

# Organic Apple Culture in Sweden

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## ABSTRACT

Sweden is a net importer of all fruit, including apples – the fruit favoured by Swedish consumers. Domestic apple production holds a market share of a fifth of the total supply, while the domestic market share of organic apples is only 11%. The fact that organic imports are transported long distances may be in conflict with the environmental arguments. The organic share of around 1% of total apple consumption is significantly lower than the 3% organic share of all food sales. The price premium of organic apples is an additional two thirds of the conventional price. Organic apple culture constitutes of less than 10% of total Swedish apple acreage, while the area certified by the association *KRAV* is less than 5%. This label has been crucial in the marketing of organics but may now be replaced by EU certification. A few vertically integrated retail chains, with continuously fewer and bigger units, dominate the Swedish food marketing system, but organic apples are often sold directly to the consumers, as fresh or as processed products, which may give the producer a higher share of the price premium paid for organic products. Considering the brand strategies of the supermarkets, the key to market success may be to find a niche in the small-scale system, possible with ties to the tourist industry, since this offers a channel for small volumes and a wide range of unusual varieties. This combines the advantages of local products with those of organics.

**Keywords:** consumer research, fruit, local production, marketing, strategy, supermarkets

**Abbreviations:** DEFRA, UK Department for Environment, Food and Rural Affairs; IFOAM, International Federation of Organic Agriculture Movements; IFP, Integrated Fruit Production; KRAV, Kontrollföreningen för ekologisk production (Swedish association for control of organic production)

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## INTRODUCTION

### Purpose and perspective

This article contains a review of the market situation and the research concerning organic apple culture in Sweden. The fact that the authors are horticultural economists means the marketing perspective is dominating and technical matters like growing conditions and physiological aspects of the fruit are also dealt with in that perspective.

In spite of good growing conditions, cold winters limiting the need for pesticides and fungicides, good access to water, and the availability of regional varieties, the Swedish production of organic apples remains small. Using a whole chain perspective from grower to consumer, we will draw

conclusions on the growth potential for organic apples and possible obstacles to market access on different levels of this chain. The procurement of public sector institutions will be left out the study. The purpose is, thus, to describe the Swedish production and market of organic apples and to discuss the argument that organic apples may provide a profitable niche with a growth potential.

### Outline

After a description of the competitive situation of the fruit growers, and their differentiation into organic production, the policy and organisations connected to this production are presented. Previous market studies are listed in the subsequent section and the market, defined as demand and sup-

ply, is described. Organic apples are very much part of the marketing system of conventionally grown apples, and fruit and vegetables as a whole. It is therefore necessary to describe this marketing system for an understanding of the similarities and differences that may apply to organic products. This is done under the headings 'A large-scale food distribution chain', and 'Supermarket strategies'. After that we summarise the views of the actors in the value chain starting with the wholesalers' view on the sales of organic apples and the growers' view on organic production and marketing. Different aspects of quality, both measurable and subjective, are dealt with before we turn to the consumers' view on this subject. The last parts of the article discuss the dichotomy between locally produced and organic products, and, finally, the alternative small-scale marketing system is presented. Our conclusions finish off the review.

### The competitive situation of the fruit growers

The Swedish market for fruit and vegetables has been characterised by international competition for a longer period and to a larger extent than that for agricultural products. In the 1960s and 70s a fall in cost of transportation helped increase import market shares on the Swedish fruit market. During that time tariffs and quotas helped protect domestic production and product differentiation was not an issue. The scene changed with the removal of the seasonal ban on imports of apples in 1988 and the entry of Sweden into the European Union in 1995, and further with the enlargement of the Union ten years later. Imports entered the market also during the main domestic season, subsidies were paid for the removal of orchards and 1,200 hectares disappeared. There was a crisis among producers as the wholesalers could determine what apples they wanted. Through innovation, new investments and a co-ordination of the supply in a producer organisation, *Förenade Frukt* later *Äppelriktet*, the Swedish apple industry is still competing (pers. comm., Börjesson, Director Swedish Fruit 2006). As for ownership and structure of companies, the Swedish apple sector consists of some 250 firms, mostly smallholdings. Two thirds of the commercial growers are members of the co-operative producer organisation *Äppelriktet*, which together with nine other smaller packers owns the joint sales company *Svenska Äpplen*. The companies are not acting on the stock exchange.

The schoolbook example of a firm in perfect competition is an actor that competes on price. The social advantage of perfect competition is obviously large quantities of low-price products. In neo-classical economics the low-cost producers gain market shares over high-cost ones, which has clearly been the case in the Swedish fruit industry, but that model assumes that the product is homogenous. The industry realised that the way out of high-pressure competition, when cost reduction strategies had been extorted and old apple trees had been replaced by new ones, was to improve the offer to the buyers, to start developing the product, go from commodities to differentiated goods and work on innovation. Although these concepts – cost-leadership versus product differentiation or focusing on certain segments as generic strategies – are now often connected to Michael Porter (1980, 1991) it should be remembered that the economic models of product differentiation and monopolistic competition originate from a much earlier debate. With vertical integration of firms on the buyer's side, there was need for horizontal integration among producers. The fruit growers formed the co-operative *Förenade Frukt* in 1951, thereby being among the very first group of growers to organise their sales. Among their members are now two growers of organic apples.

### Differentiation into organic

From the mid 1990s, the Swedish market for organic food products has grown rapidly, with an annual increase of around 20-30%, but has slowed down in recent years. The

total market share of organic food in Sweden is small and estimated at around 3% by value. There is an increasing interest in organic food shown by the big retail market, which prefers to speak in terms of number of products rather than in sales as a share of total sales. The increase in organic sales at the wholesale level amounted to 5% in 2005, when it reached a level of €215 million ([www.krav.se](http://www.krav.se)).

The growth of the organic market has recently mostly consisted of an increase in imports.

This is a sign that domestic apple production is too high a cost to be able to compete with imports, which is suggested by the Organic Farmers' Association ([www.ekoloantbruk.se](http://www.ekoloantbruk.se)). But Swedish apples, whether organic or not, can never compete on price, but must be positioned as premium products, for which a high physiological quality and efficient marketing methods are crucial.

Since 1997 there have been official political goals for the area of organic production in Sweden. The previous goal was 20% of all arable land in Sweden being organically cultivated by 2005 (Ekelund 2005). The present goal from 2006 is an area of 20% certified organic production by the year 2010, which means more products will be labelled to the consumer (<http://www.regeringen.se>). The government has also set up a specific goal for animal products and stated that a fourth of the public sector purchases be organic by 2010, but there are no specific goals for fruit or apple production.

Before an orchard can be certified as organic there is a three-year transition period, under which risks of production in terms of pests and diseases and low yields cannot be met with the higher price usually paid for organic products. Subsidies on organic production vary with the type of production and amounts to around €370 (SEK 3,500) per hectare for apples, which is the highest amount. The Swedish Board of Agriculture is responsible for the implementation of the policy including support and advisory services to the agricultural sector (<http://www.sjv.se>). The food security aspects of organic food are the responsibility of the Swedish National Food Administration (<http://www.slv.se>). The Swedish Consumer Agency has been appointed by the government to promote the marketing of the products (<http://www.konsumentverket.se>).

In spite of the political goals, the competitive situation is tough and domestic organic products have to compete with imported organics as well as conventional products. Much of the previous market growth of organic food can be derived from an early interest by major retailer chains to offer organic food as part of their image building strategies (Tjärnemo 2001). As will be described in more detail below, the retailers have their own private brands for the organic products, which are also carrying the label of the association for control of organic production, *KRAV*. Together with the marketing efforts of the big supermarkets, this label has played an important role in the market expansion.

*KRAV*, the Swedish association for control of organic production (Kontrollföreningen för ekologisk odling) is a key actor on the organic market in Sweden. *KRAV*'s standards meet the IFOAM Basic Standards and the EEC regulation for organic production (Council Regulation EEC No 2092/91). It is organised as an incorporated association with some 30 members, representing farmers, processors, trade and also consumer, environmental and animal welfare interests. This organisation is quite rare as an example of many different actors joining efforts to expand a special product group (see Klintman and Bostöm 2004 for a thorough analysis of this). They develop organic standards, inspect these standards and promote their label. *KRAV* is accredited by *IFOAM* (International Federation of Organic Agriculture Movements) and authorised by The Swedish Board of Agriculture and The National Food Administration to carry out inspection of organic production in Sweden (<http://www.krav.se>). Starting in 2007 they have got competition from another accredited certifying body, *SMAK* (The Swedish Tablepotato Control Agency, LTD), and the EU regulation is taking over in importance on the

Swedish market ([www.smak.se](http://www.smak.se)). There has been much debate about the future of the *KRAV* label and the organisation is arguing that their rules are more far-reaching than the basic regulation.

## PREVIOUS MARKET STUDIES

The Swedish University of Agricultural Sciences in Alnarp is nationally responsible for market research on horticultural products. A number of market studies on apples have been carried out in Horticultural Economics. These include studies by Bladh (Wedelsbäck) and Ekelund (1995), Jansson (1999), Clase (2004), Ahnström (2005) and Nilsson (2006) all carried out under the supervision of Lena Ekelund. The results from studies from the 1990's showed that co-operation, marketing strategy and brand development are required on the Swedish as well as in the British market. Jansson (1999) implies that the success of the New Zealand apple industry, in a situation of hypercompetition, was due to systematic strategic work by the New Zealand Apple and Pear Marketing Board (with the brand *ENZA*), adoption to consumer needs and a prolonged season of supply.

Sweden was not included in the so-called *OMIARD* (Organic Marketing Initiatives and Rural Development) study on the European level (Zanoli *et al.* 2001), or in the Integrated Project *QualityLowInputFood* (Midmore *et al.* 2005). A review of consumer research is also presented by ITF, International Task Force on Harmonization and Equivalence in Organic Agriculture (IFOAM 2006). Ekelund (2003) presents a review in Swedish of 25 Swedish consumer studies related to organic products in 2003. One conclusion was that most studies were quantitative surveys on attitudes and that little research had been devoted to marketing aspects and the consumer in a social context. Much effort had been made in finding *the* organic consumer, often through segmentation based on simple background variables like income, gender and education, whereas more complex behavioural criteria had been left out. None of the studies dealt with fruit, or apples, in particular, while organic vegetables had been more frequently studied.

While Ahnström (2006) describes domestic trade in apples at the wholesale and retail level, Nilsson (2007) gives a thorough report on the Swedish apple industry from grower to consumer. Through interviews with representatives of the wholesale level, a view on organic apples is included.

It should be stressed that our object of study, the Swedish production and marketing of organic apples, is a very small sector, and that, to our knowledge, only two studies are devoted solely to this topic. The first study, by Ditte Clase (2004), is a Master's thesis under the supervision of Lena Ekelund, titled; "Why is there so little Swedish organic fruit"? It is written in Swedish with an English abstract and is mostly concerned with marketing. One of the conclusions is that there is a lack of contact among the organic growers and that more co-operations would strengthen their market position and that, according to the growers themselves, better communication between market, research and growers is desirable. Clase's thorough examination of problems at the different levels of the marketing chain will be further dealt with subsequently.

The second study, the recent doctoral thesis by Åsa Jönsson (2007) titled; "Organic Apple Production in Sweden", written in English, concerns experiments with different varieties rather than descriptions of the production and marketing situation. In a tasting experiment, the attitude of the interviewed consumers towards organic apples is measured (Jönsson and Nybom 2006); we will come back to this in our section on the consumer's view below. The thesis contains four more papers, two on the results of conversion of an orchard from Integrated Fruit Production to organic production (Jönsson 2006; Jönsson *et al.* 2007) and two on differences between varieties (Jönsson and Tahir

2004; Tahir and Jönsson 2005). The analysis is made from a biological point of view, concerning diseases, measurable product quality and yield, while profitability and marketing aspects are not part of the studies.

Our own consumer studies concerning organic horticultural products (Ekelund 1991, 1996, 2003, 2005; Ekelund and Tjärnemo 2004; Tjärnemo and Ekelund 2004; Ekelund 2005) have been used as main sources on marketing, some parallels between fresh vegetables and fruit being obvious.

The Swedish Institute of Food Economics publishes reports on the organic food market. One of these (Furemar 2004) has been an important source of information on apple prices. The Swedish Consumer Agency, being appointed by the government to promote the marketing of organic food, has published several reports including an evaluation of its own work.

Several of these are available on their website (<http://www.konsumentverket.se>).

Where no references are given in the text, descriptions are based on our own research published in Swedish or presented at various seminars. We have also included all possible data from official statistical sources in our description of production and market.

## DEMAND AND SUPPLY

The average daily consumption of fruit and vegetables in Sweden is 390 g (Swedish Board of Agriculture 2006a) compared with the recommended daily intake of 500 g of fruit and vegetables (Swedish Food Administration 2006). Apple holds the position of the most frequently consumed fruit, with a fourth of the total fruit intake (Swedish Board of Agriculture 2006b). Since the early 1990s, the Swedish consumption of apples per person and year has been around 15 kg (Swedish Board of Agriculture 2006a), down from approximately 20-25 kg per person and year between 1960-1985 (Swedish Board of Agriculture 2006b). Compared with other countries in Southern Sweden, such as France, Italy, Spain and Portugal where the apple consumption is an average 20-25 kg per person per year (Eurostat 2006), the Swedish consumption are significantly lower.

The value of fruit sales on the Swedish market reached approximately €1,200 million in 2005, and 87% of these go through supermarkets. Apples constituted 12.6% of the total fruit (Statistics Sweden 2006). Domestic apple production holds a market share of a fifth of the total supply, while the domestic market share of organic apples is a mere 11% (Ekologiska lantbrukarna 2006). Most of the supply of organic apples consists of imports from Italy, Argentina, the Netherlands, France and New Zealand (Furemar 2004).

Contrary to the situation of for example root vegetables, where organic products hold a 10% share of the market or more, organic apples constitute a very small share of the total Swedish apple consumption. An estimated figure is around 1% (Furemar 2004), compared to an estimated 3% of all sales of food and non-alcoholic beverages on the Swedish market (Swedish Consumer Agency 2006). More accurate figures are difficult to estimate. The problem of lack of data on consumption has been commented on and studied further by the organisation of organic products, *KRAV*, in a project financed by the Swedish Board of Agriculture (KRAV 2006).

The main part (91%) of organic food is sold through traditional supermarkets, 7% is sold directly at farm gate or on open-air markets, 1% in special shops and another 1% through other, non-specified channels (Ekologiska lantbrukarna 2002). Price differences between conventional and organic apples in supermarkets are considerable, with a 67% higher price per kilo, according to an official report (Furemar 2004). While the average price per kilo was SEK15 (€1.6) for conventional apples, the price of organic ones amounted to 25 (€2.7). One reason is the 75-100% higher production cost according to the managing director of the producer organisation *Äppelriket* (pers. comm.. Lars-Olof Börjesson 2006). Other reasons are probably higher

**Table 1** Area of organic apple production in relation to total organic fruit production 2001-2006<sup>1</sup>.

Year	2001	2002	2003	2004	2005	2006
Total organic fruit area (hectares)	51	66	63	81	85	88
Apple area as share of total (%)	36.5	24.1	30.2	23.1	44.9	54.1

<sup>1</sup>Source: KRAV (2007) Internet Source: <http://www.krav.se>

**Table 2** Area of organic apple production in relation to total apple area and yield 2001-2006<sup>1,2</sup>.

Year	2001	2002	2003	2004	2005	2006
Total area (hectares)	1418	1334	1481	1380	1440	n/a
Yield (tonnes)	19,900	18,005	21,500	18,500	17,683	n/a
Certified Organic area (hectares)	18.6	15.9	19.0	18.7	38.2	47.6
Organic share (%)	1.31	1.19	1.28	1.35	2.65	-

<sup>1</sup>Source: Swedish Board of Agriculture (2006c) *Production of horticultural products 2005*.

<sup>2</sup>Official Statistics in Sweden, JO 33 SM 0601, (2006d) *Horticultural Survey 2005*. Statistical Report 2006:4, KRAV (2007): [www.krav.se](http://www.krav.se)

<sup>3</sup>Statistics are based on farms with 0.25 ha and over.

n/a not available

marketing costs and bigger losses.

The Swedish apple production amounts to 0.2% of the whole EU production ([www.sjv.se](http://www.sjv.se)). An analysis of the available statistics for apple production in total and organic production in particular shows discrepancies and lack of data. Different sources and different publications give varying information. Statistics on total fruit and apple production are collected in two different series, and published by the Swedish Board of Agriculture ([www.sjv.se](http://www.sjv.se)). The certification body, *KRAV*, collects and publishes annual information on certified areas ([www.krav.se](http://www.krav.se)). While data on fruit are available in a longer series, it is only since year 2001 that apple areas have been separated out. It proved wrong to assume that organic apples have constituted a constant share of total fruit area, which made estimates of earlier apple production impossible. The following tables aim at summarising relevant figures of the size of production. **Table 1** shows the share of apples of total area of organic fruit.

We can draw the conclusion that the share of apples has varied over the years but that it now constitutes a dominating part of total organic fruit production; **Table 2**.

**Table 2** shows the area of organic apple production in relation to total apple area. Yield figures in tonnes are only available for the total apple production. The table shows a big increase in the recent years, with a doubling of the area from 2004 to 2005 and a rise by 25% to 2006. The organic share of total apple production doubled from 2004 to 2005 but data on total production is not available for 2006. There is, however, no reason to assume dramatic increases, which indicates that the organic production may have gained further shares.

When the EU in 2000 established a framework for Community action in the field of water policy (EU Directive 2000/60/EC), this has led to a situation where several growers have to convert into organic production to meet the new EU requirements. This is of certain importance in the main Swedish apple-growing region. The organic fruit production is located to the southernmost part of Sweden, with the province Skåne (Scania) holding 60% of total production. This region is renowned for fruit production in general and has increased its shares of production of organic apples as well as fruit in general. Some orchards are situated in the Stockholm area. The largest grower of organic fruit is situated near the town Hallstahammar in central Sweden.

It could be added that the overall certified organic area has remained a stable 200,000 hectares between 2005 and 2006, while there was a 17 per cent increase in transitional area, indicating a future increase in organic production. Soft fruit, which for comparison is grown on some 200 hectares, increased by nearly 7% in the last year, and total deciduous fruit by less than 4%. The development for apples has, thus, been remarkable.

## A LARGE-SCALE FOOD DISTRIBUTION CHAIN

The dominating marketing system in Sweden consists of a few large retail chains with continuously fewer and bigger units. The big actors are *Ica*, *Coop* and *Axfood*, challenged by the smaller regional company *Bergendahls* in the south of the country. They all have their own wholesale companies and the concentration of the trade has been going on for more than fifty years. The number of retail outlets reached its maximum around 1950, the fastest decline occurring during the 1950s, when self-service stores were introduced, and in the 1970s, when the motorcar became the main means of transportation in shopping (see Ekelund 1991 for a description of the development and Nilsson 2006 for an updated picture). Later years have seen further vertical integration and a tightening up of the structure of the companies, new entry from international actors on different levels of the value chain, a fall in prices and, say some, a more bland variety of goods.

The largest retail company, *Ica AB*, has merged with the Dutch company *Royal Ahold NV*, which now holds 60% of the company. Wholesale and retail companies formed *Ica* in 1939. During a period of forty years its market shares have increased steadily and are now amounting to 37% at the retail level. *Coop*, founded in 1899, is based on consumer co-operatives with the joint Nordic company *Coop Norden* was founded 2002 by the Swedish (42%), Danish (38%) and Norwegian (20%) equivalents.

*Axfood* was formed in 2000 through a merger between retailers (*Hemköp* and *Spar*) and the wholesaler *D&D*. This public company is strongly influenced by *Axel Johnson AB* and consists of companies at the wholesale level (*Dagab*) and at the retail level (*Hemköp* and *Willy's*). In 1972 six companies formed *Dagab*, while four fruit importers and wholesalers formed the linked company *Saba*. In 1998 what is said to be the world's largest food company, *Dole*, bought 60% of *Saba* and in 2005 it became the sole owner.

*Bergendahls* originate from wholesale and has had a regional profile, but is expanding nationwide. It owns the biggest Swedish hypermarket *City* and has a soft discount profile. A very important development in the food retail sector is the increase in discount stores that started in 2003 with the hard discounters *Netto*, with Danish origin, and *Lidl*, a German chain with expansion all over Europe. No figures are available, but both chains have an estimated few per cent of the Swedish food market. They are very important as disturbing fringe firms on an oligopoly market.

On the wholesale level the supermarket chains consist of *Ica*, supplying their own stores, and *Saba* supplying the related *Axfood* stores as well as those of *Bergendahls*. The third big actor, *The Everfresh Group* owned by *Fyffe's Inc.* is the main deliverer to *Coop*. With *Ica* controlled by *Ahold* and *Saba* and *Everfresh* owned by *Dole* and *Fyffe's*, respectively, the international influence on the Swedish fruit market is massive.

## SUPERMARKET STRATEGIES

The most important strategic move of the Swedish chains is that they all promote their own private retailer brands with logos, or private labels. These are taking an increasing share of the total grocery sales. It is estimated that 16.5% of the turnover now constitutes of own brands, for perishables this share is even 21.0% (Fri Köpenskap, 15 Feb. 2007).

In volume terms, the overall share of private brands is close to one fourth (Fri Köpenskap, 17 Nov. 2006). The goal of Ica and Hemköp are a stated 25% of sales.

Coop has the organic label, *Änglamark*. Ica has the ubiquitous label Ica, including the organic one *Ica Ekologiskt*. Both have also been *KRAV*-labelled. *Hemköp* and *Willy:s* have logos with their own names but with no special range of organics, while *Bergendals* are not into own brands at all. To the average consumer there may be little difference between the chains but our own studies have suggested that there are big differences between individual stores when it comes to the profile and the display of organic products. Some have an environmental profile, with a lot of organic products, the result of a personal interest on behalf of the store manager rather than of the chain company (Tjärnemo and Ekelund 2004). The environment was an important issue in the strategies of the chains around 2000. It is fair to say that health has become more important. *Hemköp*, for example, has changed from an environmental to a health image, *Ica* is all into its private brand and *Coop* is widening environmental to ethics, the main argument for organic products was animal welfare in its campaigns 2004. In late 2005 organic was a side argument in its big promotion of healthy vegetables ([www.coop.se](http://www.coop.se)).

In our study of fruit and vegetable managers, representatives of twelve big outlets, affiliated to the same retailer chain in southern Sweden were interviewed by means of an open questionnaire with general questions concerning both conventional and organic fruit and vegetables (Tjärnemo and Ekelund 2004). One aim was to get an insight into how the interviewees perceived the development and the future of their fruit and vegetable department and to what degree the managers perceived organically grown as an important part of the range of fruit and vegetables.

The fruit and vegetable managers were coherent in their perceptions concerning organic fruit and vegetables. The result of the text analysis showed that the managers perceived organic fruit and vegetables as "a marginal range of products from both a store profit and a consumer demand point of view". They perceived the handling and display of organic fruit and vegetables as "critical for the sales". The fruit and vegetable managers perceived consumers' interest in organic fruit and vegetable as "varied and characterised by low involvement". They mentioned many factors, such as lower prices, increased and continuous supply, concerted action taken by the whole food supply chain and higher consumer demand, as prerequisites for their own grocery stores to take action, by means of providing increased shelf space and marketing activities, to stimulate the sales of organic fruit and vegetable (Tjärnemo and Ekelund 2004).

The premium food segment, to which the high price organic products belong, is increasingly important to the supermarkets. In a report from IGD (2005), six segments of premium food from a category approach were defined. The organic market, fair-trade products, local and regional food, specialist and fine foods, premium branded products and retailers' premium labels. The report focuses on opportunities for growth in premium retailing in the large-scale food distribution chain. There is reason to believe that the overall supermarket strategy for organic products will be to tie them to their own brands. Our studies, however, suggest that there is not always a correspondence between chain strategies and actions by the managers in the supermarkets.

## A WHOLESALER'S VIEW ON THE SALES OF ORGANIC APPLES

Considering the market dominance of a few actors on the wholesale level, it can be expected that their views are representative and have a strong influence on the development. The interviews by Clase (2004) indicate a stable demand for organic fruit, but some of them believe that there is a potential for more Swedish grown organic fruit. The supply of Swedish fruit is regarded unstable, and wholesalers were unsure where to find the Swedish organic fruit. The quality of Swedish organic produce is also perceived as uneven. The wholesalers' customers were said not to ask for Swedish organic fruit in particular, but for organic fruit regardless of origin. Through imports, the wholesalers have no problem receiving the required quantities, and continuity is also satisfactory. However, while the apple market was then seen as stagnated, it is getting more segmented with various qualities and price levels, where Swedish apples become a special niche (Clase 2004). Since then, as we have seen, there has been an increase in production and further increases are predicted by the industry (pers. comm. Lars-Olof Börjesson 2006).

As regards product origin, the impression was confirmed that this is of little interest to the supermarkets. In a ranking of product attributes, the four biggest importing wholesalers listed the demand situation, product quality and sufficient quantities as most important when buying. The attribute of origin came on the last position in the ranking. According to the interviewed wholesalers product origin was believed to receive less importance in the future (Ahnström 2005).

Nilsson (2006) also asked about wholesalers' views on the development of the demand for "apples with special added value, like for example organic, locally produced and fair-trade labelled". All four interviewees seemed to believe in a market for organics, and two of them also in fair-trade, while they saw no future in selling locally produced apples. Some commented that the price premium must not be too high. There were also comments about problems like scab, high costs, small volumes and a short season. Even if the supply of Swedish organic apples is small and wholesalers see a potential for more Swedish organic fruit, Nilsson claims that it might be difficult to get more IFP-growers to convert into organic.

With special varieties adapted to the climate, Swedish apples occupy the position of a niche product on the domestic market, which is the same conclusion that Clase (2004) arrived at. This alone creates a market position for Swedish produce that distinguishes them from imports (Nilsson 2006).

## A GROWER'S VIEW ON PRODUCTION AND MARKETING

The competitive situation of organic fruit and the companies were examined through interviews with 36 fruit producers, whereof 29 organic, two potential organic growers and a sample of five leading IFP (Integrated Fruit Production) growers (Clase 2004). Most of the companies in the study were old and small with an average 2 ha but they were divided into smaller (0.1-1 ha) and larger growers (1 ha and above). The organic growers in the study represent about half of the Swedish organic apple production. They were selected from the Swedish Board of Agriculture's list of fruit growers receiving EU-grants for organic production. They were interviewed over the telephone, each call lasting an average 35 min. Some of the questions are listed in **Table 3**. The two potential organic growers and the five IFP growers were interviewed about attitudes towards organic growing. The interviews were transcribed and analysed quantitatively and through qualitative methods; **Table 3**.

The results from the interviews show that the most frequent reason for producing organic is embedded in ideological and environmental reasons, as stated by two thirds of

**Table 3** Questions to the organic fruit growers<sup>1</sup>.**Q1:** What was the reasoning behind the decision to grow organic?**Q2:** Can you describe the possible problems within production creating obstacles to the development of the organic fruit production?**Q3:** How do you reflect over marketing issues and product development for your produce?**Q4:** Do you believe that your farm is acting differently than if it were a conventional or IFP-farm?<sup>1</sup>Source: Clase 2004

the growers. Only one small size grower mentioned financial reasons for growing. There was a tendency among the growers to answer that organic production could lead to more extensive production and less investments and time consuming tasks, while in reality more time is required in organic production.

Among the smaller growers (0.1-1 ha) the majority (10/15) sold their products directly on the farm and on open-air and Farmers' Markets. Only two sold their products to wholesalers. Most of the growers grew apples as a complement to their regular assortment of fruit and vegetables. Generally, among smaller growers, no marketing efforts were made, except in their own farm shops. Sales were almost exclusively local.

Among the larger growers (1 ha and above) 5 out of 14 had on-the-farm sales, whereof two also offered pick-your-own fruit. Six larger growers sold their fruit to wholesalers. Direct sales were less common among the larger growers, who mostly supplied wholesalers and other farm shops. The general motive among larger growers was to provide fruit for a wider market through the wholesalers.

Only a third of the small growers (5/15) were members of the association *KRAV*, while 10 out of 14 of the larger producers were members. The reason for membership given by the grower members is mainly that the brand gives added value and that it gives trustworthiness to the products. The *KRAV* label is considered a well-known brand, which is important to the larger growers selling to wholesalers and supermarkets. Smaller growers mainly mention financial motives for *not* being members of *KRAV*. Larger growers also more often consider themselves as both growers and entrepreneurs, while smaller growers rather see themselves as just *organic growers*.

The potential organic growers and the five IFP growers regarded the costs and the three-year quarantine period as the main hindrance to conversion into organic production. The lower harvest levels due to pests, diseases and weeds were also seen as an obstacle. The five IFP growers mention the risk to earlier investments as the main reason for sticking to IFP, and they did not see any greater possibilities to make a profit. It should be added that no cost assessments or calculations are available concerning the financial condition of Swedish apple production, neither conventional nor organic one.

The major production problems, and thus the highest risk in organic apple production, as experienced by the growers, are apple scab (*Venturia inaequalis*), apple fruit moth (*Argyresthia conjugella*) and weeds. These were considered the main obstacles for further development of the organic fruit production by the growers interviewed by Clase (2004). The scab problem may be reduced due to the fact that the use of lime sulphur is permitted since the year 2004. Earlier, it was considered unfair that other European countries, and the EU regulation, allowed the use of this chemical. This can be one explanation to the recent increase in organic production.

In addition, research on pheromones is leading to the development of alternative methods for control of codling moths (*Cydia pomonella*). Jönsson (2007), who conducted thorough research and experiments on different varieties in Swedish organic apple production, recommends further research in this area. One objective of her thesis was to study conversion of an orchard from Integrated Fruit Production, IFP, to organic production. The result showed that the organic production rendered a slightly lower accumulated yield compared to the IFP-grown sections, due mainly to a lower number of fruits, while fruit size was the same. Ten

per cent of the fruit in the organic sections was damaged by scab, compared to less than one per cent in the IFP sections. Damage from aphids and NTG (noctuids, tortricids and geometrids) was also higher in the organic sections. Two observation trials with apple scab-resistant cultivars and one with cultivars suitable for organic production of fruit for industrial use were also carried out. Such cultivars present possibilities of risk reduction in production.

The managing director of the main producer organisation of apples, Appelriktet, recommends that organic production is located to new areas to reduce the risk of diseases due to long-running intensive production (pers. comm. Lars-Olof Börjesson 2006).

We can conclude that the risk in production consists of a low yield and damages due to pests and diseases. Many of these affect the market quality of the product.

## ASPECTS ON PRODUCT QUALITY

The concept of quality is multidimensional; quality could be referred to as relative, subjective and objective. The concept of quality also differs depending on where in the value chain quality aspects are discussed. In a model of Cazes-Valettes (2001), seven dimensions of quality were identified, hygienic (safety), nutritional (health), functional (service), symbolic (cultural), social (belonging), organoleptic (pleasure) and humanistic (environmental and moral values). An important aspect further is the value of trust, as discussed by Prigent-Simonin and Hérault-Fournier (2005), who describe how trusting relationships can affect the perceived quality by consumers. They argue that the consumer's trust can be revealed through a number of different entities, such as the product, the brand, the sales system, the salesperson, the producer or the organisation and a number of components.

In their review article on fruit quality from 2002, Harker, Gunson and Jaeger discuss consumer responses to quality aspects associated with texture, taste and flavour and conclude that, while there is a trade off between price and quality, beliefs, attitudes, perceptions and preferences are important in consumers' choice of fruit (Harker *et al.* 2002). Their sources showed that healthiness and convenience are important in consumers' choice and that apples have a high score on both of these quality criterions. It can be added that both these aspects are considered by the Swedish supermarkets to be of increasing importance in their marketing of food. The article does not deal with organic as an aspect of fruit quality, but does mention "an increase in concern about pesticide use that occurred in the late 1990s" (Harker *et al.* 2002, p 336).

When discussing quality aspects of organic food, the experienced and perceived quality very much depends upon knowledge about the production and by trust in the producer. Marketing measures, previous experiences and trust, all affect perceived quality. In Jönsson's thesis (2007) several quality aspects were tested by consumers. Most of them could assign mainly to the organoleptic qualities of food, such as size, shape, colour, juiciness, texture, firmness and taste. Jönsson could not show that any treatment had any apparent influence on fruit colour, firmness or contents of sugar and malic acid, despite previous reports showing the opposite.

The aspects of taste, texture, colour et cetera are often considered more important by the end consumer, than they would be by, for example, wholesalers. The overall impression among the consumers of the tested apple varieties often correspond much with high grades (on a hedonic

scale) for the attributes of taste and appearance. We do not know from this test, how the attribute of organic, or non-organic (conventional) would affect the overall impression (or perceived quality). However, previous studies have shown that the perceived quality of organic in general is higher than that for conventionally grown products, as was examined in a conjoint analysis (Ekelund and Tjärnemo 2004), as will be shown in the next section on consumers' view on quality.

Other important quality dimensions investigated by Jönsson (2007) are storability, growth and yield, quality dimensions important more in a producer producer perspective. Obvious factors affecting fruit quality are diseases and insects. Jönsson discusses several physiological disorders that can reduce fruit quality; scald, bitter pit, cracks (especially around the eye cavity) and russetting. Diseased listed by Jönsson are; scab (*Venturia inaequalis*), mildew (*Podosphaera leucotricha*), brown rot (*Monilla fructigena*), apple canker (*Nectria galligena*), bitter rot (*Colletotrichum gloeosporoides*), bitter rot caused by *Neofabraea alba* and *N. malicorticis*. Among insects that reduce yield and product quality mentioned are: aphids (*Dysaphis*), codling moth (*Cydia pomonella*), nymphs of apple sucker (*Psylla mali*), apple fruit moth (*Argyresthia conjugella*), and fruit tree red spider mites (*Panonychus ulmi*).

The definitions of quality are, as mentioned, different depending on where in the value chain quality is evaluated. Individuals' own experiences, such as taste and preferences are mainly subjective, while other obvious attributes can be measured more or less objectively. Soluble solid concentration, starch score, firmness and fruit skin colouration, are examples of the latter.

## A CONSUMER'S VIEW ON ORGANIC QUALITY

When asked about the most important aspects of quality consumers usually give the highest ranks to taste and freshness (Ekelund 2003). Premium quality is thus simply the freshest and tastiest products, but while the discerning consumer may judge freshness of fruit, information on taste is rarely available. Instead, following the compulsory rules of the EU regulation information on size, variety, origin and class is provided. Our studies have shown that the consumer is also interested in product origin and production methods. It should be noted that the basic knowledge about organic production is quite high among the Swedish public, although the definitions used by the certification bodies are usually not used.

As stated initially, the Swedish Consumer Agency has a responsibility for the development of the market for organic food. Most of their studies are concerned with the pricing and of arguing that organic food is not as expensive as one may think, but they have also made consumer studies. In 2006, they were appointed by the government to suggest a communication strategy for different actors in their attempts to increase consumption of organic products by the general public (Swedish Consumer Agency 2006). The two-fold aim was to spread information on organic products and to increase the recognition about the label, or logotype, for organically certified products. This has had difficulties on the Swedish market, due to the success of the dominating *KRAV* label. The study was also discussed with the two other food authorities: The Swedish Board of Agriculture and the National Food Administration. This illustrates the fact that there is a lot of interest on behalf of the authorities, to fulfil the political goal of 20% of the arable land being under certified organic production by the year 2010, as described initially.

The report by the consumer agency is introduced by the statement that organic food has been presented as a strong food trend in the media, and that environmental issues were very much in the focus in 2006, especially the debate on climate change. The focus of the study is the problem that consumption is low, in spite of a positive attitude towards the products expressed by consumers in vari-

ous studies. The interest is bigger than the actual consumption. The Consumer Agency had recently made a survey, which showed that 43% of the households stated a 10% share of food purchases being organic, and that 10% answered that at least half of all their purchases were organic. There is, thus, a gap between thought and action. The Swedish Consumer Agency interprets the discrepancy as a great potential for organic food. It could be added that both economists and sociologists are very much aware of the problem of asking people questions about their opinion and potential demand.

The Agency initiated four different consumer studies; an observation study at store level, three focus group studies, one survey of a representative sample through a web based panel, and an experiment with information in shopping baskets in supermarkets. The results of the studies are presented on over 200 pages, including vast amounts of data and opinions, for different actors to use. Direct examples about fresh fruit are rare. In a "55 plus" group of consumers, one respondent stated that if one buys an apple that is not organically grown, nothing happens with it "It will not go off, it just lies there..." Another person wondered why we have apples from New Zealand. A third felt that a long shelf life is a quality sign of imported Granny Smith apples, an old variety that is not grown in Sweden.

Without going into more detail about these studies, two conclusions can be presented. First, it is important to add other values than mere organic to food products and to work with promotion and other marketing activities in the stores. This has been pointed out in our own studies (Ekelund 2003). Second, small-scale marketing phenomena are shown as successful alternatives to the large-scale marketing system, a topic that will be further dealt with subsequently.

In her thesis, Jönsson (2007) presents a consumer evaluation of scab-resistant apple cultivars. The consumers evaluated five cultivars each and scored them for a number of quality criteria. In addition, the consumers were asked to answer the question if they would prefer organic apples. Experiments were carried out in two consecutive years, 2002 and 2003, with 352 and 850 respondents respectively. In the first year, 64% of the female and 61% of the male respondents answered in the affirmative, while the correspondent figures the year later had risen to 75% and 64% respectively. Although this is a hypothetical question, the increase is worthy of note. The second question was whether they would be prepared to pay a higher price for organic apples, a question which is slightly dubious (Ekelund 2003), but also interesting since the stated "willingness to pay" had increased between the years. The percentages were 42% (female) and 43% (male) in 2002, and 46 and 51% respectively in 2003. The question was if they were prepared to pay a €0.55 premium for one kilo of organic apples. As we have seen, the actual premium is double (Furemar 2004).

The conclusion of the study is that consumer attitudes have become more favourable towards organic apples.

Studies of the consumer of organic products have often focused on a hypothetical consumer who is a heavy-user with well-defined characteristics (Ekelund 2003). For the market to grow it is necessary to go behind the motives for purchase and look at different consumers and different attributes. One of our studies explores the role of the food store in marketing of organic fruit and vegetables. In our in-store-interviews with consumers, sixteen consumers were interviewed while they were shopping for fresh fruit and vegetables in a major grocery store in central Malmö. Interviewees were chosen as they put fruit or vegetables in their shopping basket. The idea was to choose a comparable number of consumers who *bought* and who did *not buy* any organic fruit and vegetables at that particular time of shopping. The sample was not representing the average shoppers, but rather shoppers of fresh fruit and vegetables. The interviewees were asked how they decided what product to buy (Tjärnemo and Ekelund 2004).

**Table 4** Consumers' own associations to concepts of domestic and organic products<sup>1,2</sup>.

Association	Domestic produce	Organic produce
Expensive	-	26.8%
Good, best	24.2%	-
Quality	22.9%	21.6% (incl. »more tasty«)
Grown locally, short transports	20.3%	-
Healthy	-	16.3%
Less chem. spraying, non-toxic	8.5%	26.1%
Safe, reliable	10.5%	-

<sup>1</sup>Source: Ekelund and Tjárnemo 2004<sup>2</sup>n=154

There were differences according to the consumers' behaviour. If we compare the two groups, we can see that those who bought organic fruit and vegetables seem to have a rather self-centred, health-related approach when choosing what fruit and vegetables to buy in general, while those who did not buy organic fruit and vegetables seem to be more social and meal-oriented. Both groups considered quality factors, such as freshness and keeping qualities, as important when buying fruit and vegetables. A difference between the two groups was that the non-buyers perceived the grocery store as a source of inspiration. While the first group had a completely positive view of organically grown fruit and vegetables, the second group expressed a conflict between what they perceived as a considerate (organic) choice (i.e. something one ought to buy) and what they perceived as unmet intrinsic and extrinsic food qualities of organic fruit and vegetables. This second group of consumers also expressed doubts and uncertainty about organic production (Tjárnemo and Ekelund 2004).

In another of our studies, 145 consumers made their own associations to different product attributes, Swedish and organic, and the answers were clustered into different categories (Ekelund and Tjárnemo 2004). Swedish grown was associated with quality, proximity and safety, and the concept organic with non-toxic, health and a clean environment but also a high price (**Table 4**).

The same consumers participated in a quantitative study by use of conjoint analysis of fresh carrots (Ekelund and Tjárnemo 2004; Ekelund 2005). Conjoint analysis relies on the ability of respondents to make judgements about different stimuli. These represent some predetermined combinations of attributes, which are judged by respondents in an attempt to estimate how important each of the attributes is. In the experiment, we let consumers rank different stimuli, consisting of two different kinds of production method and origin – organically and conventionally grown, and Swedish and imported, respectively – each with four different price levels. The value of the utility of each of the stimuli was calculated as the utility of production method, of origin (Swedish or imported) and of price. The results show that the respondents have greater utility of origin than of production method, with price being the most important attribute. In most cases the respondents preferred organic products before conventional ones, and products produced in Sweden before imported ones.

From this, we can conclude that from the consumers' view, Swedish produce offers the same qualities as organic produce and they could be considered as competitors.

## ORGANIC VERSUS LOCAL PRODUCTS

A special range of domestic products consists of local or regional food. The UK Department of Environment, Food, and Rural Affairs (Defra) has proposed definitions, where regional foods are defined as "quality food with a specific geographical provenance" and local food as "food produced and marketed locally". Regional foods may be, and often initially are, locally marketed, making them local foods (Defra 2003). In the following, no differentiation

between the two groups will be made.

A consumer study carried out by The Swedish University of Agricultural Sciences and The Federation of Farmers (LRF) and actors on the market (Ipsos-Eureka 2004) shows an overall positive attitude towards local and regional food. The main reason for not buying such products are, as stated by a third of the 2000 interviewees, the information and trust problem – it is difficult to know if a product is indeed local – or a lack of availability. Almost half of the interviewees state local employment as the main reason for purchase, followed by living rural areas and support of farmers. The third important aspect is the environment, stated by 43%. Organic products have a clear advantage compared to local ones, since they are, or have been, sold under a common and well-known label, *KRAV*.

There is a discrepancy between the marketing and promotional arguments for the products and the reasons for purchase stated by the consumers: The consumers want to support the producers and the local economy, while the marketing is based on the exclusiveness of the products, their unique quality properties and taste. This corresponds well with the findings of Winter (2003) who discusses the mixing up of organic and local and concludes that people's support of local production is based on sympathy for local farmers and businessmen. Winter discusses the concept local, and defines "flexible localism" as the fact that domestic (in this case British) can sometimes be regarded as local, and shows examples of support for local farmers who used intensive production methods. The study of carrot consumers described above showed that domestic products are favoured over imported ones, but that price plays an important role as the most important attribute (Ekelund and Tjárnemo 2004). When Carlsson-Kanyama, Sundkvist and Wallgren (2005) studied the farmers' market in Stockholm (*Bondens Marknad*), their impression was that a lot of consumers regarded the products as organic, even if they were not promoted as such (pers. comm. Christine Wallgren, Sept. 2005). This suggests that trust and sympathy are important factors in the relationship between producers and consumers in direct, local sales, and that local and organic may both signal premium qualities. The fact that imports of organic fruit is increasing on the Swedish market just shows the complexity of consumer preferences.

A concept that occurs in many studies is that of authenticity. Kuznehof, Tregear and Moxey (1997) concluded that authenticity was an important quality element to regional food. They discuss the "delocalisation" of the food system and refer to the eroded link between food and territory that has emerged. Thus, local and regional food can be seen as a reaction to the existing large-scale food system. However, local and regional food can also be seen as something "authentic" associated with food culture and/or tradition of a particular region or part of a country.

Ilbery and Kneafsey (2000) studied small producers of regional speciality food products in Southwest England. These producers proved to be sceptical towards an official certification of quality schemes and thought that quality is reached through a personal involvement in the product and is confirmed by the consumer through repeated purchases. The authors describe quality aspects in a model implemented on regional speciality food production. The authors state that it is common for producers to leave out some quality aspects. Quality is seen in the four dimensions: certification, associations, specifications and attraction. Specification includes small-scale production, with special care for the plants, animals and raw material, often presented by a personal description of the people behind the product and their values. Attraction consists of all marketing instruments, from product development, packaging, labelling, choice of sales outlet and means of communication, as always based on consumer wants and willingness to pay. Different organic and/or local products could be placed in that framework, for example a certified organic apple from a specific district, with certain sweetness content in an attractive package.



One reason for the dichotomy between organic and local products is their relation to environmental aspects. Market distance and transportation seem to raise more environmental issues than the actual size of production. The Government's special expert on sustainable consumption, Edman (2005), argued against importing food from far away places if it can be produced nearby. He discusses all three sustainability criteria (environmental, economic, social) and recommends more organic products and also more local ones.

There seems to be a general assumption that the local food system is more environmentally sustainable than the large-scale marketing system. An example from Sweden supporting this view is a local Stockholm project that focuses on sustainable and healthy eating and less transportation. Within a research project on different factors interacting in food purchase, and how environmental information of food affects the decisions of food purchase, the environmental impact of a number of foods is calculated using a life-cycle inventory basis (Fuentes and Carlsson-Kanyama 2006). Carlsson-Kanyama, Sundkvist and Wallgren (2005) have calculated the use of energy in a local food system, *Bondens Marknad*, in Stockholm with the conclusion that the use of energy is not dramatically high in this small-scale marketing form. From a strictly environmental perspective the transportation distance is not an isolated factor and in an elongated country like Sweden all domestic products need not be better than imported ones from an environmental point of view. The choice between an organic apple from New Zealand and a locally grown IFP apple is not obvious. This debate is also analysed in the ITF (2006) report on international consumer research in organic agriculture.

## AN ALTERNATIVE SMALL-SCALE MARKETING SYSTEM

The small scale was an early ideal to the organic movement and in the 1960s and -70s small-scale solutions were strongly put forward. A certain degree of self-sufficiency was a goal to some pioneers, in opposition to the development of the food chains described above. This ideal has been compromised on lately, as organic products have been included in the large-scale marketing system, with a regulated certification and labelling (*KRAV*) promoted by the supermarket chains. Distance to the market is not an organic criterion. Organic has received a definition; produced without the use of chemical pesticides and fertilizers (sometimes with additional fair trade arguments et cetera). Small-scale, local and regional are more difficult definitions, as discussed in the report by Defra (2003) referred to above.

When it comes to organic apples, alternative sales channels are possibly gaining market shares. In Clase's study (2004), half of the organic apple growers sold their products directly to consumers, either at farm-gate or open-air markets. Other examples are small-scale production of niche products like beverages and jam, mentioned by Clase (2004), who concludes that "Refining the fruit and offering new products can probably make the market for organic fruit wider, and tempt more growers to cultivate organic fruit". The Swedish regulation of sales of alcoholic beverages is a limit to market growth, since these products can only be sold through the state monopoly. Small producers can use this channel and also restaurants as an outlet.

Jönsson (2007) argues that organic apples could have a future as input in processed high value products like organic baby food, thus creating new opportunities for the sector. In some cases old and irrational orchards, producing apples not suitable for direct consumption due to diseases and insect damages, can supply a small-scale industry with fruit, sometimes combined with restaurants and farm shops, thus resulting in premium consumer products (pers. comm. Johan Ascard, Advisor Swedish Board of Agriculture 2007). This shows that small-scale organic production is

part of the tourist and experience industry, like that in the European project *Culinary Heritage* (<http://www.culinary-heritage.com>), and the Swedish promotional organisation of local food speciality farm shops and restaurants, *Svensk Lantmat* (<http://www.lantmat.se>). Even the largest Swedish producer of organic fruit in *Hallstahammar* mentioned above, sells its products to specialty shops and restaurants, rather than to supermarkets. The orchard has a mixture of different varieties of deciduous fruit, including nearly 200 different apple varieties (Clase 2004).

A study from Great Britain shows that the supermarkets' share of organic sales fell from 81% to 75% between 2004 and 2005 as organic products became more widely available at Farmers' Markets and independent stores (IGD 2005). The increasing use of other channels also includes box schemes and Internet sales. Examples of the latter are the Danish company Aarstidene (<http://www.aarstidene.dk>) and the Swedish company Ekolådan (<http://www.ekoladan.se>), offering box schemes with organic and local food in major consumer districts.

The price premium for organic apples (Furemar 2004) is a signal to producers to enter into this kind of direct sales business, which renders a bigger share of the added value to farmers rather than to middlemen. The small-scale also renders a possibility of a wide range of small volume products, while there is no room in supermarkets for 200 different varieties of apples.

## CONCLUSIONS

We have seen that international competition on the fruit market has led to the need of differentiation, where organic has been one alternative to Swedish apple growers, with production area increasing by one and a half times from 2004 to 2006.

The consumers' decision-making and choice take place at the point of purchase. Therefore marketing activities in the supermarkets and a commitment on behalf of the manager may lead to an expansion of the sales. The dominating marketing system consists of three big actors with continuously fewer and bigger units and strong ties to the international fruit and food trade. The entry of hard discounters has led to strong price competition and a strategy focusing on the supermarkets' own brands. In the category of fruit and vegetables, few products have an actual market leader brand; most products could be described as generics. Therefore, the supermarkets will gain a higher share of the value added through their own branding of fruit and vegetables. After recent changes in the certification system of organics, it is now possible for the supermarket chains to have their own organic certification without connection to *KRAV*. This implies that the overall supermarket strategy for organic products will be to tie them to their own premium brands.

Product quality is a complex concept. The definitions also depend on where in the value chain quality is evaluated. The consumers' own experiences of taste, their memories and trust in the producer and in the products are subjective, but affect perceived quality. Measurements of physiological quality are one-dimensional. Consumer studies have shown that organic and domestic products are attributed to the same quality criteria, which means there is competition between products depending on origin and production method. From an environmental point of view, both types of products have been recommended, but local is not always sustainable, nor is long-distance transported organic.

Although wholesalers see a potential for more Swedish organic fruit and domestic varieties offer a market possibility for the products, the overall brand strategy of the supermarkets does not fit in well with Swedish organic apple production, being small-scale and seasonal. Our conclusions suggest two possible options for improving the competitiveness of Swedish organic apple production. Following the generic strategy framework of Michael Porter it is obvious that the strategy of the organic growers is to go for differentiated and/or focused premium products with unique

qualities. Differentiation means adding new value dimensions (or increase the existing ones) through marketing efforts and product development like packaging, processing and the use of attractive varieties. The second alternative (focusing) is to explore the small-scale alternatives to the large-scale wholesalers and supermarkets and develop new strategies to reach the end consumers, like box schemes, Farmers' Markets, restaurants and special shops and tie market activities to the tourist industry.

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