

The Polish Tart Cherry Supply Chain
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In the last twenty years Poland and the United States increased their share of world tart cherry production: the two countries combined grew from 21.1 percent in 1980 to 34.4 percent in 2001. Poland's share rose three-fold from, 6.3 percent of world production in 1980 to 17.8 percent in 2001, while the United States share grew from 14.9 percent to 16.6 percent over the same period (FAO, 2003). Data on Polish cherry production indicates a steady upward trend in output between 1990 and 2003 (Figure 1A), largely driven by increases in acreage harvested (Figure 1B); as the Polish economy moved towards a market system.

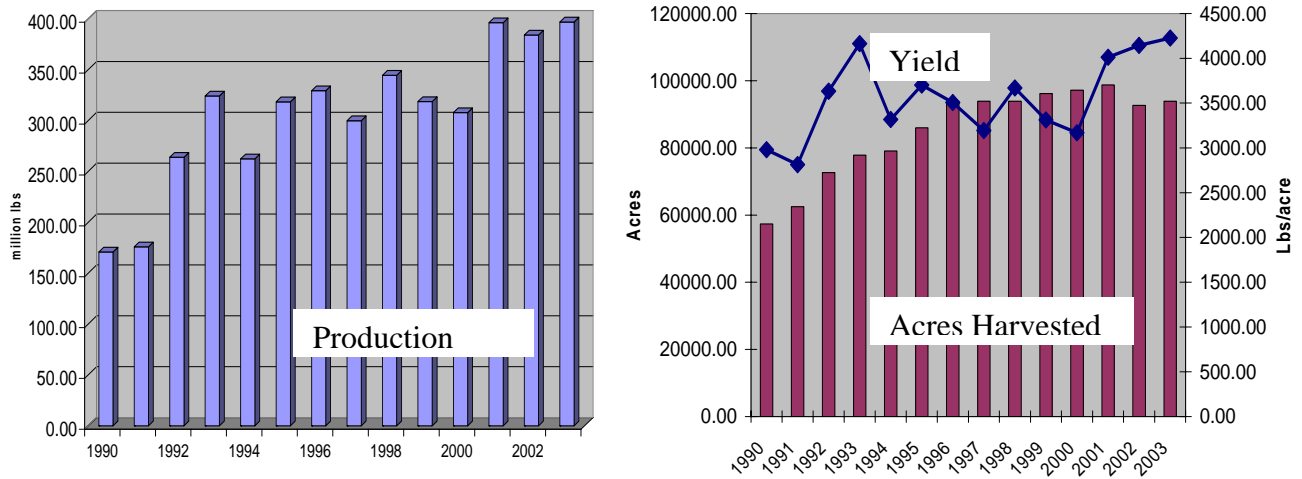


Figure 1. Polish tart cherry production, yield, and acres harvested, 1990-2003.

Source: UN FAO, FAOSTAT, <http://apps.fao.org/default.htm>

A short U.S. crop in 2002 provided an opportunity for increased tart cherry imports to the U.S. market. According to U.S. Census Department data, 14.8 million pounds of frozen tart cherries, 0.8 million pounds of preserved or prepared tart cherries, and 278,000 gallons of cherry juice (tart and sweet) were imported from Poland in 2002. Imports decreased in the first 11 months of 2003 with 5 million pounds of frozen tart cherries, 0.2 million pounds of preserved or prepared tart cherries, and 107,000 gallons of cherry juice coming from Poland.

The purpose of this report is to outline the current state of the supply chain in the Polish tart cherry industry and indicate some key drivers for future competitiveness in each sector. A diagram of the supply chain is depicted in Figure 2. The research for this report was conducted through a series of interviews with Polish tart cherry growers, processors, brokers, retailers, and researchers during the summer of 2003.

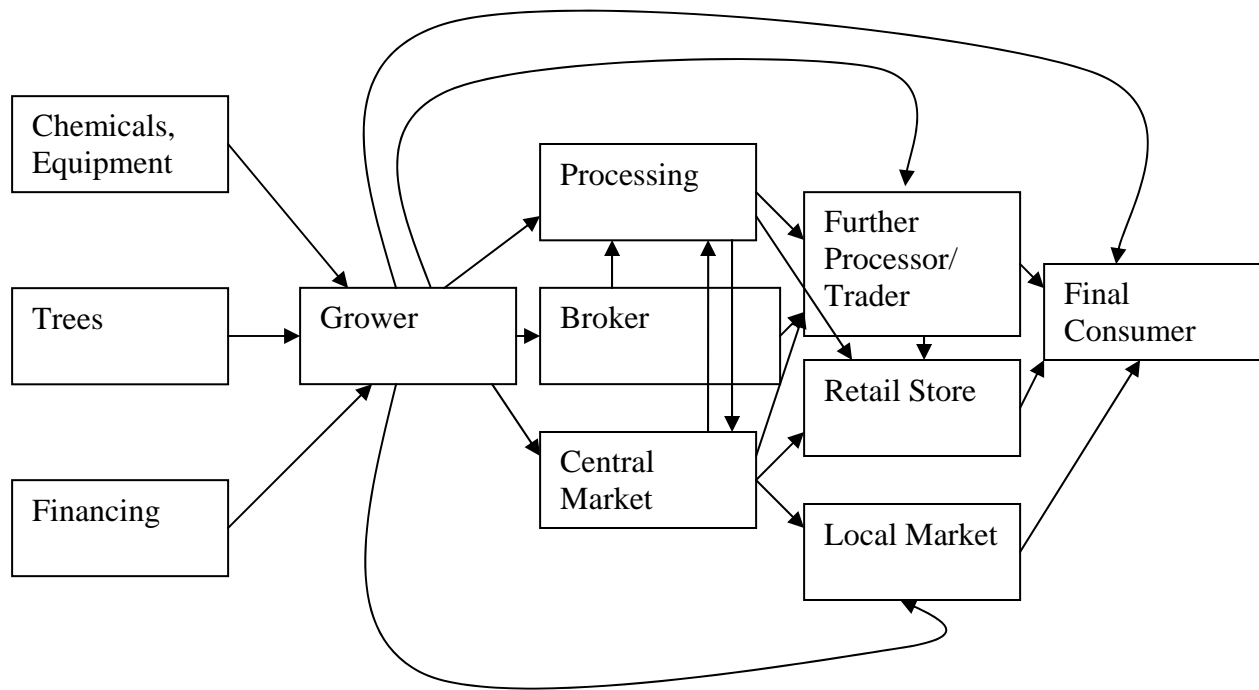


Figure 2. Diagram of the Polish tart cherry industry supply chain.

Growers

Tart cherry acreage in Poland is concentrated in the central part of the country; 73 percent of production surrounds a horizontal line dividing the country North and South (Figure 3). The two primary regions of production are the Mazowiechum region in the East near the city of Warsaw and the combined area of Lubelskum, Wielkopolskum, and Lodzkie regions in the West part of the country near the city of Poznan (Ministry of Agriculture and Rural Development (MARD), 2002).



Figure 3. Map of Poland.

Even under the Warsaw Pact, Polish farmers retained private ownership of land, preserving a system of many small family farms. Between 1957 and 1970, the percentage of Polish arable cropland which was collectivized ranged from a low of 13.2 percent in 1960 to 15.9 percent in 1970. After 1970, the percentage of collectivized farmland increased only slightly to 24.2 percent in 1980 (Landau and Tomaszewski, 1985). This state-owned property was transferred to the Agricultural Property Agency of the State Treasury (APA) for redistribution at the time of transition (Johnson, 1997). By 1995, very little of the formerly state-owned property was sold, but instead, was leased or maintained as farmland under contracts through the APA (Johnson, 1997); a system still operating even in 2003.

Patterns of land distribution that existed during the communist period are reflected in the current tart cherry industry: many small family farms which produce multiple different crops. Over 60 percent of Polish farms are less than 36 acres, with an average farm size of 21 acres compared to an average of 47 acres in the European Union (MARD, 2002). Fruit farms, on average, are even smaller ranging from less than 3 to 19 acres and are usually dominated by apple production, particularly in the Mazowiechum region. Before 1970 tart cherries were planted as barrier rows on the outside of apple orchards, protecting the apple crop from wind, chemical sprays, and pests. As the commercial demand and processing capacity for tart cherries grew blocks of orchards were planted for the primary purpose of commercial tart cherry production.

Currently there appear to be three groups of growers in Poland's fruit industries. Commercial producers are a small but growing sector; farming is their main source of income, they are expanding acreage and produce almost wholly for the commercial market. A second group is part-time growers who own land and focus on commercial production but also have an off-farm occupation that provides the majority of their income. Subsistence farmers are a third group who produce on small land holdings with multiple agricultural enterprises, largely for their own consumption.

At this point, it is clear that many producers are reluctant to join formal (or even informal) organizations with other growers. In the communist state cooperation was required (the word "cooperative" was often used to denote the state-owned collective farms) and many growers retain a fear of group action. Prior to 1989 growers had little if any contact with the sale or marketing of their products, prices were determined by the state and specific quantities required. Today little has changed in the minds of Polish producers. Currently two thoughts seem to prevent cooperation, first producers lack trust in one another and an organized system and secondly, producers need to develop their own knowledge of marketing and promotion.

Key drivers for the future include off-farm wage rates and job availability, restrictions on foreign investment in agricultural land, growers' ability to organize either with or without consolidation, and EU accession.

Orchards

Shatte Morello or “English Morello” is the main variety of tart cherry currently grown in Poland. Shatte Morello has burgundy color skin and flesh and is selected by growers for its high yields and hardiness. The Morello is also characterized by sour flavor and strong skin. Over the last thirty years of production growers have planted small blocks of other cherry varieties for specific products, yet more recent plantings indicate Poland’s tart cherry production is moving closer to a monoculture of Shatte Morello.

Tart cherry orchards are planted for efficient hand-harvesting (smaller trees planted close together). Newer plantings for intensive production systems can contain over 400 trees per acre. Rootstocks are chosen for their characteristic low trunk and shorter than average height. Hand-harvesting allows opportunities for harvesting young trees, multiple harvests in one season, and potential reduction in the amount of bruising during post-harvest handling and storage.

The demand for environmentally friendly farm production and organic produce is growing in Poland. The number of certified ecological growers in Poland has increased from 27 farms in 1990 to 1798 farms in 2001 (MARD, 2002). Ecological certification is determined by the Minister of Agriculture and Rural Development’s annual inspection under the regulations of the European Union Council Regulation 2092/91. Regulations allow for the use of only council approved plant protection and soil preparation materials, as well as a total restriction on the use of any genetically modified organisms. Marketing of ecologically friendly fruit may be one commonality which will eventually lead to grower cooperation. Increasing demand for the reduction of chemical pest protection has led at least one small group of growers to join together and discuss marketing a common product.

Key drivers for the future include access to mechanical harvesting and subsequent changes to orchard design, access to capital, wage rates and labor availability for harvest and other orchard operations, and pest and disease pressure.

Brokers

Brokers are an integral part of the Polish tart cherry supply chain – they consolidate cherries from many small farms and move product to domestic and foreign processors. In some cases, brokers organize harvest labor for growers. The practice seems to be more common in the Poznan region, where tart cherry farms tend to be larger. Brokers operate by taking direct ownership of the fruit or by marketing the fruit on behalf of growers for a commission (Halicka, 2001).

Few contracts seem to exist between Polish tart cherry growers and processors, so the marketing of the fruit comes after harvest leaving growers a very short window to sell their fruit. Polish brokers also handle other fruits, farm products, and even non-agricultural goods in some cases. There is some evidence of contractual relationships between processors and brokers and that processors use brokers to obtain large amounts of fruit (Halicka, 2001). Polish fruit growers are

reluctant to cooperate in marketing agreements and so processors likely view brokers as a more workable option than vertical integration with fruit growers at this point. The sheer number of tart cherry growers, especially in the Mazowiechum region, may keep some processors from creating formal production agreements. In their current role, brokers have the potential to exert significant market power as they control what information passes to growers and to processors, including price and production information.

Key drivers for the future include increased capacity in other sectors of the supply chain (making the broker's function redundant).

Central and Local Open-Air Markets

A formal program to establish a wholesale distribution sector for Polish fruits, vegetables, and flowers was established in 1994 with markets designed to mimic the organization of wholesale markets in the EU. In addition to numerous small, local markets, there are seven supra-regional, six regional, and six pre-border wholesale markets in Poland (Halicka, 2001). Tart cherries are sold through these wholesale and local markets; however, there is no evidence that processing firms buy cherries from these sources. Rather, large wholesale markets serve as sourcing centers for sellers in small local markets and may serve very small processors to some degree.

In order to retain their relevance in the modern agri-food system, the larger markets are expanding their services relative to processors and retailers. Similar to the producer services provided by input collectives during the pre-transition period, there is evidence that supra-regional wholesale markets are beginning to provide education and training to vegetable growers as well as inputs in an effort to guarantee quantity and quality of product and secure relationships with processors. It is not clear whether such extended services will eventually be provided to fruit producers.

Many Polish consumers still buy fresh produce from local markets. Small bazaar markets (green markets) and sidewalk vendors are very important players in the distribution of fresh fruits and vegetables to Polish consumers. These vendors are supplied directly by growers and also through direct purchases at the larger wholesale markets. These markets are successful for at least two reasons: first, there is a tradition among Polish consumers of regular purchases of fresh fruits and vegetables at these types of outlets and second, public transportation is the main transportation source in Poland, and so frequent small purchases at small markets are more convenient for many Polish consumers.

Key drivers for the future include ability of the sector to modernize and serve increasingly concentrated retail and wholesale sectors.

Processors

There currently appears to be overcapacity in the processing sector: facilities range from small, older plants targeted to local use to very modern facilities targeting EU and potentially other export markets. In 1999 there were 1,385 fruit and vegetable processors in Poland with over 480,000 people employed in the sector (Halicka, 2001; PAIZ, 2003). The majority of these processors were very small; 63 percent had fewer than six employees (Halicka, 2001). Prior to transformation, the majority of food processing facilities in Poland were state-owned companies, however, by 1999 over 77 percent of food processors were privately held (PAIZ, 2003).

Food processing firms during the transition period and into the late 1990s underwent some modernization driven by the need to compete in the new marketplace and domestic and foreign investment in facilities. Many food industries, including tart cherries, have targeted the European Union as a customer and thus processors needed to quickly meet EU standards for safety and quality. Of the top twelve categories for which Poland is an exporter to the EU, temporarily preserved fruits ranks ninth with an average growth in trade between 1996 and 1998 of 15 percent and a value of \$232 million in 1998 (Kaminski and Smarzynska, 2001). By 2001, food processing contributed three percent of Poland's total GDP.

Foreign direct investment occurred in Poland as soon as transition began, however, it increased significantly in 1995 when levels reached \$95 million, fifty times what they were in 1990 and nearly twice what they were in 1994 (Kaminski and Smarzynska, 2001). Foreign owned firms accounted for 48 percent of Poland's total exports in 1998 (Kaminski and Smarzynska, 2001). Inflows of FDI to the food processing sector were over 12 percent of total foreign investment in Poland in 2000. FDI is possible through direct ownership or partnership with domestic companies. Kraft and Land O'Lakes are two processing firms with current holdings (full and partnership) in the Polish dairy sector (Dries and Swinnen, 2003). German and Dutch processors are already active in the marketplace for tart cherries with well established relationships with suppliers and brokers from Poland.

In the tart cherry sector, former state-owned companies tend to be very large with excess capacity and rather limited processing abilities. Some of these companies are primary processors who then sell their product to repackagers, or final processors, like jam or dessert makers. Foreign processing companies participate by buying fresh product through brokers and shipping to their own processing facilities, or by buying processed products from primary processors in Poland which they further process into any number of products. Domestic processors produce a variety of tart cherry products, including confections, chocolates, dairy products (milk, yogurt, kefir), baked goods (cookies, cakes), juice, juice syrups or sherberts, wine, and brandy. The Polish Minister of Agriculture and Rural Development oversees a labeling program to promote all Polish processed products called "Polish Good Food".

Key drivers for the future include foreign direct investment, ability to modernize and meet international standards, wage rates, access to quantity and quality of product desired, ability to access international markets, and EU accession.

Retailers

Over the past two years there has been an explosion in the number of foreign-owned supermarkets operating in Poland. In 2003, of the top twenty investors in Poland, Tesco Plc., Carrefour, and Casino ranked 14th, 15th, and 16th, respectively (PAIZ, 2003). Major foreign owned retailers have supermarkets in the large metropolitan areas of Krakow, Poznan, and Warsaw. The share of supermarkets in Poland in overall food retailing is estimated at 70 percent (Reardon et al., 2003). Small, domestically-owned retailers still exist in urban and rural markets.

Retail produce buyers in large chain supermarkets are very knowledgeable about consumer demands and preferences and the sources, availability, and pricing of domestic and global produce. They track purchases through membership clubs and use promotions, discounts, and taste tests to feature products. These markets carry a variety of domestic and foreign products which use tart cherries (Polish produced and other). Retail fresh produce buyers also buy tart cherries from local suppliers when they are in season.

Key drivers for the future include foreign direct investment, competitiveness in an increasingly concentrated sector, and ability to access quantity and quality of product needed from domestic and/or global markets.

Consumers

Polish consumers experienced very high inflation rates early during transition, high and persistent unemployment, and some of the lowest wage rates among central European countries (lower than Hungary and the Czech Republic, for example) (PAIZ, 2003). Poland's GDP has steadily risen since 1992 at an average of about 5 percent per year, however, real wage rates have increased at a slower rate (Kowalik in Blazyca and Rapacki, 2001; Polish Official Statistics, 2003). Average gross monthly salaries in Poland in 2002 were 2,133 zl (about US\$560) (Polish Official Statistics, 2003).

Per capita fruit consumption increased for all socio-economic groups in Poland between 1989 and 1993 (Sachs, 2001). Polish consumers are very familiar with tart cherries and their presence in many products. Tart cherry products at wholesale and retail are distinguished from sweet cherries on the label ("wisnoiowy" is the Polish word denoting tart cherries). Morellos are eaten fresh, but most often are used in baking, jams, yogurts, and juices. A wide variety of products containing tart cherries are available in the market including confections, chocolates, dairy products (milk, yogurt, kefir), baked goods (cookies, cakes), juice, juice syrups or sherberts, wine, and brandy.

There is evidence of growing demand for "healthy" products and low-input production processes among Polish consumers. Factors contributing to this trend include a young population (about 60 percent between 18 and 64), rising incomes, and increased exposure to the global marketplace. An ecological farming movement exists in Poland, with two separate grower organizations and a registration program administered by the Minister of Agriculture and Rural Development.

Key drivers for the future include increased incomes, exposure to increased variety of domestic and global food products, and EU accession

Potential Opportunities for U.S. Tart Cherries

There were several potential opportunities, worth further exploration, for the U.S. tart cherry industries identified as a part of this research. Given the strong affinity of Polish consumers for tart cherries and tart cherry products, there may be an opportunity to target ethnic populations in the U.S. Notably, there are large Polish-American communities in both Chicago and Detroit. In the Polish market there appears to be potential for introducing dried cherries; dried fruit was popular in the retail stores but we did not find any dried cherries. Finally the work underway on health benefits of tart cherries, particularly linked to the Montmorency variety, may provide an opportunity with Polish consumers targeting healthy foods in a region of the world where Montmorency is not grown.