Turkey: The Sleeping Giant Awakens

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I first visited the cherry production regions of Turkey in 1995. At that time I found evidence of generally high quality fruit being produced with little understanding of sound horticultural principles. In 2005 I returned to attend the 5th International Cherry Symposium, in Bursa, about 4 hours due south of Istanbul across the Marmara Sea.

Much has changed in the 10 years since I was there last. In 1995 Turkey was just starting to impact the European market in such a way that European cherry growers were fearful of the competition. Turkish growing techniques were very primitive, wages were extremely low, and the war in the Balkans often disrupted the shipment of cherries from Turkey to Europe.

I was anxious to see the progress that had been made in the last 10 years. My host was Mr. Cihangir Korkmaz, nursery manager for Alara Corporation, the largest exporter of fresh cherries in Turkey, controlling 24% of the market.

The vast majority of export-quality cherries grown in Turkey find their way to Europe, a fact that is not lost on European cherry growers. Due to very low wages, they know that Turkish growers can produce cherries at a fraction of the European cost. Wherever you travel within Europe, cherry producers are talking about the impact of Turkish cherries on their industry. Turkish speakers are invited to grower conferences and markets abound with high quality Turkish cherries that compete well with local fruit. Obviously, Turkey's impact on the European market has not lessened in the last 10 years.

In an article that I wrote on Turkey for Good Fruit Grower magazine in the June 1996 issue, I predicted that within a few years Turkey would overtake the United States as the largest cherry producer in the world. That prediction came true within a few short years. By 1996-1999, the average production in Turkey was 215,000 tons surpassing the 180,000 ton U.S. average.

Good soils, a perfect climate and the fact that sweet cherries are native to this area of Asia Minor means that Turkey has perfect conditions to grow sweet cherries throughout the country. Although Turkey is, for the most part, a one variety producer, their production region extends over such a vast area, through changing climate and elevation, that their production season continues for 60 to 70 days. With the introduction of new early varieties from California and late varieties from Canada, the potential is an April through August harvest.

The primary variety grown for export is a cherry called '0900 Ziraat'. This is a mid- to late-season variety that ripens between 'Bing' and 'Lapins'. '0900 Ziraat' is a mahogany cherry with pink flesh. It is very firm with excellent flavor. On standard rootstocks such as Mahaleb, the tree tends to be non-precocious and non-productive, a problem that is compounded by the fact that most growers don't use bees for pollination. Even the need

for pollinizer varieties is sometimes not well understood. In 1995 I heard of one newly planted ‘0900 Ziraat’ orchard of 80 acres that had been planted without any pollinizers.

Although it is still easy to find examples of poor horticultural practices in Turkey, it is obvious that much progress has been made in the last 10 years. One of the main reasons for these advancements is companies such as Alara. Not only does Alara package and export cherries, but they have their own orchards scattered throughout the country that they use for demonstration purposes. In 1995, Turkish scientists were beginning to work on cherry-related issues of importance to the industry but they lacked an associated Extension Service to help disseminate new concepts to the growers. Alara helps to fill that gap by inviting their growers to corporation-owned orchards where they conduct trainings. In 2004, Alara hosted over 300 trainings throughout the country. As many as 300 to 400 growers participate, but typically 60 to 70 people will attend a training that may last three to four days. At these trainings growers learn about pest management, proper irrigation practices, the advantages of dwarfing rootstocks and how to train and prune trees.

Unpruned “0900 Ziraat’ trees tower over visitors in 1995.

Pruning was a practice that was totally unknown to most growers in 1995. Trees literally towered over me as I walked through orchards, and I saw spurs that were 12 inches long. After touring cherry production areas around the world, Alara founder Yavuz Taner asked Alara growers if they were in the furniture business or the fruit business. In order to get growers to prune, he not only had to pay them to prune, but offered to reimburse them for any trees that died as a result of pruning.

Today, about half of the growers prune, but pruning knowledge is still very rudimentary among traditional growers. Most growers prune out dead wood and cut back the top to keep the tree smaller and easier to harvest. However, they still lack an understanding of basic light management.

Surprisingly, many growers are planting new blocks on Gisela rootstock, a trend that started with Alara. The Alara corporate orchards began to convert from mazzard in 1999. These orchards are as modern as any I have seen in the world. The Alara Corporation has converted waste land to acre after acre of irrigated, high density cherry trees, trained to the Vogel Spindle. Alara orchards are well planned and managed farms run by highly educated engineers and technicians that are constantly seeking to increase their knowledge of cherry production. Each year Alara takes their orchard managers abroad to study production practices in such places as Holland, Germany and Belgium.

As mentioned, it's not only the Alara corporate orchards that are transitioning to high density plantings on Gisela rootstock. Seventy percent of the new plantings by traditional growers who grow for Alara are on Gisela rootstock, trained to the Vogel system. Gisela 5 is the most popular rootstock, but on poorer soils, Gisela 6 is recommended. When soils are deemed adequately porous, Alara growers are required to choose a Gisela rootstock in any new planting.

A modern "0900 Ziraat' orchard grown on Gisela 6 rootstock owned by Alara Corporation.

One of the advantages that Alara has over its competitors is the fact that they produce their own nursery stock for themselves and their growers. Alara holds the exclusive license for Gisela in Turkey. This year Alara sold about 500,000 cherry trees, an indication as to how quickly cherry production is expanding in Turkey. Their biggest customer is the Turkish Ministry of Agriculture. In order to help subsidize these new plantings, the government purchases Gisela rooted trees for $12.00, or mazzard rooted trees for $6.00 and sells them to growers at half price.

One orchard that I visited typified the progress that had been made over the last ten years in production practices. The orchard consisted of 6 acres of mostly '0900 Ziraat' trees grafted to Mahaleb rootstock. By Turkish standards, this was a large orchard, as many are smaller than a half acre. This orchard was large enough to help support the families of two brothers, although, both men held other jobs. Unlike the trees I saw 10 years ago, the trees in this orchard had been pruned, but spurs in the bottom of the trees were still dying due to lack of light.

The most impressive thing about the orchard was that it was EUREP GAP certified, meaning that the orchard had met strict environmental, labor and safety standards, allowing the fruit to be imported to Europe unimpeded. Although, Alara has 12,000 growers they have worked with only 1,000 of their largest growers, those with 5 to 6 acres, to help them obtain certification.

The brothers had built a well-labeled, spill-resistant pesticide shed, and were keeping meticulous fertilizer, irrigation and spray records. Since many growers in Turkey have only a fifth grade education, EUREP GAP record books have a picture of the tree at the developmental stage when it needs to be sprayed so that growers know when to spray the tree. Two applications of Diazinon had been applied to control cherry fruit fly and records indicated that cherries had been sprayed with 10 ppm gibberellic acid, a practice that rarely occurs even in Europe. VaporGuard^{TM} had also been applied to reduce cracking.

When I was there, the wife of one of the brothers, and their two young daughters, were sorting cherries by hand under a large cherry tree. A couple of dozen crates were stacked around them, representing the day's production. Small piles of culled fruit were scattered around the tree, lying in the sun to rot. In 2004 the price received by growers ranged from $0.55/lb to $1.47/lb depending on quality, so there was good incentive to presort cherries before taking them to the receiving site. The average price received by growers was $0.98/lb.

Mom and girls sort through the day's production in order to raise the grade before cherries are sold to processor.

Local pickers receive about $10 per day to harvest cherries, such as this pollinizer variety.

Aunts and uncles were picking fruit off of what looked like homemade wooden ladders, while another 10 to 15 people had been hired from the local community to work the harvest. It was not surprising that their best picker was only able to harvest 220 lbs/day as single fruit hung down from nearly bare branches. This was a situation I saw even in some of the more modern orchards on standard rootstock, but low productivity was probably compounded in these traditional orchards by pruning practices and the lack of bees for pollination. However, it wasn't just low fruit density causing slow production; pickers seemed to be busy, but unhurried, possibly due to the fact that they are paid by the hour rather than piecemeal. An average picker will only pick 110 lbs/day from these 20 foot-tall trees. Typical wages are 8 euros, or slightly less than $10 per day.

After harvest, cherries are taken in small crates, holding 22 lbs of fruit, to a warehouse in a nearby town to be purchased. Since orchards are so small, there is no need for large trucks, and fruit is usually transported in small vehicles such as station wagons. In a number of cases I saw fruit being hauled in the sidecar of a motorcycle.

Some orchards are so small that the daily production can be taken to town in the sidecar of a motorbike.

At the receiving station fruit is graded, weighed and purchased on the spot. In the past, growers were immediately paid in cash, but now it is all done through electronic bank transfer. Each crate is labeled so it is traceable back to the region, town and grower.

Since the packing shed may, in some cases, be hundreds of miles from the orchard, there are several of these receiving stations in each production area. These stations open and close as the season progresses, starting in the early production areas of the west and finishing in the mountains of the east.

From this point on, fruit is handled as efficiently as any place in the United States. Turkish processors and scientists have studied modern handling practices by visiting packinghouses in the U.S. and around the world and understand the importance of cooling the fruit immediately. Trucks move the fruit from the receiving stations to portable hydrocoolers where the fruit is cooled to about 36° F. These hydrocoolers, designed by Alara, are built into a trailer and hauled by truck throughout the country as the harvest progresses.

Portable hydrocoolers follow the harvest as it moves from the west coast to the mountains of the east.

Hydrocooled cherries are loaded onto a refrigerated van and hauled to Bursa, where the Alara packinghouse is located. Although there are some modern roads in Turkey, many are secondary highways that can literally disappear in front of you as they change from asphalt to gravel. Depending on the production area, cherries are in transit for 3 to 15 hours before they arrive at the packing shed.

Since the Alara packinghouse is EUREP GAP certified, hairnets, disposable coats and booties were required before visitors could enter the packing shed. The first thing that struck me was the size of the operation. One hundred twenty women, in white scarves and blue coats, worked side by side on each of 6 lines. Shifts last 10 ½ hours and wages are approximately $10 per day. The equipment, including an automatic inline cherry sorter was state of the art. Containers of all shapes and sizes were being filled based on the needs of the customer. Once packaged, cherries are moved to cold storage where they await transport to places like Tesco stores in England, Spar stores in Germany or even to McDonald’s restaurants throughout Europe.

There is no doubt that Turkish cherries have made a huge impact on the European market. Low production costs, coupled with high returns will likely encourage more Turkish growers and corporations to convert tillable land to cherries. As horticultural knowledge and practices continue to improve among traditional growers more cherries, now being sold in domestic markets, will be available for export markets around the world.