scheme (Interview 17). He believes that there is too much potential for it to be confused with organic production, thus limiting the market for organic viticulturists. Despite this potentially negative effect, there appears to be considerable scope for organic wine production in Nelson district, even though the area is particularly vulnerable to fungal diseases.

3.3.3 Organic hops

Hops have been grown in the Nelson area since the 1870s (Briars & Leith 1993). Generally, the crop is grown in a mounded 'hop hill', from which only a few of the plant's 'suckers' – tentacle like laterals – are trained up strings which angle up to a height of about 4m. The strings are attached to wires which run parallel to the ground, and are in turn attached to large posts. The only part of the hop that is used is the soft, pine-cone like seed head which grows at the very end of the vine. Hop growers usually dry their own product in distinctive kilns and some hops are processed by the Hop Marketing Board at Appleby, but some of the advanced processing has to occur off-shore, usually in Australia. Although it provides most of the flavour in beer, domestic hops began to be used less often by New Zealand's brewing companies from the late 1970s. The low scale economies brought about by so few growers and the fact that hops had to be treated off-shore meant that domestic hops were uneconomic and were gradually replaced by imports. The extent of planted hops reached a peak in the 1960s, but reduced markedly after that point. However, in the 1990s, hop production is again increasing – partly because of demand from small boutique breweries and partly as niches expand for quality hop products overseas. Increasingly, the best prices are gained by exporting and, in this context, one grower decided to move into organic production of hops for the export market.

The grower has been producing BIO-GRO certified organic hops for five years on a small property which had previously been farmed in such a low-input manner that it passed through the certification process in two rather than three years. It is the only organic hops farm in New Zealand and is claimed to be one of only five in the world (Interview 21). The grower produces hops conventionally on a larger property and confidently expects markets to expand allowing for the conversion of all his land planted in hops to an organic regime. All his crop is exported except for 10kg which is sent to the Emerson Brewing Co. in Dunedin. Most of his organic hops are sent to the United States, with smaller consignments to England and the Czech Republic. Hop exporting is controlled by a single desk monopoly – the Hop Marketing Board. Because that organisation has

only 24 members who are mostly in the Motueka area, control is largely by growers themselves rather than by a bureaucracy or executive, as is more commonly the case with marketing boards. For that reason, the grower found it relatively easy to convince the Hop Board to allow for an organic export pool. Indeed, he believes that, without the competition reducing atmosphere and the marketing effort that the Board provides, it would have been more difficult for him to convert to organics.

There are considerable differences between organic and conventional hop growing. Hops require large amounts of nitrogen as they are fast growing and only flower after a rapid growth spurt before Christmas. For this reason, conventional growers usually apply considerable volumes of urea and superphosphate. The only non-synthetic fertiliser which can provide comparable amounts of nitrogen is blood and bone – a restricted product under the BIO-GRO NZ standards. BIO-GRO are wary about that particular fertiliser because there is a possibility that such synthetic chemicals as drenches may leave residues in blood and bone. More importantly, there is considerable potential for nitrogen runoff, which pollutes and eutrophies streams and rivers, to occur from blood and bone applications. Because hop plants grow so quickly and absorb such a high level of nitrogen, this is less likely on hop farms and BIO-GRO have allowed considerable applications of blood and bone on this particular property. Nevertheless, the cost of blood and bone is expensive: almost three times as much as urea. Also adding to the expense of organic hop production is the requirement to compost all prunings and vines, which necessitates the repeated hiring of contractors to turn large compost pits. The substitution of composting and blood and bone for urea and superphosphate has been expensive, but has yielded an equivalent if not higher volume than on average conventional properties. The grower commented that blood and bone was successfully used in the production of New Zealand hops for many years and was only replaced when inexpensive urea became available.

A further expense is the use of labour to train plant suckers along strings. Conventional growers use sulphate of ammonia to reduce their labour requirement because it burns off excess suckers. The organic grower cannot do so and spends 60c per hill for training compared to conventional growers who spend approximately half that amount. Conventional growers also use sulphate of ammonia and Roundup for weeding, in a manner which leaves the soil almost totally barren except for the hop hill. On organic hop farms, expensive hand weeding replaces the chemical weeding. Fortunately, mites – the only pest that poses difficulty for hop growers – are not present on the property because of its relatively inland position which receives a mite-killing frost over the winter. In total, the grower spends nearly $3000 / ha for fertiliser (compared with about $1600 / ha for conventional growers) and nearly $6000 / ha for labour (compared with about $2000 / ha on conventional properties). Thus, the costs of producing organic hops are 2.5-3 times as high as the production costs for conventional hops.

However, the price for organic hops is nearly three times that of conventional hops: $20-$30 / kg against $8-$9kg respectively. Given that 1ha yields about 2.5t of hops, the net return for organic hops is about $65,000 / ha, resulting in a gross margin of at the very least $40,000 / ha. This is by far the most significant potential premium evident in the four case studies that comprise the current research program. While the grower can as yet sell only 2t of his 5-6t organic crop (the remainder sells at only $10-$11 / kg) his earnings remain high. Even when these lower returns are included, he earns a gross margin of about $20,000 / ha on his entire organic crop, whereas a conventional hop grower earns a gross margin of only $11,000 / ha. The grower also believes that his inability to sell all of his crop at the full price is a temporary situation. Breweries usually insist on 5 or 10 year contracts in order to gain security through reliable supply. The world's only other organic hop growers are in England where mildew, mites, aphids and other pests and diseases mean that organic growers produce at a much higher cost. Their contracts are to be tendered in the next two years, so the grower may be able to win a greater market share because of his lower cost structure.

Chapter 4
Conclusion

Although there was considerable variability among the other three case studies, Nelson stands apart from those case studies because the evolution of organics in the region has been unique. Because of the relatively high proportion of domestic / philosophically-committed growers, this was expected but the causal factors for this difference were not fully appreciated in advance. Section 4.1 explores these factors in terms of changes in both the local and national market for organic food, while Section 4.2 summarises the potential for local growers to contribute to the export market.

4.1 Evidence of an expanding domestic market for organic food

In the scoping procedures for this series of reports, it was anticipated that the Canterbury, Bay of Plenty and Gisborne cases would show considerable change in terms of the evolution of organics. However, it was also expected that Nelson would present either stasis (if its producers had successfully maintained isolation from other tendencies) or regression (caused by the potentially negative influence of an increasingly commercial organics industry elsewhere). It was chosen as a 'control' case to establish what change, if any, had been brought about by the movement towards organic exporting in other horticultural regions of New Zealand. Having gained a reputation as a suitable domain for 'alternative' lifestyles and domestic-oriented organic production, Nelson appeared to have suitable credentials for this role. However, it appears that, while those credentials are real and remain important, a range of other forces which have influenced the evolution of organic production in New Zealand need to be accounted for. Perhaps erroneously, it was assumed that the only significant driving force for change in the structure of the organics sector was the impact of organic exporting. All other trends were expected to be simply a reaction to this force for change.

This final case study – which indicates that the domestic organics industry is vibrant and expanding – highlights that the gradual solidification of important niche markets *within* New Zealand and a national distribution framework are also important causal factors. While processing facilities, distribution networks and marketing / retailing procedures have not developed to the extent which is evident in the export sector, improvements in their equivalents for domestic production appear to have aided the growth in the national market for organic food. Although they remain committed to a range of alternative philosophies, several prominent Nelson growers have expanded their production both in terms of output and scope to take advantage of expanding markets in key regional centres. Their desire to do so has been facilitated by an increasingly well-organised chain of dedicated organic retailing stores throughout New Zealand. These findings provide verification of another recent study (Saunders *et al.* 1997) which has attested to a reasonably dramatic increase in the consumption of organic food in New Zealand. It is possible that previous commentators on organic consumption in New Zealand may have overestimated the supposedly ambivalent attitude of domestic consumers to organic food[28], while underestimating the impact of a limited supply and poor distribution, as the cause for low levels of organic consumption. Further research is required to establish the exact nature of the link between (in)sufficient supply and attitudes of New Zealand consumers to organic production.

The sceptic might suggest that what was described in Chapter 2 is no more than typical for any market gardener or orchardist competing in the domestic market. The changes alluded to in Section 2.4 and summarised in the preceding paragraph would then be seen as normal adjustment to the whims of typical consumers. That this might be an accurate description is thoroughly remarkable given that we are considering a group which is regarded as anything but *typical* by the majority in conventional food production within New Zealand. The expansion of organic production by Nelson's domestic-oriented growers and the solidification of organic distribution networks throughout the country which has fuelled that expansion are, therefore, significant. The stereotypes that have, for many years, characterised lifestyle and domestic oriented producers may now be outdated. While these types of producers may own only small amounts of land and may adhere to a variety of alternative ideologies, they are often also financially motivated and are seeking a reasonable income from their work. The objectives and attitudes of 'lifestylers' are easily misinterpreted and common stereotypes frequently obscure a desire by growers for commercial viability and profitable returns.

Contrary to some theoreticians of organic production, therefore, the increasing involvement of large companies and ex-conventional growers in organics has not yet been to the detriment of small-scale producers. Rather, exporting and do-

[28]A common explanation for this ambivalent attitude is the idea that New Zealand consumers have a heightened respect for conventional farming. They are said to believe steadfastly in the healthy properties of conventional food produced in New Zealand, while being generally uneducated on the threats of agrichemicals.

mestic oriented groups of producers presently exist in separate, if not complementary, spaces within the expanding organic food industry (see also Coombes and Campbell, *in press*). Nelson growers who target domestic consumers have accessed niche markets by concentrating on fresh produce and product variation, while export growers and processors concentrate on bulk products or easily stored organic food and are less likely to attempt to manipulate the local market while more significant premiums exist off-shore. The use of Nelson as a test case has established that the export organic industry does not necessarily have a negative effect on its domestic equivalent. Although some of the smallest-scale growers have been negatively affected by increasing costs of certification, this report also suggests that BIO-GRO NZ's small grower scheme may negate this effect. Thus, it is probable that this scheme may help to maintain individual properties which act as lasting examples of how organics was pioneered in Nelson – as an alternative form of production with self-sufficiency ideals or a role in the informal economy.

4.2 The future potential for organic exporting from Nelson

Notwithstanding the considerable range of farm structures and objectives identified in this report for domestic producers, Nelson has gained an image within New Zealand as an area where lifestyle growers target the domestic organic market. As is shown in Chapter 2, there is still considerable evidence for this image. However, it is also true that the popular view of organics in Nelson hides the considerable potential for the area to become a major producing region for the organic export market. As it is the country's third largest horticultural area and as horticultural goods presently dominate national statistics for the volume of organic exports, it is likely that Nelson will eventually fulfil this potential. In any case, there is more organic food exported from Nelson than is first apparent. Although they are less significant in terms of volume than they are in terms of value, organic bee products, wine and hops provide a strong base from which organic exporting from Nelson is set to increase. This was, in part, an unexpected finding. Again, this can be accounted for by incorrect preconceptions about the motivations of philosophically-committed, long-term organic producers. It was assumed that few growers in Nelson would attempt to export organic food because of the prevalence of philosophically-committed producers. It is significant that several such producers already export kiwifruit and nashi and that very few Nelson producers are opposed to exporting *per se*.

It may well be that the reason for such a limited number of Nelson growers targeting the export market has less to do with grower preferences – as was our initial assumption – than with specific technical and structural barriers. The full potential for organic exporting from Nelson depends on developments in organic apple exporting. In this respect, there are several barriers to the export-led growth of organics in the area. Nelson's relatively high rainfall will require further developments in technology, management and practice, especially in terms of organic substitutes for systemic fungicides. It is most likely that these issues will be solved, but the solutions will come to organics indirectly, through the expanding IFP / IPM schemes like Kiwigreen, IWP and, especially, IFP-P. Already, such schemes are providing valuable assistance to organic growers and *vice versa*. However, the most profound restraints on conversion to organic production are to be found in the institutional arrangements for the various fruit production sectors. The NZAPMB, in particular, has not proved to be a satisfactory conduit for the spread of interest in organic production. Despite these restraints, it is likely that even the pipfruit sector will eventually see a considerable number of commercially-oriented export growers converting to organic production.

References

Briars J. & Leith J. (1993), *The road to Sarau: from Germany to Upper Moutere*, Historical Branch, Department of Internal Affairs / Tasman District Council: Richmond.

Buck D., Getz C. & Guthman J. (1997), From farm to table: the organic vegetable commodity chain of Northern California, *Sociologia Ruralis*, 37(1), 3-20.

Campbell H. (1996), Recent developments in organic food production in New Zealand: part 1, Organic food exporting in Canterbury, *Studies in Rural Sustainability, Research Report No. 1.*, Department of Anthropology, University of Otago: Dunedin.

Campbell H., Fairweather J. & Steven D., (1997), Recent developments in organic food production in New Zealand: part 2, Kiwifruit in the Bay of Plenty, *Studies in Rural Sustainability, Research Report No. 2.*, Department of Anthropology, University of Otago: Dunedin.

Clearwater J. (1995), Growing organic apples, *Soil and Health*, June / July, 8-9.

Cloke P. & Goodwin M. (1992), Conceptualising countryside change: from post-Fordism to rural structured coherence, *Transactions of the Institute of British Geography*, 17, 321-326.

Cloke P. & Milbourne P. (1992), Deprivation and lifestyles in rural Wales II: rurality and the cultural dimension, *Journal of Rural Studies*, 8(4), 359-371.

Cloke P., Goodwin M., Milbourne P. & Thomas C. (1995), Deprivation, poverty and marginalisation in rural lifestyles in England and Wales, *Journal of Rural Studies*, 11(4), 351-365.

Coombes B.L. (1997), Rurality, culture and local economic development, unpublished PhD thesis, Department of Geography, University of Otago: Dunedin.

Coombes B.L. & Campbell H.R. *in press*, Dependent reproduction of alternative modes of agriculture: organic farming in New Zealand, *Sociologia Ruralis*.

Coombes B.L, Campbell H. & Fairweather J. (1998), Recent developments in organic food production in New Zealand: part 3, Exporting of organic produce from Gisborne District, *Studies in Rural Sustainability, Research Report No. 4*, Department of Anthropology, University of Otago: Dunedin.

Enza (1996), *New Zealand Integrated Fruit Production—Pipfruit manual*, New Zealand Apple and Pear Marketing Board: Wellington.

Foot D. (1997), *New Zealand agrichemical manual*, WHAM Chemsafe Ltd: Wellington.

Friedmann H. (1993), After Midas's Feast: alternative food regimes for the future, in P. Allen (ed), *Food for the future: conditions and contradictions of sustainability*, John Wiley and Sons: New York.

Hadfield S.M. (1982), *Horticultural development in Nelson and Golden Bay*, Ministry of Agriculture and Fisheries: Wellington.

Hadyn J. (1997), Organic apples—the new standard, *Soil and Health*, March / April, 16-20.

Kneen B. (1995) *Invisible Giant: Cargill and its transnational strategies*, Pluto Press: London.

Le Heron R. & Roche M. (1996), Globalisation, sustainability and apple orcharding, Hawke's Bay, New Zealand, *Economic Geography*, 72, 416-431.

Liepins R. & Campbell H. (1997), Men and women as stakeholders in the initiation and implementation of sustainable farm practices: organic agriculture in Canterbury, *Studies in Rural Sustainability, Research Report No. 3.*, Department of Geography, University of Otago: Dunedin.

MacBean A. (1991), New Zealand horticulture—a taste of success, *Alpha*, 68, DSIR Extension Information: Wellington.

MacRae R.J., Henning J. & Hill S.B (1993), Strategies to overcome barriers to the development of sustainable agriculture in Canada: the role of agribusiness, *Journal of Agricultural and Environmental Ethics*, 21-51.

McAloon J. (1997), *Nelson—a regional history*, Cape Cately Ltd / Nelson City Council: Nelson.

NCC-DO [Nelson City Council Development Office] (1998), WebPages for *Climate Profile* (http://www.dlg.co.nz/nccdo/profile/climate.htm), *Horticultural Profile* (http://www.dlg.co.nz/nccdo/profile/horticulture.htm) and *Agricultural Profile* (http://www. dlg.co.nz /nccdo/profile/agriculture.htm).

O'Conner N. (1995), End of the golden harvest, *North and South*, February, 94-100.

Overton J. (1996), The wine industry, in R. Le Heron & E. Pawson, *Changing places—New Zealand in the Nineties*, Longman: Auckland.

Perry M., Le Heron R., Hayward D.J. & Cooper I. (1997), Growing discipline through Total Quality Management in a New Zealand horticultural region, *Journal of Rural Studies*, 13(3), 289-304.

Peterson J. & Holland P. (1996), Marketing New Zealand's apple industry, in R. Le Heron & E. Pawson, *Changing places—New Zealand in the Nineties*, Longman: Auckland

Rimmer L. (1991), *Organics in the Nelson region—a resource booklet for growers and consumers*, Nelson Organic Producers Group: Nelson.

Ritchie M. & Campbell H. (1996), Historical development of the organic agriculture movement in New Zealand, in Campbell (1996): *op cit*

Saunders C., Manhire J., Campbell H. & Fairweather J. (1997), *Organic farming in New Zealand: an evaluation of the current and future prospects including an assessment of research needs and capabilities*, MAF Policy Technical Paper No. 97/13, MAF: Wellington.

Szabo M. (1993), Poisoned paradise?, *New Scientist*, July, 28-33.

Tovey H. (1997), Food, environmentalism and rural sociology: on the organic farming movement in Ireland, *Sociologia Ruralis*, 37(1), 21-37.

Woodward R. (1996), 'Deprivation' and 'the rural': an investigation into contradictory discourses, *Journal of Rural Studies*, 12(1), 55-67.