

## The Pears of Asia

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With an increasing interest among American fruit growers in the edible pears of Asia and in view of the fact that there is little written information regarding the nature and culture of these pears, and also in view of the fact that China and Japan are formidable pear growing countries, some mention should be made with regard to Asian pears. Most of the pears of Japan and China are P. serotina and P. ussuriensis and their hybrids. For the most part, these pears are crisp when ripe fruits and thus they are called "pear-apples" or "apple-pears" in U.S. markets, except in Hawaii where the Japanese pears are known by their true variety names. Some markets have called these pears "Sha Lea" which must be a corruption of the Chinese name Tsu Li, which is White or Snow Pear, and which is one of the oldest cultivated varieties of pear known, dating back in Chinese literature to before 1100 B.C. Early traders and explorers brought the first of the pears of China to Europe and the U.S. about the beginning of the 19th century, and it was noted that many of them were tolerant to fire blight, attracting the attention of pomologists who, like M.B. Waite, attempted to develop hybrids of Asian and European pears of quality for blight resistance. F. C. Reimer made two trips to China prior to World War I and brought to the Oregon Agricultural Experiment Station many types of wild and cultivated pear collected from the Yangtze Valley northward into Manchuria. Most of this material was collected in the interest of fire blight. Japanese immigrants into California

Following World War II the U. S. Department of Agriculture acquired many of the better cultivars of the Japanese and Chinese pears from Japan and Taiwan and released them for trial in the U.S. These varieties have been grown at the University of California at Davis since 1955, where most of them have performed very well. These pears, depending on the variety, appear to have a wide range of adaptability, some are very cold hardy, but some are tolerant of the sub-tropics, with very short chilling requirements. The Japanese varieties are not especially winter hardy, but some varieties are doing well in the Yakima Valley and most of them seem to be at home in the humid southeastern U.S. Some have been found at moderate elevations in Hawaii. The Japanese varieties and the Chinese variety, Ya Li, appear to be P.serotina and are variously tolerant to fire blight and bacterial canker. Work done at the Southern Oregon Experiment Station indicated that some were attractive to pear psylla (Psylla pyricola), with the Japanese Nijisseiki being most attractive to this insect, while the P.ussuriensis varieties were not attractive. With their short chilling requirements, they are often the first pears to bloom, exposing them to the hazards of frost. All the Asian pears require cross pollination and can be pollinized by European varieties if they bloom at the same time. The Japanese varieties and Ya Li require fruit thinning to make marketable size and preliminary work at the University of California at Davis by Griggs and Iwakiri indicate that chemical thinning with NAO may be possible. All the varieties are compatible on P.calleryana and P.betulaefolia rootstocks in the U.S., but do grow to become

Li is probably a complex hybrid and appearance looks more like P. ussuriensis, than P. serotina. The fruit is large (3 inches) blocky pyriform fruit of a medium green, which turns to a pale yellow on ripening. It has the most persistent calyx of the major varieties. The skin is partly russeted on the lenticles as corky areas. The fruit is highly aromatic, crisp, sweet, very juicy and has a fine flavor. It is regarded as a feast pear in China and ripens in early October. It is a good storage variety and it is reported to be shipped to markets throughout China. Tsu Li appears to do well in southern Oregon in its early trials. Ya Li is similar to Tsu Li, but is smoother and more pyriform. Ya Li does well at Davis. The trees are strong, healthy and productive.

The Japanese varieties are generally round, large, when properly grown and vary in color from brown, in the case of the Chojuro, to green for Nijisseiki, all have long stems and a deciduous calyx. The best known variety is, of course, Nijisseiki (Twentieth Century) and is the leading variety in Japan and in the few growing areas in the western U.S. Nijisseiki is shipped out of storage in Japan to Hawaii, Hong Kong, Singapore and other Pacific area markets throughout its season. Nijisseiki is also canned and sold export. Japanese horticulturists have felt the Nijisseiki has too many cultural faults, mainly alternate bearing, and have attempted to develop better new varieties. Shinseiki is a promising variety, and is of better size than Nijisseiki. It is more yellow in color. Shinseiki grows blemish free in Oregon and California, whereas in Japan the



are reported to be better than Nijisseiki and Chojuro; they are Ho-sui, Ko-sui, Shin-sui, and Kiku-sui. The season for these Japanese pears is from late July for the variety Haya-tama to early October for Ban-san-kichi, with Nijisseiki and Chojuro in early September and with Shinseiki ripening about ten days earlier.

Regional testing of these pears is in only the beginning stages, so some years of trials will be necessary to determine their particular adaption to North American conditions, and to develop workable systems of production. Market response for the Chinese varieties is just beginning too, and is quite promising. The growing interest in these Asian pears is primarily due to an expanding market.

People of Asian descent seem to prefer the crisp-when-ripe pears and more of these people are being exposed to American pear marketing. And, of course, better variety material and cultural practices provide better quality fruit for these markets. These pears are very fine quality fruits and there is no reason to believe they will not become generally accepted among this nation's fruit eaters.

There is something rather poignant in the thought that the pear Tsu Li, for example, was popular with millions of people and cultivated for almost 3,000 years before the beginning of the American civilization, and we have just now come to know it.