

Chinese Province Eager to Boost Cherry Production



Fig. 1: The flat, Guanzhong Plain in Shaanxi Province has been selected by provincial officials as the site for future sweet cherry orchards.



Fig 2: Each grower receives one mu (1/8th acre) to farm. Farmers are capable of supporting their family with the income from one mu of sweet cherries.

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In the fall of 1997 Dr. Tim Facticeau, of the Oregon State University Mid-Columbia Agricultural Research and Extension Center, and I were invited to visit Shaanxi Province in China. The purpose of our visit was to deliver a series of three lectures on sweet cherry production to research and extension scientists.

Shaanxi Province is located in north central China with its capitol and largest city being Xi'an, a city of about three million people. The Province itself is known for its tree fruit production, mainly apples and kiwis.

Except for the Guanzhong Plain surrounding Xi'an, Shaanxi Province is characterized by mountainous terrain. It is in these mountainous regions, at elevations between 2600 and 3300 feet, that its 1.1 million acres of apple production is located. However, even with this huge production area, Shaanxi ranks second to Shandong Province, in total apple acreage.

The vast majority of China's huge apple crop is sold domestically. With 1.2 billion people there is tremendous demand for this crop within the country. However, fruit quality is probably the more important reason for these domestic sales. All of the apples that I saw were of very poor

quality and would not meet the demands of the export market. Fruit was quite variable in size, sometimes exhibiting symptoms of scale infestations, russeting, or hairline cracks circumventing the fruit.

Apples are sold everywhere, not only in stores, but most commonly, in roadside stands which were sometimes little more than a large pile of apples on a blanket. Street vendors are a relatively new sight in China, appearing only in the last ten years with the easing of economic control by the central government. Fresh, preserved, and prepared produce of every kind can be purchased on the street including fruit, both fresh and dried, vegetables, mushrooms, eggs (several kinds), nuts, baked products and an endless array of unrecognizable prepared foods. These vendors are jammed onto nearly every minor street in Xi'an.

Currently, China has a relatively small sweet cherry industry with only 10,000 bearing acres for the entire country. Introduced by American missionaries in the 1880's, sweet cherries remain a relatively unknown crop in China. Our host calculated that in China, there is only one cherry produced for every 10 people. Recently, however, there is growing interest in cherries, with an additional 15,000 non-bearing acres planted.

As one leaves Xi'an, small villages surrounded by wheat and other grains are frequently passed on the road. The only protuberance from the flat landscape are the remains of an occasional imperial palace, that has yet to be excavated. Rising in the distance are the hills and mountains that surround the plain. Even in these rural areas there is a great deal of human activity. One farmer leads his goats along a path between fields, another pushes a homemade, wooden wheel barrow. Four men are standing by the road selling persimmons from a nearby orchard. It is this region, the Guanzhong Plain near Xi'an, that provincial leaders have targeted for sweet cherry production.

The soils are loamy but stick to your feet as you walk across them, indicating the presence of clay. With a pH of 8.0 to 8.5, they are quite alkaline. Winter temperatures are cool, but not cold, often dropping into the 20's but not much lower. Summers are hot, with temperatures commonly reaching 95° F. The majority of the 15 to 20 inches of precipitation falls in July and September, but the rains can begin as early as June. April and May are typically dry.

Summer rains are one of the main reasons scientists from the Shaanxi Tree Fruit Research Station have targeted a mid to late May ripening window. The few orchards in this region that are currently in production indicate that this timing is possible. The other reason that early harvest is necessary is to maximize the opportunity for the introduction of an unknown commodity to the Chinese people. Strawberries are the only other fruit on the market at this time. It is hoped that after a long winter, people will be hungry for fruit and will try even an unknown fruit, such as cherries. The plan is to ship the fruit to large coastal cities such as Shanghai.

Last year a local grower received \$1.70 per pound for a variety called 'red lantern' which was sold in one of these cities. It is this type of success that has officials and growers eager to plant more cherries. The opportunity for growers is tremendous. Each farmer receives only 1 mu (1/8th acre) whether growing wheat or cherries. A second job is necessary to support his family

when a farmer grows a grain crop on this small plot of land. One mu of cherries, however, will provide \$1250 to \$2500 of income annually, which is adequate to support the typical family of a husband, wife and one child.

Although cherries are not widely grown or consumed, the Chinese have maintained a cherry breeding program for the past 30 years. Twenty percent of the varieties grown in China come from this program. 'Red lantern' and 'black purple' are two of the main varieties grown. 'Napoleon' ('Royal Ann') is also in the top three, although growers generally receive less return for this cherry due to its light skin.

While visiting the Guanzhong Plain we were able to examine two cherry orchard areas. Each area consisted of several acres of cherries farmed by numerous orchardists. Although some of the trees were ten years old, it was immediately apparent that growers had little understanding of cherry culture. Trees were weak, often with multiple trunks arising from the ground and long, unbranched limbs. Few growers, or scientists, understood how to properly train or prune a cherry tree. The simple idea of heading cuts to force branching and subsequent bearing wood was poorly understood.

Most orchards were double cropped, with ginger, radishes, wheat or some other crop growing between the rows. Double cropping seemed to antagonize the already serious problem caused by a heavy soil. Growers had the tendency to water the low value crop to keep it green and productive, thereby killing the cherry trees through root asphyxiation. It was not uncommon to see one and two year old trees interplanted between older trees causing the overall productivity of the orchard to drop significantly.

It is obvious that Chinese growers as well as research and extension scientists have a long way to go before the Guanzhong Plain will be successfully planted to cherries. Many problems such as soil drainage, high soil pH, and training hundreds or thousands of growers in cherry culture techniques will be monumental tasks. However, if they are successful at overcoming these problems, the potential benefits to the Chinese farmer will be significant.



Fig. 3: Manure to fertilize cherry orchards is wheeled from nearby villages to be poured around the cherry trees. The manure consists of ox, pig and human waste.