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World markets for organic citrus and citrus juices

Current market situation and medium-term prospects

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ABSTRACT

The world market for certified organic citrus (fresh and juice) is presently small and production accounts for less than 1 percent of global citrus production. The main markets are the European Community and the United States, which are also the world's largest two producers. Consumption of organic citrus is expected to rise steadily in developed countries in the coming years, providing interesting export opportunities.

There are good prospects for fresh citrus exports to the US and Japan. Although the United States produces organic citrus, demand has been rising steadily and may exceed supply. The Japanese market for fresh organic citrus is presently very small but offers interesting prospects if exporters can meet the strict Japanese regulations on organic products and phytosanitary requirements. The EU market for fresh organic oranges, tangerines and lemons is dominated by Italy and Spain, which limits organic export opportunities to grapefruit, limes, and off-season citrus from May to September.

The market for organic citrus juices is presently extremely small, accounting for some 0.3 percent of total citrus juice consumption. Given the average 2 percent market share of organic foods in developed countries, there is considerable potential for growth, especially in not-from-concentrate (NFC) juices. It seems that producers have anticipated this growth, while demand has not really taken off yet. This has led to a fall in prices. Further decrease in the price premium is expected in the coming years, as the European Union, the United States and Brazil have the capability of increasing their output markedly. The extent of this decrease will depend on how fast demand catches up with supply. Given the high competitiveness of Brazil in the production of organic frozen concentrated orange juice, other countries might consider producing organic NFC juice.

RÉSUMÉ

Le marché mondial des agrumes biologiques certifiés (frais et en jus) est actuellement réduit et la production d'agrumes biologiques représente moins de 1 pourcent de la production mondiale d'agrumes. Les principaux marchés sont la Communauté européenne et les États-Unis, qui sont également les deux plus gros producteurs au monde. La consommation d'agrumes biologiques devrait s'accroître régulièrement dans les pays développés dans les années à venir, ce qui ouvrirait d'intéressants débouchés pour les exportations.

Les perspectives d'exportations d'agrumes frais vers les États-Unis et le Japon s'annoncent assez bonnes. Bien que les États-Unis produisent des agrumes biologiques, la demande s'est accrue régulièrement et pourrait dépasser l'offre. Le marché japonais des agrumes biologiques est actuellement très réduit mais il offre des perspectives intéressantes si les exportateurs peuvent satisfaire la stricte réglementation japonaise sur les produits biologiques ainsi que leurs normes phytosanitaires. Le marché de l'UE des oranges, tangerines et citrons biologiques frais est dominé par l'Italie et l'Espagne, ce qui limite les possibilités d'exportation de produits biologiques aux pamplemousses, citrons verts et agrumes hors saison, de mai à septembre.

Le marché du jus d'agrumes biologiques est actuellement extrêmement réduit et ne représente que 0,3 pourcent environ de la consommation totale de jus d'agrumes. La part moyenne du marché des aliments biologiques dans les pays développés étant de 2 pourcent, le potentiel de croissance est considérable, en particulier pour les purs jus directs. Les producteurs semblent avoir anticipé cette croissance, alors que la demande n'a pas encore vraiment démarré, ce qui a provoqué une chute des prix. L'écart entre le prix biologique et le prix conventionnel devrait continuer à se diminuer dans les années à venir, étant donné que l'Union européenne, les États-Unis et le Brésil ont la capacité nécessaire pour augmenter considérablement leur production. L'ampleur de cette diminution dépendra de la rapidité avec laquelle la demande s'alignera sur l'offre. Étant donné la forte compétitivité du Brésil dans la production de jus d'orange concentré congelé biologique, d'autres pays devraient envisager de produire du pur jus direct biologique.

RESUMEN

En la actualidad, el mercado mundial de cítricos orgánicos certificados (frescos y en jugo) es pequeño y la producción corresponde a menos de uno por ciento de la producción mundial de cítricos. Los principales mercados para estos productos son la Comunidad Europea y los Estados Unidos, quienes son a su vez los dos mayores productores del concierto internacional. Se espera que el consumo de cítricos orgánicos se eleve en forma sostenida en los países desarrollados durante los próximos años, situación que redundaría en interesantes oportunidades de exportación.

También son favorables las perspectivas para las exportaciones de frutos cítricos frescos hacia Estados Unidos y Japón. Si bien EE.UU. produce cítricos orgánicos, la demanda ha ido en franco aumento y bien podría elevarse a niveles superiores a los de la oferta. Por su parte, el mercado nipón de frutos cítricos orgánicos frescos es hoy en día muy reducido, no obstante ofrece interesantes perspectivas siempre y cuando los exportadores logren cumplir con la estricta normativa japonesa relativa a productos orgánicos y reglas fitosanitarias. El mercado de la UE de naranjas, tangerinas y limones orgánicos frescos se encuentra dominado por Italia y España, contexto que limita las oportunidades de exportación de productos orgánicos a pomelos, limas y cítricos fuera de temporada, vale decir, durante el periodo que va de mayo a septiembre.

Asimismo, el mercado actual de jugos de cítricos orgánicos es en extremo exiguo y sólo representa 0,3 por ciento del consumo total de jugos de cítricos. Si se considera que la participación de mercado de los alimentos orgánicos alcanza un dos por ciento en países desarrollados, es posible aseverar que existe un considerable potencial de crecimiento, especialmente para jugos no elaborados a partir de concentrado. Al parecer, los productores han anticipado este crecimiento, aun cuando la demanda todavía no registra una tendencia al alza. La situación antes descrita ha redundado en una caída de los precios y se espera que la tendencia a la baja del sobreprecio se mantenga durante los próximos años ya que la Unión Europea, Estados Unidos y Brasil son países que pueden incrementar ostensiblemente su producción. La magnitud de la caída dependerá de la velocidad a la que la demanda logre equiparar la oferta. Dado el alto nivel de competitividad de Brasil en la producción de jugo de naranja orgánico concentrado congelado, otros países podrían comenzar a pensar en producir jugos orgánicos no elaborados a partir de concentrado.

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GLOSSARY OF ORGANIC AGRICULTURE

Accreditation. A procedure by which an authoritative body evaluates and gives a formal recognition that a certification programme is in accordance with the standards of the authoritative body.

Certified organic citrus: citrus fruits produced through a process that has been certified by a certification body as meeting organic agriculture standards.

Certification. A procedure by which a third party gives written assurance that a product, process or service is in conformity with certain standards. Certified organic food products are food products that have been verified to have been produced in accordance with specified standards for organic production and processing.

Certification body. An organization performing certification. Sometimes referred to as the certifier or the certification agency.

Certification label. A label or symbol indicating that compliance with standards has been verified.

Certification programme. A system of rules, procedures and management for carrying out certification. One certification body may execute several different certification programmes. Sometimes referred to as a certification system.

Competent authority. The official government agency having jurisdiction.

Control, control body. Terms commonly used by the trade when referring to inspection and an inspection body.

Inspection. An on-site visit to verify that the performance of an operation is in accordance with specific standards of a certification programme. The **inspector** is the person appointed to undertake the inspection.

Inspection body. The body performing the inspection part of certification. Where a certification body performs its own inspections, the inspection body is identical to the certification body. Sometimes referred to as the inspection agency or the control body.

License. A document issued under the rules of a certification programme, by which a certification body grants a person or body the right to use certificates or certification labels for its products, processes or services in accordance with the rules of the relevant certification programme.

Operator. Anyone carrying out activities covered by a certification programme, for instance farmers, processors, handlers.

Standards. Documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions, to ensure that materials, products, processes and services are fit for their purpose. Standards relating to organic food products are production and/or processing standards describing, prescribing, allowing or prohibiting procedures and materials, as well as standards for certification and labelling.

Subcontractor. Anyone carrying out activities covered by a certification programme, for instance farmers, processors, handlers, on behalf of an operator.

1 INTRODUCTION

Since the mid-1990s the market for organic foods has been expanding rapidly in many developed countries. FAO and the International Trade Centre (ITC) estimate that world retail sales of organic foods reached US$20 billion in 2001, up 25 percent from $16 billion in 2000[1]. ITC (2002a) has forecast that sales will range between US$23 and 25 billion in 2003 and reach some 30 billion in 2005. This rapid expansion contrasts with the slow growth in sales in the conventional food sector. Furthermore, organic products have tended to fetch higher prices than their conventional equivalents. These two factors have generated considerable interest among farmers, many of whom face declining prices for their products.

However, careful analysis is needed before deciding whether to convert to organic farming, as some important parameters are little known. On the supply side, organic farming may entail lower yields and higher costs, especially during the transition period. This depends of course on the agro-ecological, social and economic context in which farmers operate. On the demand side, it should be borne in mind that organic sales represent only a fraction of the overall food market, less than 2 percent on average. The recent deceleration of demand growth in the most "mature" markets (e.g. Germany, Denmark) seems to indicate that the high growth rates of the last decade will probably not last, which means that it is difficult to predict the size of the organic market in the long term. Most likely, it will be between 3.5 and 5 percent of the food market of developed countries in 2010 (FAO 2002).

In addition, it is not clear whether the current price premium for organic foods (i.e. the price difference between an organic product and its conventional equivalent) will continue to remain high or will decrease, as some examples in some 'mature' organic markets suggest. The evolution of price premia will depend on the respective growth rates of organic supply and demand.

It is therefore essential to obtain economic and market information to guide decisions and policy formulation on organic farming. The purpose of this paper is to provide quantitative information on the markets for certified organic citrus products, in fresh and processed forms. For more details on requirements for exporting fresh organic fruits to industrialized countries, readers can refer to the FAO/ITC/CTA study 'World markets for organic fruit and vegetables' (FAO 2001a).

As there are no official foreign trade statistics on organic products, the figures presented below are estimates based on interviews with the trade, industry consultants and a review of publications and 'grey' literature. Price figures only have an indicative value, as prices in the organic sector vary considerably over time and space.

2 DEFINITION OF ORGANIC CITRUS

Organic agriculture is best known as a farming method where no synthetic fertilizers and pesticides are used. However, this description does not mention the essence of this form of agriculture, which is the holistic management of the farming system. According to the definition of the Codex Alimentarius, "*organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system*."

[1] Some other sources estimate the size of the world organic market at US$18 billion in 2000 and US$21-26 billion in 2001 but these figures are based on an overestimation of the Japanese market.

Citrus products labelled as "organic" are those certified as having been produced through clearly defined organic production methods (see glossary). The compliance of the grower with these methods is verified by an independent organization (generally called 'certification body') accredited by an authority (e.g. national authority in the producing or importing country). This survey does not consider fruits that were produced with organic methods but were not certified.

3 SUPPLY OF ORGANIC CITRUS

World production of certified organic citrus was estimated at 600 000 tonnes in 2001. It is estimated that at least 30 countries produce and export certified organic citrus. Organic citrus is produced in a majority of citrus producing countries in the Americas, the Caribbean, the Mediterranean rim, Africa and Asia. The largest producing countries are, by decreasing order of importance: Italy, the United States, Brazil, Costa Rica, Greece and Spain.

Italy, Spain, Argentina, the United States and Greece are significant exporters of fresh citrus, while the main exporters of organic citrus juices are Brazil, Israel, Costa Rica, the United States, Italy, Mexico and Cuba (Table 1).

World production of organic citrus has risen rapidly in recent years. However, it only accounts for 0.6 percent of total citrus output, which means that there is a large potential for expansion. Further increase is expected due to significant areas of citrus land in conversion to organic management. In Brazil, for example, the Eurofruit/Biologic magazine reported in 2002 that 5 876 ha of groves are in conversion, which could potentially translate into an additional 100 000 tonnes of oranges. In Italy, 7 500 ha of citrus were in conversion in 2001.

4 MAIN MARKETS FOR FRESH ORGANIC CITRUS

4.1 The European Union

Market size

Estimates of the size of the organic food market in Europe in 2003 vary between US$10 and 11 billion (ITC 2002a). Most of the sales are in the countries of the European Union (EU), with Switzerland following at a distance with a market estimated at US$750 million in 2003. Some organic foods are sold in Norway and Iceland, while consumption of organic products has just started in some Eastern European countries (e.g. Hungary, Slovenia and the Czech Republic). However, sales in these markets are almost negligible in comparison with the EU.

The EU market for certified organic fruit and vegetables was estimated at US$1.7 billion in 2002 (FoodNews 2003), accounting for between 15 and 20 percent of total retail sales of organic products. It is a very dynamic market that has enjoyed rapid growth in the late 1990s. Citrus fruit is the most important organic fruit category. Orange comes before banana as the most consumed organic fruit in the EU. No data are available for the sales value of organic fresh citrus. However, it is be estimated that they represent between 5 and 7 percent of fresh organic produce sales, i.e. between US$70 and 100 million. In terms of volumes, it is estimated that the EU consumed over 130 000 tonnes of certified organic citrus in 2000. This figure does not take into account organic citrus fruit that was not certified, which may represent one third of EU organic citrus output. According to Hamm et al. (2002), the EU consumed over 350 000 tonnes of fresh certified organic fruit in 2000. Citrus would therefore account for 37 percent of organic fruit consumption.

Consumption of organic citrus is still low compared to the 6.7 million tonnes of fresh citrus consumed in the EU on average. Some important constraints that need to be addressed are the frequently poor

quality and the short shelf life of organic citrus, inadequate packaging, and inefficiency in the marketing chain of organic fresh fruit.

Origins of fresh organic citrus consumed in the EU

The EU fresh organic citrus market is mainly supplied by domestic producers in the Mediterranean member states. Domestic production accounts for over 95 percent of consumption. Italy is by far the leading supplier of organic citrus with a production of some 140 000 tonnes of oranges, 60 000 tonnes of easy-peelers and 100 000 tonnes of lemons (FAO 2001a). Organic citrus are chiefly produced in the traditional citrus growing regions of Sicily and Calabria, on a total area of approximately 10 800 ha of certified land in 2001. Although this area was larger than in 2000, the citrus area in transition to organic management declined between 2000 and 2001, perhaps reflecting problems in the marketing of organic citrus. About one third of production is sold as conventional products, as small growers cannot supply sufficient quantities to wholesalers and do not want to incur high certification costs. Some 60 percent of Italian organic citrus are exported, primarily to other EU countries and Switzerland.

Italy is followed at a distance by Spain, which grows citrus organically on 900 hectares of certified land. Citrus is also grown organically on non-certified land. The main production region is Andalusia with 618 ha. Surprisingly, the Valencia region, by far the leading citrus producing area, grows organic citrus on only 244 ha. It is estimated that Spain produces between 25 000 and 30 000 tonnes of certified organic citrus, most of which is exported to Northern EU countries, France and Switzerland. Greece also produces organic citrus (see tables 2 and 3)

While the EU is a significant importer of organic fruits, imports of fresh organic citrus are very low due to the strong presence of Italy and Spain. Being Member States of the EC, these countries do not face a tariff (10.4 percent ad valorem on fresh sweet oranges plus additional duty ranging from 0 to 7 €/kg depending on the import price) when exporting to other EC countries. In addition, they benefit from the EC Regulation 2092/91 which provides a single framework facilitating the marketing of organic foods throughout the EC without the need for double certification. Conversely, in order to export organic products to the EC, non-EC exporters have to either obtain a specific certificate or be registered on the so-called article 11 list[2]. In spite of these requirements, EC importers and consumers favour organic foods produced in the EC, as they generally believe that the EC's organic certification and control systems are stricter and more reliable than those of third countries.

Small quantities are imported from the Mediterranean area. Morocco exported some 1 200 tonnes of fresh organic citrus (mainly oranges to France) in 2002, while Israel exports over 1 000 tonnes (FruiTrop 1999), most of which are grapefruit. Imports are somewhat higher in the summer period (June-September) when there is no local production in the EU. The main suppliers of off-season organic citrus are Argentina (2 500 tonnes sold to the EU in 2001) and South Africa (about 1 200 tonnes in 2002). The United States and Uruguay also ship small quantities to the EU.

Main markets within the EU

Table 4 provides estimates of **net** citrus imports in selected EU countries. By applying the average annual growth rate of organic product sales (15 percent) to these figures, imports of organic citrus in these countries in 2003 are estimated at 75 000 tonnes.

Germany

Germany is the largest market for organic foods in the EU, and the second largest in the world, with retail sales estimated at US$2.3 billion in 2001. German consumption of organic fruit stood at 69 000 tonnes in 2000 (Hamm et al. 2002), almost half of which coming from imports. Citrus accounted for

[2] For more details on the EC regulation please refer to the FAO/ITC/CTA publication "World Markets for Organic Fruit and Vegetables"

13 000 tonnes (FAO 2001a), making up more than one third of organic fruit imports. Organic citrus fruit are primarily imported from Italy and Spain, with some small volumes coming from Greece and Egypt.

The United Kingdom

The UK is the second largest market for organic foods in the EU, with sales estimated at US$1.45 billion in 2001-2002 (April to April, Soil Association 2002), a 15 percent increase from 2000-2001. Fruit and vegetables are the largest food category with a 31-percent share of the organic market. Total retail sales of organic fresh produce were valued at BP268 million (US$400 million) in 2000, of which citrus accounted for some US$15 million. While sales of organic fresh produce increased rapidly in the late 1990s, there has been a deceleration since 2001. The UK consumption of organic fruit was estimated at 35 000 tonnes in 2000, 30 000 tonnes of which coming from abroad (Hamm et al. 2002). Imports of organic citrus fruit stood at some 8 000 tonnes in 2001. The main origins are Italy and Spain, but small volumes of organic citrus are also imported from Greece (lemons), Israel (grapefruit), South Africa (oranges and grapefruit), Egypt (oranges) and the United States (oranges and grapefruit).

Prices for organic citrus in the UK are reportedly higher than in continental Europe. This difference is due to higher freight costs and consumer demand for higher quality fruit. The organic price premium in early 2003 was reportedly 25 percent and above. An example of prices is provided below:

Italy

The Italian organic market has enjoyed strong growth in the past two years and is the EU's third largest market. Retail sales of organics stood at US$1.1 billion in 2001 (Databank 2002) and, according to some sources, they may exceed US$1.5 billion in 2003. Consumption of organic citrus was estimated at 70 000 tonnes in 2000. As seen above, Italy is a major citrus producer and therefore consumption is covered by domestic suppliers. However, Italy does import small volumes of off-season organic citrus in the summer, notably from Argentina (500 tonnes in 2001, SENASA 2002) and Israel.

France

France is an important market for organic foods, with retail sales close to US$1 billion in 2001. French consumption of organic fruit and vegetables was estimated at 73 000 tonnes in 1999 (FAO 2001a). The organic fruit market was expected to increase by over 25 percent to US$54 million in 2002 (Organic Monitor 2002a). Organic citrus imports into France were estimated at 9 000 tonnes in 2000, ranking citrus as number one for imports. The bulk of organic oranges, lemons and tangerines come from Spain and Italy. However, France also imports organic grapefruit from Israel (430 tonnes in 2000) and South Africa, oranges and lemons from Argentina (respectively 1 000 and 120 tonnes in 2001), oranges from Morocco (some 500 tonnes in 2000) and limes from Mexico. Non-EU countries accounted for 20 percent of French organic citrus imports in 1999.

Austria

Austria has among the highest consumption per capita of organic products. Its organic market was valued at over US$200 million in 2000 (ITC 2002). Sales of organic fruit and vegetables were estimated at some US$30 million (FAO 2001a). Austria imports 70 percent of its fresh fruit consumption and imported 7 400 tonnes of organic citrus in 2000, which is considerable given its relatively small population. The main suppliers are Italy, Spain, Greece and Israel.

The Netherlands

The Dutch organic market was estimated at US$375 million in 2002 (World Organic News 2003), with a forecast of US$407 million in 2004 (The Organic Standard 2002). Although total sales of organic foods are limited compared to many other EC countries there is some growth potential, as industry sources expect the currently low individual consumption to grow in the next 5 years. Traders mention that imports of organic fruit are increasing rapidly. In addition, the Netherlands imports and re-exports significant volumes of organic fruit and vegetables, and is therefore a key entry point into the EU. Some large Dutch traders have specialized in importing and re-exporting organic produce to

EU member states. According to industry sources, it is less complicated and faster to obtain the certificate necessary for importing organic foods in the Netherlands than in other EU countries. The Netherlands consumed an estimated 7 000 tonnes of imported organic citrus in 2000. However, it is estimated that over 50 percent of imported fresh produce are re-exported. Consequently, Dutch **gross** imports of organic citrus could be as much as 14 000 tonnes.

Sweden, Denmark and Finland
The Nordic EU member states import most of their fresh organic fruit consumption. In Sweden and Denmark, for example, the share of imports is 95 percent. Denmark has among the highest consumption per capita of organics in the EU. In Sweden and Finland, consumption is lower but is growing very rapidly. Retail sales of organic fruit have increased by over 40 percent annually since the mid-1990s to reach US$40 million in 2001 (Organic Monitor 2002b). Imports of citrus are on an increasing trend in the 3 countries and were estimated at 3 000 tonnes overall in 2000 (FAO 2001a). Most of the organic citrus are sourced in EU Mediterranean countries, mainly Spain and Italy. Small quantities originate from Israel and Argentina.

Prices

It is very difficult to have a precise picture of organic citrus prices, as very little reliable data are available. In addition, prices vary considerably over time and across regions. Not surprisingly, citrus prices are higher during the summer (May to September) when EU production is very low or absent. Imported citrus then dominate the market. Prices are lower from December to March, when supply from Italy and Spain is abundant.

Prices also exhibit wide variations across markets. Hamm et al. (2002) did a study of the retail prices for organic oranges in EU countries. They found considerable variations (Table 6). While the EU average price was 2.10 €/kg, the average price was 1.12 €/kg in Greece and 4.43 €/kg in Denmark, i.e. a four-fold difference between the cheapest and most expensive countries. This reflects variations in both conventional citrus prices (by a factor 3) and organic price premiums. While the EC average price premium was 65 percent, the premium varied between 17 percent in Greece and 144 percent in Finland in 2001. Unsurprisingly the premium is lower in citrus-producing countries. Also the premium is lower in countries where a substantial share of organic produce is sold by supermarket chains (e.g. the UK, the Netherlands, Austria and Sweden), as supermarkets have lower price premium than specialized organic food stores. However, these lower consumer price premiums may only reflect better management efficiency and do not necessarily translate into lower prices for suppliers.

Generally there has been a tendency for organic citrus prices to fall at all levels (farm, wholesale and retail) over the past years. In Spain and Italy, some growers do not sell their products as organic, as the price premium would not be sufficient to cover the costs of certification (Las Provincias 2002, FAO 2001c). In Spain, the organic citrus area accounts for only 0.18 percent of the total organic area (although conventional citrus account for 6 percent of total crop area). On average, prices for organic citrus continue to be higher than for conventional citrus but the difference is narrowing. A further decrease in prices for fresh organic citrus is expected.

Market prospects

Consumption of organic citrus is still low in the countries of the EU that do not grow citrus. There is therefore ample room for further rise in consumption. Expected developments such as decreasing prices, efficiency gains along the marketing chain, higher fruit quality resulting from technology improvements in production and post-harvest handling will considerably raise the volumes sold.

The accession of 10 countries of Central and Eastern Europe in 2004 means that the EU citrus market will increase. Assuming that individual consumption in these countries reaches levels similar to that of

the EU, total EU consumption of citrus in 2010 would be approximately 7.9 million tonnes. Assuming that 5 to 10 percent of this volume is organic, the potential for organic citrus ranges between 400 000 and 800 000 tonnes (Table 7).

For the reasons explained above, a large share of this additional demand would be met by EC domestic production. This is particularly true for organic oranges, tangerines and lemons.

However, the strong presence of large organic citrus producers within the EU such as Italy and Spain means that there are few market opportunities for non-EU suppliers during the domestic production season. This is particularly true for organic oranges, tangerines and lemons. Supply has increased manifold and become abundant, to the point that some organic oranges and tangerines are sold as conventional produce with no premium. Growth of demand has decelerated in some major organic markets (UK, Germany, Denmark). Several traders indicated that there might even be a surplus of organic oranges in the near future. In Spain and Italy, many organic orange producers complain that production is not profitable due to low prices and despite subsidies. Some have switched to other crops.

Nevertheless, those countries which have a preferential trade agreement with the EC, use organic certification bodies trusted in the EC and can export quality organic citrus at competitive costs should be able to find some market opportunities.

Furthermore, market opportunities are to be found in specific citrus products that are in short supply during the EC growing period. The EU production of grapefruit in general is not sufficient to meet internal demand, and this has also been true for organic grapefruit. The EU imported some 400 000 tonnes of grapefruit in 2000, and volumes are on an increasing trend. Developing countries might find market opportunities there, but they will have to face the competition of Israel, a well-established supplier, and Turkey, whose nascent production is rising rapidly. Both countries enjoy preferential access to the EU market. Organic lime is another product for which there is demand, with Mexico being by far the main supplier.

Off-season organic citrus might provide the best export opportunities to developing countries. This segment has been harnessed by Argentina, Uruguay and South Africa so far. There seems to be room for more supplies, as the market is growing. Off-season organic clementines are scarce and might offer the best opportunities in this segment.

EC countries with already large organic markets (e.g. United Kingdom, Germany, Austria), offer good market opportunities, even though demand expansion is slowing down. The fresh organic fruit market of Germany, for example, is projected to expand by 8.1 percent to €236 million in 2003 (Organic Monitor 2003). Other opportunities exist in countries with a smaller but rapidly rising organic fruit market, such as France and the Scandinavian countries. Although it is a major producer, Italy might offer some opportunities for off-season citrus due to the significant increase in organic food consumption. According to the Inipa-Ager research institute (quoted by World Organic News 2002b), Italian consumption of organics will reach 3.3 percent of total food consumption in 2005 (compared to 0.8 percent in 2002).

4.2 The United States

Market size

The United States is the country with the largest market for organic foods and beverages in the world. Retail sales of these products were estimated at close to $9.5 billion in 2001 and were expected to reach US$12 billion in 2003 (ITC 2002a,b). According to the USDA (2002) and the Organic Trade Association, retail sales have risen by over 20 percent per annum since 1990. Organic products are

available in almost 20 000 natural food stores and are sold in 73 percent of all conventional grocery stores.

Fresh fruit and vegetables are the leading organic food category. The United States retail food market for organic fresh produce is segmented into two primary sectors. The natural food store segment accounted for US$833 million in organic fresh fruits and vegetables in 1999, accounting for 69 percent of all fresh produce sold. The conventional supermarkets accounted for US$618 million in organic fresh fruits and vegetables sales, which represents just 2 percent of their total fresh produce sales. Combined, these two sectors represented US$1.45 billion in organic fresh produce sales in 1999. Organic fresh produce sales represented over 22 percent of the total US$6.5 billion in United States organic food sales.

Organic oranges are among the most consumed organic fruit, together with apples and bananas. Total consumption of fresh citrus (conventional and organic) in the US was 3.2 million tonnes per year on average in 1997-99. The *Fresh Trends 2001* report indicates that overall United States retail fresh produce sales include two percent organic fresh produce. While this does not account for food service sales, using the two- percent factor represents a minimum potential market for organic fresh produce, though it will be higher for some products and lower for others. Multiplying the above citrus volume by 2 percent, we obtain a conservative estimate of fresh organic citrus consumption of 64 000 tonnes.

Origins of organic citrus marketed in the US

The US is a major citrus producer. Total citrus production in 2001-02 was 14.7 million tonnes. A very small share of the citrus harvest is grown organically. In 2001, organic citrus were cultivated on 9 741 acres (3 940 ha), accounting for less than 1 percent of the total citrus area of 1 090 000 acres. Table 8 shows the area of organic citrus by state. The main states growing citrus organically are Florida, California, Texas and Arizona. Organic citrus acreage doubled in Florida between 2000 and 2001 due to conversion of large plantations. In California, the organic citrus acreage has not varied much from its 1997 level.

There are no official data on the quantity of organic citrus produced. However, assuming that yields range from 25 to 30 tonnes per hectare, organic citrus output can be assumed to range between 100 000 and 120 000 tonnes, accounting for 0.7 to 0.8 percent of total citrus production.

Some 80 percent of the Florida citrus crops are traditionally cultivated for processing. It can therefore be assumed that the quantity of US organic citrus sold in fresh form varies between 50 and 60 000 tonnes. This result shows that a large portion of the fresh market can be covered by domestic production.

However, the United States imports organic citrus, even though the quantity is still small. In 2000, the value of total fresh citrus (conventional and organic) imports was $40 million (USDA FAS 2002). The long-term potential (2010) for fresh citrus imports was estimated at 10 percent of these imports, i.e. $4 million (FAO 2001a).

The main suppliers of fresh organic citrus are Mexico (oranges and limes), Honduras (lemons), Guatemala, Brazil (oranges) and South Africa (oranges and grapefruit). It was not possible to obtain data on the quantities shipped by these countries.

Prices

Overall, in 2001 the premium for organic versus conventional fresh produce ranged from 11 percent to 121 percent in the conventional stores and from 50 to 167 percent in the natural food market. The limited number of similar conventional and organic products in the natural foods market makes any comparison less pertinent. As for conventional supermarkets, one store's average premium for organic

fresh produce was 36.8 percent, with a range from 11 percent to 67 percent, while at the competitor, the average was 47.9 percent ranging from zero percent to a 121 percent premium for an organic alternative to conventional fresh produce. No specific information is available on import and wholesale price premiums. But trade sources indicate that they usually correspond to those at retail level. Some examples of prices of citrus and other fruits from 2001 are shown in Table 9.

Market prospects

Organic citrus consumption is expected to grow in the near and medium terms following the general trend of the organic food market. The US market for organic foods is projected to reach $15 to 17 billion by 2005 (ITC 2002a). The establishment of National Organic Standards in October of 2002 has increased consumer awareness of organic products. Since 1999, there has been an increased focus on organic foods by major United States food firms. Some have purchased existing organic food companies and introduced product line extensions of existing national brands with an organic focus. Mergers within the industry have also consolidated organic and natural food brands to create stronger market forces.

In addition, the United States consumer is increasingly focused on personal fitness and better nutrition, and fresh produce is an important factor in a healthy lifestyle. The *Fresh Trends* survey revealed consumers have targeted specific fruits and vegetables as part of a healthy diet. Twenty-four percent of the consumers have indicated that they have started or increased their consumption of fresh produce as a diet or health requirement. The overall United States per capita consumption of fruits and vegetables is rising. Fresh fruit consumption rose by 7.2 percent from 1989 to 1998. Consumers reported that they have started eating or increased consumption of bananas, apples, oranges, broccoli, lettuce, carrots and tomatoes as the top fruit and vegetables to address their diet or health focus. According to the survey, the awareness and desire for organic fresh produce, while not the primary factor in the purchasing decision, can contribute to increased purchases.

FAO has projected that total US consumption of citrus in 2010 would be approximately 3.2 million tonnes. Assuming that 5 to 10 percent of this volume is organic, the market potential for organic citrus ranges between 160 000 and 320 000 tonnes (Table 10).

A large share of the rising demand for organic citrus will probably be met by domestic supply. However, there should also be room for foreign suppliers who can deliver good quality fruit at competitive prices. The United States imports over US$6 billion of fruits and vegetables from around the world every year. These imports are typically counter-seasonal to the United States harvest. The best market opportunities are for supplies of fresh organic citrus during the season of low production in the United States, and for supplies of organic citrus products that are scarce such as limes. The location or origin of the fresh produce is a lesser factor to the general US consumer. This is an advantage for potential foreign suppliers in comparison with the EU market, where consumers have a clear preference for locally grown organic produce.

Due to their geographic proximity to the United States and their lower labour costs, Latin American countries should be able to take advantage of these opportunities. Tariffs on imported fresh citrus are very low (less than 5 percent ad valorem). However, supplying countries have to ensure that their products meet the very strict phytosanitary and quality standards of the United States. In addition, the certification bodies they use must be approved by the United States Department of Agriculture (USDA).

4.3 Japan

Until recently, no clear definition of “organic product” existed in Japan, where various categories of “environmentally friendly” or “green” products can be found. In April 2000 new Japanese Agricultural Standards (JAS) legislation for organic agriculture was introduced. The legislation was adopted to protect the consumer from many products appearing on the Japanese market, which were inaccurately

carrying the name "organic". It is estimated that the JAS regulations resulted in a drop of about 90 percent of products presented to the market as "organic".

Because there was no clear definition of organic products for a long time, it is difficult to estimate the market value of organic sales in Japan. Many sources give different numbers, sometimes with a factor ten difference. ITC (2002a) estimates that the retail value of genuine certified organic products will reach US$400 million in 2003, or less than 0.5 percent of total food sales in Japan. Sales of organic fruit and vegetables have been curtailed by the new JAS regulation. Most of the fresh produce sold as organic before 2001 does not meet the new regulation and has therefore lost its organic label. Organic Monitor (2002c) estimates that volumes shrank by a factor 20 between 2000 and 2001.

As in the case of all fresh organic fruit and vegetables, the quantities of organic citrus sold on the Japanese market are very small. Japan produces small quantities of organic mandarins. The lack of domestic supply of organic citrus is compounded by the fact that there are tough phytosanitary requirements on fresh fruit imports. A particular problem is compulsory fumigation if port inspectors have any doubts about the safety of the imported produce. Fumigated products lose their organic label (they are then marketed as "no chemical, fumigated"). In addition, the JAS regulation requires that organic products must be certified by a JAS registered certification body. So far, only a limited number of foreign certification bodies have received JAS accreditation. Further, the tariff on fresh oranges and mandarins is relatively high (from 16 to 32 percent ad valorem depending on the season and the type of fruit). As a result, imports of organic citrus have been very low since 2001, probably below 2 000 tonnes. They have consisted of organic oranges, lemons and grapefruit, sourced mainly in the United States.

In spite of the above problems, Japan should offer some important market opportunities to organic citrus exporters in the medium term. Its population (more than 126 million persons) has a high average income, and a significant percentage of that income (20 percent) is spent on food. The population is aging rapidly, and health concerns have triggered wide demand for "safe" and "clean" food products. Japan is projected to consume about 2 million tonnes of citrus in 2010 (FAO 2003). A conservative estimate can be calculated assuming that Japanese organic fruit consumption grows from its low level to reach the current level of more 'mature' organic markets (i.e. 3 to 5 percent) in 2010. This would translate into 60 000 to 100 000 tonnes of organic citrus.

Domestic organic production is low given the difficulty of growing foods without chemicals in Japan's warm wet climate. As a result, domestic supply of organic citrus will not grow as fast as demand. It can therefore be assumed that half of the consumption projected in 2010 will be covered by imports, when exporters and certifiers have adapted to the new JAS regulation and the phytosanitary standards. The imports would then range between 30 000 and 50 000 tonnes, accounting for nearly 10 percent of all projected fresh citrus imports.

5 MARKETS FOR ORGANIC CITRUS JUICES

The bulk of organic citrus juice consists of orange juice. Juices of other organic citrus products are almost negligible. There is some production of organic grapefruit juice (e.g. in Cuba, Israel and the United States) and lemon juice (Argentina, Spain) but volumes have been very low so far.

Orange juice is marketed in two main forms: frozen concentrated (FCOJ) and not-from-concentrate (NFC). While FCOJ has long dominated the market, consumption of NFC has increased rapidly in recent years, notably in North America.

5.1 The market of the European Union

The EU market for organic fruit and vegetable juices was forecast to reach a value of US$90 million in 2002 (Organic Monitor 2002d). The main markets are the United Kingdom, Germany, Italy and France (see Table 11). Retail sales have increased by over 20 percent annually since 1998. Although no precise consumption estimates are available, industry sources report that Scandinavian countries are important markets too.

Most retail sales of organic orange juice are in the form of NFC, which consumers associate with health. The volume of NFC organic citrus juice sold in the EU was estimated to range between 12 and 13 million litres in 2002. The main markets are the United Kingdom (which accounts for some 40% of total volume) Germany, France and Italy. Many European organic juice companies process fresh organic oranges imported from Italy and Spain. These two countries also process part of their organic citrus crop. Italy is estimated to produce 1.5 million litres of organic citrus NFC. Foreign suppliers of organic NFC citrus juices include Israel, Brazil, the United States, Costa Rica and Argentina (see Table 12).

It should be noted that some suppliers have the capability to ship much bigger volumes to Europe but do not do so because prices are reportedly not very attractive. Costa Rica, for example, declared a total production of 5 000 tonnes in 2002. Also, suppliers sometimes sell organic juices as conventional in order not to add downward pressure on organic prices.

Organic FCOJ (OFCOJ) is used for producing reconstituted orange juices, for blending with other fruit juices (juice mixes) or as ingredient for the foodstuff industry. The EU (notably Italy) produces OFCOJ but quantities are reported to be small. Brazil is by far the EU's largest supplier of OFCOJ (Table 13). The leading exporter is the Montecitrus company, followed by Brazil Organic. Other suppliers include the United States, Israel and Costa Rica. Cuba exports from 200 to 500 tonnes of OFCOJ and OFCGJ (grapefruit) to Germany and Switzerland, where they are used as ingredients for baby foods.

Caution is needed when considering these figures. Some suppliers tend to overstate their exports. Also, not all exported volumes are necessarily sold, as FCOJ can be stored for a long time. Finally, as in the case of NFC, organic FCOJ is sometimes sold as conventional in order to avoid further depressing organic prices. As a result, the actual size of the market for OFCOJ is presently lower than the sum of the above export figures.

Main consumption countries

In the following section, the information regarding market size, growth rate, sales breakdown and competitive structure has been compiled from market research done by Organic Monitor in 2001.

The United Kingdom
Sales of organic citrus NFC juices were estimated at US$11 million in 2002 for a volume of 4.9 million litres. After a period of rapid expansion in the late 1990s, market growth has decelerated (+7 percent from 2001 to 2002). The main product is orange juice, but there is also a substantial share of grapefruit juice. The market is dominated by three companies (Gerber Foods, Grove Fresh and Prince Soft Drinks) that control approximately 85 percent of sales. In 2001, 94 percent of organic juices were sold by supermarkets, with Sainsbury, Tesco and Waitrose having a high market share. The main origins are Florida (orange and grapefruit juices) and Italy (orange). The UK also imports juices from Brazil (orange FCOJ), Costa Rica (orange FCOJ) and Argentina (concentrated lemon juice).

Projected growth of the UK market for organic NFC citrus juice

Year	Volumes (000 litres)	Revenues (US$ million)	Revenue growth (%)
1998	822	2.47	-
1999	2 660	6.78	175
2000	3 903	9.16	35
2001	4 500	10.35	13
2002	4 864	11.07	7
2003	5 107	11.63	5
2004	5 362	12.21	5

Source: Organic Monitor 2002

Germany

Some 1.5 million litres of organic citrus NFC juices were sold in 2002 for a retail value of approximately US$3.4 million. The German market has grown rapidly in recent years (+ 30 percent in 2002) due to the fact that large-scale retailers have just started to carry organic juices. This is reflected by their low share (8 percent) of the organic citrus juice market compared to that of natural food stores (92 percent). The import and distribution of organic citrus juice is highly concentrated, with two companies (Beutelsbacher and Voelkel) controlling 90 percent of the market. Most German organic juice companies do not produce citrus juice. The main supplying countries are Israel, Italy, Spain and Brazil. Together they account for 3 quarters of total volumes.

Projected growth of the German market for organic NFC citrus juice

Year	Volumes (000 litres)	Revenues (US$ million)	Revenue growth (%)
1998	672	1.66	-
1999	773	1.91	15
2000	889	2.20	15
2001	1100	2.64	20
2002	1505	3.43	30
2003	1940	4.29	25
2004	2336	5.06	18

Source: Organic Monitor 2002

France

Sales of organic citrus NFC juices were estimated at US$3 million in 2002 for a volume of 1.5 million litres. After a period of rapid expansion in the late 1990s (+25 percent in 1999), growth has decelerated (+15 percent in 2002). The market is dominated by two companies (Vitamont-Vitalia and Jacoby) that control approximately 75 percent of sales. Other importers include Vitagermine and Alterbio. Retail sales are split between large-scale retailers (Carrefour, Casino, Atic, Monoprix and Auchan) for two thirds and natural food stores for one third. France sources the bulk of its organic citrus and juices from the EU. Italy is the leading supplier, followed at a distance by Spain. Together with Israel, these countries account for 85 percent of total volume. There are also imports from Costa Rica, Brazil, Argentina (orange NFC) and Florida.

Projected growth of the French market for organic NFC citrus juice

Year	Volumes (000 litres)	Revenue ($ million)	Revenue growth (%)
1998	600	1.49	-
1999	833	1.87	25
2000	1 087	2.24	20
2001	1 300	2.60	16
2002	1 510	2.99	15
2003	1 722	3.41	14
2004	1 928	3.82	12

Source: Organic Monitor 2002

Italy

The organic citrus NFC juice market has enjoyed very strong growth since 1999. In 2001, sales rose by as much as 50 percent, as retailers started to carry organic juices. Sales were estimated at US$2 million for a volume of 1.15 million litres in 2002. As in France, supermarkets now control about two thirds of the sales. The leaders on the organic retail market are Esselunga and Coop Italia. The natural food store chain NaturaSi also plays an important role. Many Italian firms process organic citrus fruit, the largest being Confruit G and Abafoods. Most of them are located in the citrus-producing regions of Sicily and Calabria. Organic NFC citrus juice production in Italy was reportedly 1 500 tonnes. Due to its abundant production, Italy does not import much organic citrus juice (less than 10 percent of consumed quantities). Brazil is the main foreign supplier.

Projected growth of the Italian market for organic NFC citrus juice

Year	Volumes (000 litres)	Revenues (US$ million)	Revenue growth (%)
1998	393	0.71	-
1999	451	0.82	15
2000	594	1.02	25
2001	900	1.53	50
2002	1 152	1.96	28
2003	1 290	2.19	12
2004	1 419	2.41	10

Source: Organic Monitor 2002

Prices

The Market News Service of the International Trade Centre gave the following prices in December 2002:

Examples of prices for Brazilian orange juices (US$/tonne, FOT Netherlands)

Type of juice	Organic	Conventional	Price premium %
FCOJ (drums)	1900-2000	1200-1230	60
NFC	800	580-600	35

Source: MNS for bulk packed juices, Europe, ITC December 2002

However, in February 2003, one importer mentioned that organic NFC prices were down to 750 US$/tonne, a 25 percent difference with the conventional equivalent, while the OFCOJ price had declined to 1800 US$/tonne. According to traders, the current price premium is rarely over 30 percent.

Organic orange juice prices have declined in recent years due to the growing imbalance between supply and demand. Demand has risen, as seen above, but not as fast as supply. High expectations of market growth have led to rapid output expansion in several countries, in particular Brazil. However, these expectations have failed to materialize so far, resulting in a surplus situation. Some importers have even abandoned the organic orange juice segment, where competition has become fierce. Presently price prospects are not good. Trade sources expect the price premium to fall to 20 percent.

Market prospects

Organic Monitor project that consumption of all organic juices in the EU will reach 100 million litres within a few years. They estimate that organic juices only had a 0.57 percent share of the European juice market in 2001. Organic citrus juices account for a very small fraction of the total citrus juice consumption in the EU. Consequently, there is a strong potential for increased consumption. The combination of rising supply, decreasing prices and increased availability of organic citrus juices in supermarkets will foster demand. It is very plausible that their share of the total citrus juice market will reach the current average share of organics in the food market, i.e. 2 percent, in the medium term. Germany, the Scandinavian countries and Italy have a particularly dynamic market, mainly driven by the launch of organic juices in supermarkets. Other countries such as Austria and France also offer good prospects. In addition, ten Central and Eastern European countries (the so-called "Accession countries") will join the EU in mid-2004.

FAO has projected the volume of NFC organic citrus juice that could be consumed in the EU in 2010 using various growth scenarios. The three scenarios assume that consumption grows annually at different rates: 5, 10 and 15 percent. These rates were mentioned as probable by industry sources, although some experts outside the trade think they are rather conservative. The industry might want to dampen consumption growth expectations in order to avoid stimulating oversupply. The scenarios also include the Accession countries from 2005, using growth rates of 20, 20 and 25 percent. Higher growth rates for these countries are justified by the fact that individual consumption is currently extremely low and will converge towards the EU average in the long run. Depending on the scenario, total EU-25 organic NFC consumption is projected to range between 20 and 40 million litres in 2010 (see Figure 1).

However, it should be noted that the organic citrus juice market is already abundantly supplied, and that existing suppliers have the potential to increase shipments substantially. Brazil produces large quantities of organic FCOJ at low prices and could raise its production considerably. As a result, potential new entrants to the EC organic citrus juice market would need to be extremely competitive. They would need to either produce at prices comparable to those of Brazil, which seems unlikely, or supply high quality juices. Citrus juices imports into the EC face tariffs ranging from 12 to 15 percent ad valorem with an additional duty of 20.6 €/100 kg. This is much higher than the average tariff on fresh citrus. Those countries which have a preferential trade agreement with the EC would therefore have an advantage.

5.2 The market of the United States

The US is the largest market for orange juice in the world. It consumed an estimated 12.8 million tonnes of citrus juices in 2000, accounting for 40 percent of world consumption It is also the second-largest orange producer after Brazil. The bulk of US orange juice is produced in Florida, where production is split almost equally between FCOJ and NFC juice. Individual consumption of orange juice (39 litres in 2000) is amongst the highest in the world. Consumption of grapefruit juice is also high (5 litres).

Very little data are available on the US market for organic citrus juices. Although there are various brands of organic orange juice on the market, consumption is extremely low, probably below 0.3

percent of total juice consumption. Organic orange juice is produced in Florida, but output is very limited. Organic OJ is produced by small processors, as the large juice processors (e.g. Minute Maid, Tropicana) have not been interested in the organic segment so far.

Based on the organic citrus acreage data and on an estimated yield of 25 to 30 tonnes per hectare, it is possible to obtain a rough estimate of the US production of organic citrus juice. Organic citrus production in California, Texas and Arizona is sold on the fresh market. Florida citrus are traditionally grown for processing. Total Florida output of organic citrus can be assumed to range between 60 000 and 75 000 tonnes. Assuming that 80 percent of the fruit is processed and that 1 kg of fruit yields 0.5 kg of single strength juice, the Florida output of organic citrus juice can be estimated to range between 25 and 30 000 tonnes. The actual share of organic citrus that is processed might be somewhat lower, as it seems that organic growers prefer to sell to the fresh market, where they obtain a higher return.

In addition to its domestic supply, the US imports organic citrus juices, in particular from Mexico and Brazil. The tariff on concentrated citrus juice imports ranges between 34 and 38 percent in ad valorem equivalent. The tariff on non-concentrated citrus juice is much lower (below 5 percent in ad valorem equivalent). According to trade sources, Florida accounts for 90 percent of US organic citrus juice consumption. Adding 10 percent to allow for imports, total US consumption can be estimated to range between 27 000 and 33 000 tonnes in single strength juice equivalent (SSE).

Most organic orange juice is found in NFC form, which is preferred by consumers in spite of its higher price. Organic juice is associated with health and for this reason most consumers do not want a juice that has been reconstituted from concentrate. Several firms market organic orange juice, including McLean Marketing, Organic Valley, Horizon Organic, Odwalla, Indian River Organics, Lakewood Organic Juices, Organic Ingredients and Cascadian Farms. Organic OJ can be found in conventional supermarkets and natural food stores.

The United States exports organic citrus juice to Canada, the EU and Japan. Recently, however, it has lost ground to Brazil in the latter two markets. No data are available on exported volumes.

Consumption of citrus juices in the United States is projected to be close to 12 million tonnes SSE in 2010 (FAO 2003). Assuming that by then organic juices will have reached the current average market share of organic foods (from 2 to 3 percent), total demand for organic citrus juice in 2010 could range between 240 000 and 360 000 tonnes. Although these figures are ten times higher than current consumption, they represent an average consumption of 1 litre per person per year only.

5.3 The Japanese market

Japan is the third largest market for citrus juices after the US and the EU. Japan consumed over 635 000 tonnes of citrus juices in 2000, 70 percent of which was imported. However, consumption per capita is relatively low (2 kg per year). For the reasons explained in section II.3 there is a lack of data on Japanese consumption of organic citrus juices. Japan imports organic FCOJ from Brazil and organic NFC juice from the US.

There are good prospects for an increase in organic orange juice consumption, as Japanese consumers have high incomes and are concerned about the healthiness of their foods. Also, organic juices should benefit from the expected increase in demand for both organic beverages and citrus juice overall. In addition, juices do not face the same phytosanitary barriers to imports as fresh produce does, in particular they do not have to be fumigated, which makes their export much simpler and does not put at risk their organic label. However, potential exporters should be aware that the tariff on citrus juice imports is 25 percent ad valorem.

5.4 Other markets

Although their markets are smaller, Australia, New Zealand, Canada, Switzerland and Norway have high individual consumption of organic foods and therefore provide opportunities for organic orange juice exports. Canada has a well-developed NFC juice market and imports organic orange juice from the US. New Zealand imports organic FCOJ from Brazil. In addition, sales of organic products have recently taken off in some emerging economies (Hungary, Poland, the Czech Republic, Slovenia, the Republic of Korea and Singapore). Although these markets are still very small, they offer good potential.

6 CONCLUSION

The world market for organic citrus (fresh and juice) is expected to rise steadily in the coming years, providing interesting export opportunities.

6.1 Fresh organic citrus

The EC market for fresh organic oranges, tangerines and lemons is dominated by Italy and Spain, which benefit from duty free access to other EC countries, a common EC regulation on organic agriculture and the preference of EC traders and consumers for European organic products. This leaves limited room for outside suppliers during the EC harvest season. However, there are opportunities for exporting organic grapefruit and limes, which are short in supply. Furthermore, there is growing demand for organic citrus from May to September, as local production is low or absent.
There are more opportunities for fresh citrus exports to the US and Japan. Although the United States produces organic citrus, demand may exceed supply and its import tariffs on fresh citrus are very low. Mexico is well placed to take advantage of this gap, but there is also room for other suppliers, notably in Latin America. Suppliers have to pay particular attention to pest and disease problems, as the USDA phytosanitary rules on citrus imports are extremely strict. The Japanese market for fresh organic citrus also offers interesting prospects if exporters can meet the new JAS organic regulations and the tough phytosanitary requirements. Shippers have to take drastic quality control measures if fumigation at the entry port is to be avoided.

6.2 Organic citrus juice

The market for organic citrus juices is presently extremely small, accounting for some 0.3 percent of total citrus juice consumption. Given the average 2-percent market share of organic foods in developed countries, there is considerable potential for growth. FAO has projected the volume of organic citrus juice that could be consumed in the world in 2010 using 2 different growth scenarios (see Figure 2).

The first scenario assumes that the market for organic orange juice takes off from the year 2004. Annual growth rises up to 40 percent and then gradually decreases to 10 percent in 2010. The choice of these rates is based on the observation of past growth for other organic product categories. Under this scenario organic citrus juice consumption is projected to exceed 500 000 tonnes in single strength equivalent, accounting for slightly under 2 percent of citrus juice sales in developed countries.

In the second scenario consumption grows at 20 percent annually until 2006. Then annual growth decreases gradually to reach 10 percent in 2010. Consumption of organic citrus juices is projected at approximately 250 000 tonnes SSE, representing slightly less than 1 percent of total citrus juice sales in developed countries.

It seems that producers have anticipated significant growth, while demand has not really taken off yet. This has led to a fall in prices. Further decrease in the price premium is expected in the coming years,

as the European Union, the United States and Brazil have the capability of increasing their output markedly. The extent of this decrease will depend on how fast demand catches up with supply.

Brazil is highly competitive on the world FCOJ market and is expected to retain his lead in the organic FCOJ market. For other developing countries producing citrus juices and located near the main markets, exporting organic NFC juice may be a better option (distance to markets matters more for NFC juice than for FCOJ due to the higher transportation costs of NFC). For example, Mexico and Central American countries might have an advantage in supplying the US market, while Mediterranean countries could find opportunities in the EC market. Due to the relatively high tariffs on orange juice, those countries which enjoy preferential trade agreements with the major markets will have a comparative advantage.

In conclusion, exporters seeking to supply organic citrus and citrus juices to the major industrialized countries should pay particular attention to the following parameters:

- Ability of their organic citrus industry to meet the specific needs of the targeted market (phytosanitary requirements, quality, packaging, quantity, consistency and timing of deliveries)

- Competitiveness of their organic citrus industry (production costs)

- Distance to markets and transportation costs

- Tariffs in the targeted market and possible preferential market access agreements

- Acceptance of their organic certification body by the targeted market

Potential suppliers should assess the profitability of producing and exporting organic citrus products using various price premium scenarios.

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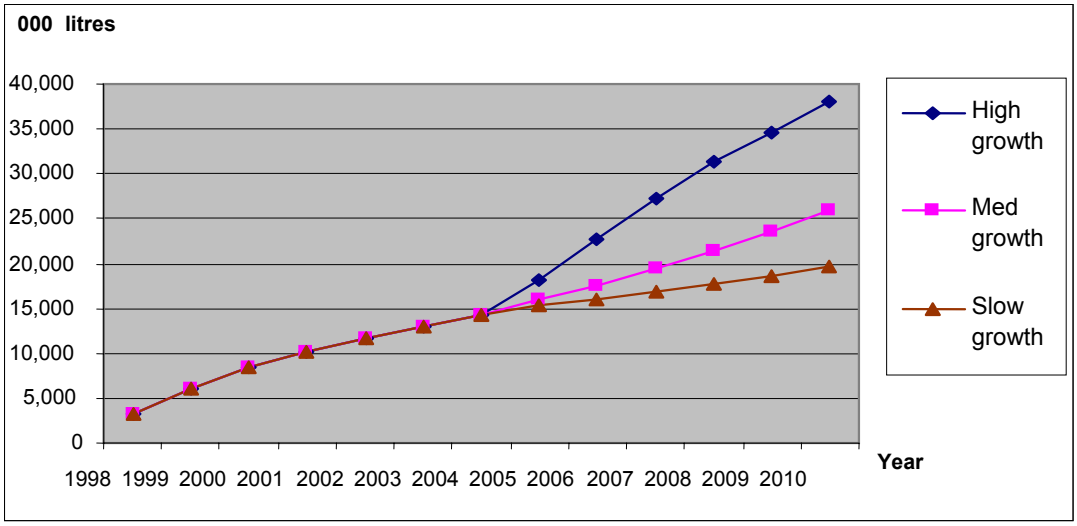
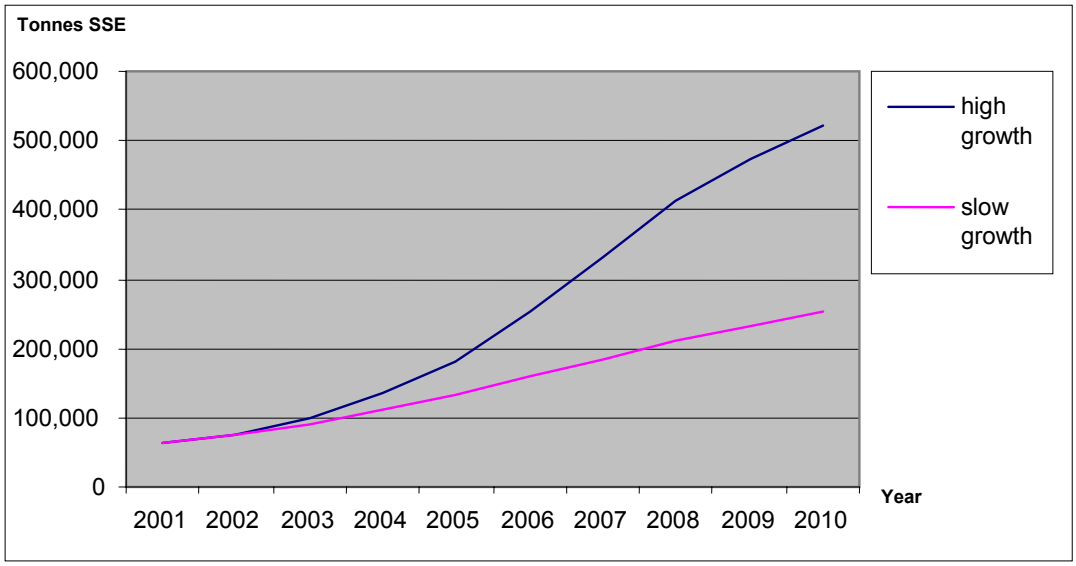
FIGURES

Figure 1. Projected EU consumption of NFC organic citrus juices



Source: FAO estimates based on trade sources

Figure 2. Projected consumption of organic citrus juices: 2 scenarios



TABLES

Table 1: Main suppliers of certified organic citrus and their products

2001	Estimated production (MT)	Main products exported	Remarks
European Union	290 000	oranges, tangerines, lemons	see section IV.1
United States	100-120 000	orange juice, oranges	see section IV.2
Brazil	100 000	orange juice (FCOJ, NFC)	output growing
Costa Rica	50 000	orange juice (NFC)	output stable
Israel	15-20 000	orange & grapefruit juices, grapefruit	output stable
Argentina	7 000	oranges, lemons	output growing
Cuba	6 000	conc. orange and grapefruit juices	output growing
South Africa	4 000	oranges, grapefruit	output growing
Morocco	3-5 000	oranges	output growing
Mexico	n.a.	oranges, limes, orange juice	

a. : data not available

Table 2: Estimated production of certified organic citrus in the EU (2001)

Country	Oranges	Tangerines	Lemons	Grapefruit	Total citrus
Italy	100 000	56 000	66 000	n.a.	222 000
Greece (*)	27 300	3 400	5 700	2 200	38 600
Spain	n.a.	n.a.	n.a.	n.a.	25-30 000
Total	n.a.	n.a.	n.a.	n.a.	290 000

(*) figures for Greece include non-certified production
Source: FAO estimates

Table 3: Estimated exports of certified organic citrus from EU countries (2001)

Country	Oranges	Tangerines	Lemons	Grapefruit	Total citrus
Italy	60 000	34 000	40 000	n.a.	134 000
Greece	5 000	100	4 000	0	9 100
Spain	n.a.	n.a.	n.a.	n.a.	22-27 000
Total	n.a.	n.a.	n.a.	n.a.	168 000

Source: FAO estimates

Table 4: Estimated net imports of fresh (1) organic citrus in selected EU countries (2000)

Country	Total certified organic citrus (tonnes)
Austria	7-8 000
Belgium	500-1 000
Denmark	2 000
France	9 000
Germany	13 000
Netherlands	7 000
Sweden	500-1 000
UK	8 000
Finland	500
Ireland, Luxembourg	500
Total	**48-50 000**

(1) Does not include fresh citrus imported for processing Source: FAO (2001a)

Table 5: Example of import prices for fresh organic citrus in the UK in early 2003

Product	Price (in British pounds per tonne, CIF UK)
Oranges	500
Easy-peelers	600-650
Lemons	550-600
Grapefruit	500

Source: UK importer

Table 6: Average retail prices (€/kg) for certified organic and conventional oranges across EC countries in 2001

Country	Organic orange price	Average conventional orange price	Organic price premium %
Austria	1.54	1.11	39
Denmark	4.43	2.68	65
Finland	3.70	1.51	144
France	2.71	1.52	78
Germany	1.96	0.87	125
Greece	1.12	0.96	17
Ireland	3.16	1.67	89
Italy	1.61	1.16	39
Luxembourg	2.85	1.94	47
Netherlands	2.24	1.57	43
Sweden	2.12	1.91	11
United Kingdom	3.56	2.25	58
Weighted EC average	**2.10**	**1.27**	**65**

Source: compiled from Hamm et al. 2002

Table 7: Market potential for fresh organic citrus in the EU-25 in 2010 (in tonnes)

Product	Total consumption of citrus (projected)	Potential consumption of organic citrus	
		5% share of organic	10% share of organic
Orange	3 800 000	190 000	380 000
Easy peelers	2 500 000	125 000	250 000
Lemons	1 100 000	55 000	110 000
Pomelos	450 000	23 000	45 000
Total	7 850 000	393 000	785 000

Source: FAO 2003

Table 8: Acreage of certified organic citrus in the United States (2001)

State	Certified organic citrus acreage (*)	
	in 1997	in 2001
Florida	2 296	6 056
California	3 012	3 063
Texas	191	385
Arizona	595	223
Total US	**6 099**	**9 741**

(*): 1 acre = 0.405 hectare

Source: USDA 2002

Table 9: Organic and conventional fresh produce availability and pricing

Value in US dollars	Whole Foods			Safeway			King Soopers		
	Organic	Conven.	Organic Premium (%)	Organic	Conv.	Organic Premium (%)	Organic	Conv.	Organic Premium (%)
Fruit:									
D'anjou pear	1.99			1.49	0.99	51	1.69	1.49	13
Gala apple	1.99			1.79	1.49	20	1.99	1.39	43
Granny Smith	1.99			1.69	1.29	31		1.39	
Golden Delicious	1.29			1.49	1.29	16	1.69	1.39	22
Lemons		0.39		1.99	1.79	11	1.99		
Navel orange	0.99	3/1.00		0.99	0.89	11		0.39	
Grapefruit				1.29			1.29	0.79	63

Source: FAO 2001a.

Table 10: Market potential for fresh organic citrus in the USA in 2010 (in tonnes)

Product	Total consumption (projected)	Potential consumption of organic citrus	
		5% share of organic	10% share of organic
Orange	1 500 000	75 000	150 000
Easy peelers	400 000	20 000	40 000
Lemons	580 000	29 000	58 000
Pomelos	710 000	35 000	71 000
Total	3 190 000	159 000	319 000

Source: FAO 2003

Table 11: Estimated volumes of organic fruit juices sold in selected European countries in 2001

Country	Volumes sold (million litres)
UK	7.5
Germany	7
Italy	5.8
France	5.4

Source: Organic Monitor 2002

Table 12: Estimated imports of not-from-concentrate organic citrus juice into Europe

Supplying countries	Reported exports to Europe in 2002 (MT)
Israel	5-6 000
Brazil	1 500
United States	1 000
Costa Rica	1 000
Argentina (2001)	114

Figures are based on data provided by suppliers and importers

Table 13: Estimated imports of frozen concentrated organic citrus juices into Europe

Supplying countries	Product	Reported exports to Europe in 2002 (MT)
Brazil	orange	2 000-2 500
United States	orange and grapefruit	1 000
Cuba	orange and grapefruit	350
Israel	orange, grapefruit, mandarin	100
Costa Rica	orange	200
Argentina (2001)	lemon	28

Figures are based on data provided by suppliers and importers

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