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**The Organic Food Market:  
A Discussion of  
Potential and Problems**

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## **Abstract**

This paper discusses changes in dietary patterns and proposes some reasons for these, including food safety and environmental reasons. Implications of these changes are discussed from both a national and international perspective. The role of organic products in responding to these trends and the consequent marketing considerations are then presented.

**Keywords:** agrichemical, spray free, low residue, organic, bio-dynamic, marketing, consumer, food safety.

## **1. Introduction**

There has been a great deal of commentary over the past decade about changing dietary patterns and the importance of healthy foods in one's diet. It seems, that whilst the debate may continue over what constitutes a *healthy* diet, there is indisputable evidence of changes in the diet of New Zealanders. For example, Paulin et al. (1988), found that over the decade 1977 to 1987 there had been

*"a shift towards a reduction in energy derived from fat and a reduction in cholesterol consumption..."*.

Similarly, Franklin and Harding (1983), noted that there were groups within the general population that exhibited widely varying and changing dietary patterns in their intake of *conventional* and *health* foods. A study undertaken by HEYLEN (1987) of 3000 individuals in 1200 households, noted that there were previously staple foods, such as white bread and butter, that were now being consciously avoided. Many international studies have identified similar patterns. In Sweden, Ekelund (1990), has noted a shift in consumption towards vegetables and fruit. The same pattern was identified by Jolly (1991) in his study of California consumers in the US.

The perennial question behind these changes, is the cause of this variation in food consumption. The more commonly suggested causes of changing dietary patterns have been related to the health revolution and concern for the environment. The impact on food producers, processors and distributors is profound, therefore, having a clearer understanding of the reasons for the changes will enable the producers and marketers of food products to adopt a more proactive stance in the market place.

## **2. Consumer Perceptions and Changing Dietary Patterns**

A number of international studies have proposed the following reasons for recent changes in the diets of consumers. (See for example, Ross and Street (1990), Lampkin et al. (1990), Anon (1990), Mintel (1989), Chadwick et al. (1990).

1. A move to healthier diets. A move away from anything that is artificial or with additives, to something that is better for the health and well being of the individual.
2. Food safety. Concern about the type and amount of chemical residues in food products. Consequences of such concerns are often associated with carcinogenic links in the

food chain (see for example Murray, 1991). Concern over problems with food such as salmonella and listeria. These issues are having a much more profound impact with the first case in New Zealand's legal history of a food manufacturer being liable for causing death via a food product (Brett, 1993).

3.Environmental issues. The belief that mankind is responsible for reducing harm to the environment, such as erosion and contamination. Recognition of this concern at governmental level through the establishment of the Ministry For The Environment in 1986, was highlighted by the development of The Resources Management Act. The main thrust of this act has been an overriding concern with environmental sustainability, a concern also reflected in the Ministry of Agriculture and Fisheries (MAF) focus on sustainable agriculture.

It would appear that over time the relative emphasis on these factors in determining dietary patterns can change as Hamm (1983) and, Brombacher and Hamm (1989) indicated in Germany. This change has been a shift from what could be described as the egocentric preoccupation with one's own health, to the altruistic concern about the environment. It was also noted by Ekelund (1990), that the single most important determinant of dietary change through the 1990's would be increasing concern about the environment.

Whatever the balance of these reasons in determining purchase and consumption behaviour, there is unequivocal evidence that these trends are just as prevalent in New Zealand (Lamb 1988, 1990,1991).

### **3. The New Zealand Experience**

Research carried out in New Zealand indicates that there is a continuing increase in concern regarding the artificial chemical content of food. Over the period 1988 to 1991 there was an increase from 52 percent to 73 percent of the general population who have become concerned about the use of chemicals and sprays in food production. As to the degree, or depth of this concern, a 1991 study indicated that approximately 57 percent of the population are still confident to some extent that the food which they purchase is harmless to their health. Of the remainder, 20 percent seem to perceive the risk as reasonably large. These findings appear consistent with those reported in the US by van Ravenswaay (1990).

Reasons for this behaviour are many and varied, however the single most commonly reported concern by individuals (16%) in 1988 was the long term effects of consuming food with high levels of chemical residue. Similar to the overseas research, (Ekelund 1990), these concerns were prompted by personal health concerns (55 percent of the sampled population) and

concerns for the environment (54%). These perceptions are also supported by the dietary behaviour of individuals. The majority of the population (87%) not only believe that fresh fruit and vegetables are the basis of an ideal diet, but as HEYLEN (1988) showed, their behaviour in avoiding particular types of foods, demonstrates a shift to fresh products and to those with lower levels of processing. This view is further supported by Lamb (1991) where 61 percent of the respondents surveyed claimed that much of today's food is filled with unwanted and unnecessary additives and that for food to be *good* for you it should be unprocessed and as natural as possible (73%). There was a strong belief held by the majority of the population (68%) that processed food is not as good for you as fresh food.

In researching consumer attitudes which underlie these beliefs further, it has become obvious that perceptions about what constitutes a health hazard with food products, is a complex issue. In analysing consumers' beliefs about the safety of food products, results were obtained similar to those in studies reported by van Ravenswaay (1990). It would appear that additives and preservatives in food are the main cause of concern regarding food safety. Table 1 indicates the relative ranking of how seriously consumers perceive various food problems.

**Table 1**  
**Serious Food Problems**

<b>Type of Problem</b>	<b>Most Serious</b> (% of respondents)	<b>Next Most Serious</b> (% of respondents)
Additives and preservatives	27.5	25.7
Fat and cholesterol	25.8	23.0
Residues of pesticides	20.4	22.5
Germes and Bacteria	20.2	19.3
Residues of antibiotics and hormones	5.4	8.6
All equally important	0.7	0.9

Source: Lamb(1991)

Although concern over additives and preservatives in food was the concern expressed by the majority of individuals in the 1991 study, there were confused and often contradictory statements about what affects these preservatives and additives had. In the case of concern over pesticide residues, there appears uncertain reasons for the consumers' concerns. For instance only 15 percent of the population appear convinced that pesticide residues are *as low as possible* in food products, 46 percent are doubtful that this is the case, with the remaining 39 percent being unsure. In further explaining reasons for their concerns only 4 percent of the sample stated that they

*"..had personally bought food and had consequent residue problems.."*

However, 57 percent of respondents in this 1990 study did state that there should be more low residue products on the market.

Preliminary findings from a current study, (Wilson-Salt, 1993) indicate that the major food safety concern is food poisoning, followed by concern over the use of agrichemicals. It is believed that these results have been affected by the recent listeria deaths. Since the recent listeria outbreak in New Zealand, the focus of regulatory authorities has become more intense on food products (NZPA, 1993). It has been estimated by Brett (1993), that the cost of food poisoning in lost production and medical treatment is \$50 million per year in New Zealand. So whether or not concern is justified it would appear that there are very real economic consequences of unsafe food products.

What is apparent in the New Zealand case is that there is a misunderstanding and confusion about healthy food products. Sixty seven percent of householders surveyed in 1990 believed that it was difficult to know what is, and is not, healthy, and 81 percent of respondents believe that what is needed, is a system that is clear and easy to understand which indicates how *pure* food products are. There are obviously important implications from this for the producers, processors and marketers of food products.

#### **4. Marketing Implications**

The ideal marketing strategy would be one which considers the seminal reasons for the changing behaviour of the food consuming population. For example, developing a marketing strategy which accounted for health concerns, food safety and environmental issues should succeed if managed appropriately. The proponents of organic and bio-dynamic farming practices would argue that their respective philosophies address these concerns. It is also often pointed out that these farming systems are the only ones which will be sustainable in the long term and are much more considerate in livestock farming. Recent moves by MAF in areas of sustainable farming practices and integrated pest management programmes (IPM) are evidence of this new focus in agriculture. The interest in organic production has increased from 25 to 55 percent of householders wanting to see more organic foods on the market over the period 1987 - 1991. The concern has been expressed in New Zealand as in international studies regarding whether this interest in organic food is

*"..a short term fashion or a long term trend"*

(Alvensleben, 1987).

Regardless of the permanence of this trend there is a very real need, from a marketing perspective, to carefully analyse the market environment and develop the appropriate strategies.

## **5. Market Size and Demand**

While there is much anecdotal evidence regarding the size and/or potential size of the organic food market there are very few factual indications of its current size, either internationally or domestically. From existing organic sales data in the USA it was estimated that for existing produce sales, organic products represented approximately 0.6 percent of total sales (Morgan and Barbour, 1991).

In an estimate of current market size for the organic retail food and beverage market the total global market has been estimated at a value of \$1.5b (NZ), representing about 0.75 percent of total sales (TRADENZ, 1992). It is believed that the FOB value in international trade is approximately \$75m of which New Zealand currently has about four percent or \$3m. The domestic market for fresh produce is believed to represent about one percent of total sales.

As with overseas studies (Ekelund, 1990; Morgan and Barbour, 1991) the studies undertaken by Lamb (1988, 1990 and 1991) also indicated a greater *indicated* demand than current supply. Bearing in mind results from these studies are subject to the normal vagaries of surveying methodologies.

There does, however, appear to be particular determinants of demand for organic food products. Jolly (1991) noted that age, occupation and size of residential area were significant in determining demand, whilst Alvensleben (1987) noted a positive correlation between income and demand. Lamb, (1990, 1991) found similar results to Jolly (1991) of concerns with pesticide residues, artificial colouring, and additives and preservatives also being significant determinant factors in the demand for organic food products. Consumers have noted, however, that reasons for not buying organics often were lack of opportunity (Alvensleben, 1987), lack of supply and quality (Clarke, 1990; Lamb 1990, 1991).

## **6. Product Management and Development**

One of the most important consideration in the management of products is the ability to develop an established quality image with one's products (Kotler, 1986). In dealing with this problem, a common approach adopted in the marketing of agricultural and food products has been the development of standardization and grading systems (Kohls and Uhl, 1985). In the case of New Zealand agricultural and horticultural exports, the development, implementation, and maintenance of a scheme which addresses the chemical residues problem is one of paramount importance. There is abundant evidence of international concern in this area, (Worley and Schotzko, 1990) and the threat of such international regulations being used as a non tariff barrier to New Zealand's exports must be a consideration. Three US government

agencies, the Environmental Protection Agency (EPA), the Food & Drug Administration (FDA), and Department of Agriculture (DA), have just announced the development of a policy which will lead to the implementation of programmes to reduce chemicals in the food supply (Burros, 1993). It is understood that as well as promoting the use of integrated pest management, the policy will also attempt to develop the appropriate standardization schemes.

The adoption of standards in organic production, such as Biogro certification in New Zealand, is a method of developing a standard which can be used from producer and food processor through to retailer. This standard also has international recognition through the International Federation of Organic Agricultural Movements (IFOAM). It should also be noted that IFOAM has been a consultative party in the development of EEC organic standards. From an international trade point of view one of the main problems with organic standards, however, is the lack of comparative accreditation of the various international standards. IFOAM has avoided the issue of inter-country comparison by not developing a system which clearly indicates relativity between nations. Some scepticism exists as a result of this regarding the validity of the differing standards.

It is also important to realise that whatever standards system is developed, it must be simple, and easy to understand. This is emphasized by the public's current concern over additives and preservatives in food even though there is a code system in place which identifies the additive content of food products. The necessity to use a book for decoding these products makes the use of such a system a nonsense from the consumers' point of view.

Evidence of the need for a certification or standards system, of some kind, to inform consumers about the chemical content of food products was clearly indicated by 81 percent of the sampled population in the 1990 study who stated that

*"..there is a need for a clear and easy system of certification for understanding how pure products are....."*

The necessity for a clear organic certification system has also been expressed by producers and wholesalers (Morgan and Barbour, 1991), and is seen as an important step towards quality improvement of organic food products. There are, however, some unresolved issues related to standardization of lo-residue products and transitional organic product. Current organic distributors both domestically and internationally (Morgan and Barbour, 1991) seem reluctant to adopt some of these alternative schemes which could lead to confusion of consumers.

Interestingly, in terms of product packaging, the presentation of fresh organic produce is critical. It was noted by Sparling et al. (1992) that wrapping fresh organic produce in plastic depressed demand, a factor consistent with the environmental determinants of demand. It was also noted in this study that certain types of handling, such as wrapping lettuces, reduced the product's shelf life. Product condition is particularly important as all those studies referenced which considered taste, e.g. Clarke, (1990) indicated that organic produce generally taste better than conventional produce. This reinforces the importance of handling and packaging considerations.

## **7. Promotion Considerations**

The simplest way to achieve accountability on issues such as food safety is to provide identity in the form of branding (Zbytniewski, 1992). There are a number of examples world wide where the establishment of brand names for commodity products, or fresh produce, have been successful in terms of establishing a consistent quality image and consequent consumer loyalty, e.g. Dole and Sunkist (Ibid). In undertaking some form of product branding strategy it would be advantageous to integrate the brand, family brand or trade name with a standards or grading system. This would have the added advantage of clearly indicating to consumers, not only the identity of the product, but also an indication of its *purity*. It could be claimed by the proponents of organic food that the system of Biogro certification in New Zealand could achieve this objective.

Whatever promotional strategies are developed by individual firms or producer groups, it is obvious that communication with the consuming public about the *purity* of their food is of paramount importance.

## **8. Price Considerations**

There is some debate over whether or not individuals will pay a premium for products which are recognised as being *spray free*, *chemical free*, or *environmentally friendly*. In the study undertaken in 1990 there seemed a general feeling that a reasonable percentage of consumers would be prepared to pay some form of premium. Table two provides details from this study.

**Table 2**  
**Anticipated Buyer Behaviour of Low Residue Products**

<b>Product Type Buyer Behaviour</b>	<b>Environmentally Friendly (% of respondents)</b>	<b>Spray Free (% of respondents)</b>
Would pay more	46.0	43.5
Depends on the product	10.8	13.1
Unsure	28.0	20.2
Would not pay more	15.3	23.3

Source: Lamb (1990)

In one study carried out in the UK, it was noted that consumers of organic food products were relatively insensitive to price changes and that if price premiums were kept below 30 percent, price was not a crucial influence on demand (Henley 1989). Lampkin et al. (1989) also noted that whilst most individuals stated they were unwilling to pay more than a 10 percent premium for organic food products, the average retail price of organically produced food in the UK at the time, was 30-50 percent higher than conventional food products. Research by Weaver et al. (1992) into willingness to pay for pesticide free products also indicated that over 75 percent of customers were willing to pay a price premium of varying levels for products certified chemical residue free. Other international studies, (Sparling et al. 1992, Morgan and Barbour 1991) have found similar levels of premiums for organic food products, however, as emphasized by Morgan and Barbour (1991), care must be taken in interpreting some of these results. Often the willingness to pay, when measured from a consumer survey, is significantly inflated when compared to actual buying behaviour. Recent preliminary results from a marketing experiment of organic and conventional apples indicates a relatively low level of price sensitivity of demand exhibited by purchasers of organic apples. This is for both direct, and cross price elasticities.

Further examples of low residue foods receiving price premiums is evidenced by the development of growing contracts for organic products by food processing companies. In the Canterbury region, Watties' Foods have entered into contracts for the growing of organic peas (30% premium), organic beans (20% premium) and carrots (200% premium).

Whilst the debate over whether or not organic food is better for the individual, there is indisputable evidence that the prices paid for such produce are higher. In research done by Fisher (1989), evidence was presented which indicated these higher prices were reflected in increased returns to producers.

## 9. Distributional Considerations

The distribution of organic food products in New Zealand began through producer gate sales of fresh produce and also through specialist health food shops. More recently, this has developed into limited distribution through supermarkets. In continental Europe, UK and the USA, the major form of distribution has been through supermarkets. There are however a number of problems with this form of mass distribution.

Major concerns of food distributors about organic products are:

- 1.Consistency of supply and provision of economic volumes (Sparling et al., 1992).
- 2.Establishment of a standards system for ensuring consistent quality (Morgan and Barbour, 1991; Sparling, 1992).
- 3.Variety of products available (Clarke, 1990).
- 4.Care and management of products in-store (Sparling, 1992).

The main reasons for selling organic products from a supermarket's perspective appear to be based on obtaining a competitive advantage (Morgan and Harbour, 1991). Most store managers have indicated that the volumes of fresh organic produce handled, do not represent a significantly profitable contribution, and, in many cases the handling and care of these products place significant demands on staff time. As with international experience, New Zealand supermarket managers see offering organic products in terms of an attraction to the store.

In some European countries, Belgium, Germany and Sweden for example, the distribution of organic products is occurring more through specialist outlets. The history of the Reformhaus health food distribution system has influenced this in Germany, however, as Alvensleben (1987) has noted:

*"..a more recent distrust of the modern mass distribution system.."*

has led to a recent resurgence of interest in specialist food shops.

There is however a realisation in New Zealand that for organic food products to reach an economically viable position in the market, co-ordination of sufficient production and distribution is very important. Whether the distribution occurs through supermarkets or specialist outlets is very much dependent on the buying behaviour of the target markets.

## 10. Conclusion

The change in dietary patterns has been influenced by a number of factors. As with international trends, in New Zealand the major reasons for this change are the concern about the safety of food, and to a lesser extent concern for the environment. To address these concerns from a marketing perspective, the implementation of a clear and simple standardization or grading system for organic production, from producer to the final consumer is a preliminary step in developing a formal marketing strategy. Communicating the integrity of safe food products to the consumer through branding and/or a simple system of certification is probably the most important public marketing action. It is apparent from both local and international studies that consumer education is a critical element in the development of a formal marketing approach for *safe* food products.

There are financial advantages obtained in producing safer food products, however the distribution, care and management of these foods requires special consideration. There are obvious problems in the co-ordination of supply and distribution of organic products within New Zealand, due to the particular characteristics of demand, however there would appear to be a great deal of potential in international trade in these types of food products.

The responsibility for undertaking any of the marketing activity referred to in this paper has not been addressed suffice it to say that all elements of the production, processing and marketing system should share those responsibilities.

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