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HARDY, PRODUCTIVE TREE FRUITS

for the High Altitude Section of the Central Great Plains Region

Agricultural Research Service
U.S. DEPARTMENT OF AGRICULTURE



Growth Through Agricultural Progress

HARDY, PRODUCTIVE TREE FRUITS FOR THE HIGH ALTITUDE
SECTION OF THE CENTRAL GREAT PLAINS

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The Cheyenne Horticultural Field Station at Cheyenne, Wyo., began the orchard testing of tree fruits in 1931. The test ran for 28 years^{2/} under both dryland and irrigated culture and included more than 1,800 varieties and breeders selections. About one-third of these varieties, including many of the well-known commercial tree-fruit varieties, failed to survive that test. The climatic conditions at Cheyenne, where the altitude is 6,280 feet, would represent the more severe climatic conditions in which tree fruits can be grown in the central Great Plains area. The central Great Plains may be generally defined as that area of naturally treeless plains lying west of the 99th meridian, south of the White River in South Dakota, north of the Arkansas River in Colorado and Kansas, and bounded on the west by the Rocky Mountains. This vast area may be classed as semi-arid, having an average annual rainfall of about 12 inches in the western part and about 20 inches in the eastern part.

A number of factors adversely affect the successful growing of tree fruits in this area. Among them are the cold, dry, desiccating winds of winter, the late spring freezes, and the shallow, alkaline soils. Despite these adverse conditions, 1,210 trees of 497 apple varieties and selections, 636 trees of 218 plum varieties and selections, 74 trees of 22 cherry varieties, and 43 trees of 28 pear varieties were grown to maturity at the Cheyenne Field Station during the tree-fruit-variety test.

The varieties in this list have been selected on their performance under the adverse climate and growing conditions of the Cheyenne Field Station as having the most desirable combination of reliable production and fruit quality. They are believed to be the most satisfactory varieties and should be productive for those who wish to grow tree fruits in the home garden or on the small city lot.

Some of the varieties listed are unknown to most fruit growers. Such varieties may be obtained from scions from fruiting trees and propagated by a nurseryman; or if skilled, a grower may wish to do his own propagating.

1/ Research horticulturist and chemist, respectively, Cheyenne Horticultural Field Station, Cheyenne, Wyo.

2/ The complete results of these tree-fruit-variety tests have been published in ARS 34-39, Twenty-eight Years of Testing Tree-Fruit Varieties at the Cheyenne Horticultural Field Station, Cheyenne, Wyo. October 1962.

Prepared in Crops Research Division, ARS, USDA.

Most well-known tree-fruit varieties are not hardy in the Great Plains and it is essential, in order to grow fruit in these areas, to select varieties which are known to perform in the desired area. This, however, is not enough. Care and judgment must be used in selecting a sheltered orchard or planting site with natural or windbreak protection, in the control of insects and diseases, and in pruning and proper cultural practices. Trees need supplemental irrigation in most of the area but this should be discontinued in late summer to allow the trees to become fully dormant before being exposed to the winter cold.

APPLES^{3/}

CORTLAND. Tree large, spreading. Fruit medium to large, roundish to oblate; skin yellow deeply blushed with red; flesh firm, juicy; quality excellent,^{4/} ripens September 25.

DUCHESS. Tree medium size, spreading. Fruit medium size, roundish to oblate; skin yellow splashed and streaked with bright red; flesh white, tender, juicy; quality medium, ripens September 1. Red sports of this variety are available.

EASTMAN. Tree large, spreading, vigorous. Fruit medium to large; skin deep yellow blushed and streaked with red, skin thick, tough; flesh white, firm, fine grained; quality fair, ripens mid-September.

GOODHUE. Tree large, round headed, moderately vigorous, productive. Fruit large, oblong, conic; skin red; flesh firm, juicy, tart; quality good; good keeper in common storage; ripens mid-September.

JOYCE. Tree large, spreading, vigorous. Fruit medium to large; roundish-oblate; skin yellow, washed and striped with crimson; flesh dull white, tender, juicy, melting, subacid and aromatic; quality excellent, ripens mid-September.

REDANT. Tree large, spreading, vigorous. Fruit large, roundish; skin deep yellow washed with bright to dull red, some indefinite striping; flesh creamy white, fine grained, soft, melting, mild, sweet; quality good to excellent, ripens mid-September.

ROBERTS (Wyoming 7-3-B). Tree large, round headed to spreading, vigorous. Fruit medium to large, oblate to round-conic; skin dominantly yellow splashed and streaked with red; flesh yellowish, coarse, mildly subacid, pleasant flavor; quality medium to good, ripens September 1. Resembles Duchess.

^{3/} Most apples and crabapples will benefit by having other varieties nearby for pollination purposes and this is essential in some varieties.

^{4/} The quality ratings for apples are excellent, good, medium, fair. Varieties rated less than good are recommended for culinary uses only, and are included because of reliable, high yields.

SHARON. Tree medium, round headed, moderately vigorous. Fruit medium to large, roundish-oblate; skin striped red over yellow; flesh mild, subacid, pleasing aromatic flavor; good keeper, quality excellent, ripens late September.

UNIVERSITY. Tree large, spreading, vigorous. Fruit medium to large, oblate; skin light green with blush of reddish brown; flesh yellowish white, coarse, flavor subacid; quality fair to good, ripens mid-September.

WEALTHY. Tree medium size, spreading, vigorous. Fruit medium to large, roundish-conic; skin striped and splashed with red; flesh smooth, pleasantly subacid; quality excellent, ripens mid-September.

CRAB APPLES

COLUMBIA. Tree large, spreading. Fruit small to medium, roundish-conic; red; flesh firm, tart, juicy; quality good, ripens late September.

DOLGO. Tree large, upright. White flowers are quite ornamental. Fruit small, oblong-conic; skin bright red; flesh juicy, tart; excellent for jelly making, ripens early September.

LINDA SWEET. Tree very large, spreading. Fruit large; skin light yellow tinged green, some fruits with medium red blush; flesh white, moderately firm, slightly sweet mild flavor; quality good, ripens third week of September.

McPRINCE. Tree large, upright. Fruit large; skin uniformly colored dark red; flesh white, crisp, juicy, sweet, sprightly flavor; quality excellent, ripens third week in September.

SUGAR. Tree medium to large, spreading. Fruit round oblate, medium to large; skin yellow with bronze blush; flesh dry and very sweet; quality good, ripens mid-September.

PLUMS

European or Prune Types 5/

BLUE DAMSON. Tree large, upright. Fruit small, firm; color blue; flesh green, moderately juicy, seed large; quality good, ripens late September. Known and used for culinary purposes from ancient times.

MT. ROYAL. Tree medium size, round headed. Fruit medium, roundish; dark purple; flesh greenish yellow, firm, juicy, sweet; quality very good, ripens in late September.

RICHLAND. Tree medium size, upright. Fruit medium, oval; skin reddish purple; flesh greenish yellow, firm, moderately juicy, slightly sweet; quality very good, ripens in mid-September.

5/ The European plums are generally self-fertile.

ST. ANNE. Tree medium size, round headed. Fruit medium, oblong; blue; flesh green, moderately firm, meaty, freestone, sweet; quality very good, ripens second week in September.

YAKIMA. Tree medium size, upright. Fruit very large, oblong; skin reddish purple; flesh green, meaty, sweet; quality very good, ripens in mid-September.

Japanese Hybrid Types 6/

EMERALD. Tree medium size, spreading. Fruit medium size, roundish; skin yellow mottled and washed bright red; flesh firm, tender, juicy, sweet; quality very good, ripens third week of September.

FIEBING. Tree medium to large, spreading. Fruit large, roundish, irregular; skin dark red, thick; flesh yellow, firm, fine, juicy, sweet aromatic; quality good, ripens second week in September.

LaCRESCENT. Tree large, round headed. Fruit less than medium size, oval; clear yellow with scarlet blush; flesh yellow, juicy, tender, sweet, aromatic; quality very good, ripens in early September.

PEMBINA. Tree medium size, spreading. Fruit large, roundish; skin bright red, thick; flesh yellow, juicy, slightly sweet; quality good, ripens early September.

TECUMSEH. Tree medium size, spreading. Fruit medium size, roundish; skin bright red; flesh yellow, firm, juicy, slightly sweet, subacid; quality good, ripens the third week of August.

Native Types 7/

MANET 8/ Tree medium size, spreading. Fruit medium to large, oval; skin red; flesh medium firm, juicy, sweet; quality good, ripens in early September.

SOUTH DAKOTA. Tree medium size, somewhat upright. Fruit medium size, oval to oblong; mostly red; flesh medium firm, juicy, sweet; quality good, ripens in late September.

TERRY. Tree medium to large, spreading. Fruit large, oval; skin red and yellow; flesh firm, clingstone, sweet; quality good, ripens second week in September

6/ The Japanese hybrid plums must have pollinizer trees planted with them.

7/ These native plums are the best pollinizers for the Japanese hybrid plums.

8/ Manet is included on the basis of a short test at Cheyenne and a long test at the Mandan (N. Dak.) station where it was introduced. It is the best of all varieties of the type.

Plum-Cherry Hybrid Types ^{9/}

OPATA. Tree large bush type. Fruit small to medium, roundish; skin dark purple; flesh green, clingstone, sweet, juicy, soft; quality fair to good; ripens in mid-August.

SAPA. Tree medium-sized bush type. Fruit small to medium, roundish; skin dark purple; flesh dark red to black, slightly sweet, moderately juicy, medium firm; quality good, ripens in late August.

The quality notes for plums are compared within a type and not for all plums in general. The prune type plums are much superior to the other types for cooking uses, followed next by the plum-cherry (sand-cherry) hybrids. The Japanese hybrids and native types are best used as fresh fruits. They do not process well when canned whole because of the sour, bitter flavor that comes from both skin and seed. They are quite satisfactory for making jelly and plum butter.

SOUR CHERRIES^{10/}

EARLY RICHMOND. Tree upright, spreading, medium to large, moderately productive. Fruit three-fourths inch in diameter; skin light red; flesh pale yellow, tender; quality very good for culinary uses, ripens in mid to late July.

ENGLISH MORELLO. Tree small, upright, spreading with drooping branchlets, productive. Fruit three-fourths inch in diameter; skin very dark red; flesh dark red with dark juice, tender; quality is excellent, ripens in late July to early August.

MONTMORENCY. Tree large, vigorous, upright, spreading, productive. Fruit three-fourths of an inch in diameter; skin medium to dark red; flesh yellow, tender; quality is excellent, ripens in late July. This is the most widely grown sour cherry variety in America.

NANKING CHERRIES

The Nanking cherries (Prunus tomentosa) are a small fruited, bush-type cherry of excellent quality for dessert and culinary purposes. They bear little resemblance to the sour cherries and are hardy, productive, and desirable in the home-fruit garden. Plant two varieties as Nanking cherries are not self-fertile.

^{9/} Generally self-fertile.

^{10/} Sour cherries are self-fertile.

PEARS^{11/}

BANTAM. Tree medium, round headed. Fruit small to medium; skin dark green with red blush; flesh tender, juicy, mild, somewhat sweet; quality fair to good, ripens in early September.

LONGWORTH. Tree large, upright. Fruit medium in size; skin greenish to yellow as it ripens; flesh is coarse, subacid, moderately juicy; quality fair, ripens in early October. Blight resistant.

PATTEN. Tree medium size, upright. Fruit large, resembling Bartlett; color green turning yellow upon ripening, sometimes bronze blushed; flesh is tender, very juicy, subacid; quality good, ripens in late September. Perhaps the hardiest of the large fruited pears.

PATTEN 1200. Trees large, round headed. Fruit medium, round in shape; green to yellow color, sometimes slightly bronze blushed; flesh is tender juicy, mild and sweet; quality good to excellent, ripens from the middle to the last of September. Blight resistant.

TAIT #1. Tree large, spreading. Fruit medium to large; skin bright greenish yellow; flesh firm, moderately tender, some grit cells; quality good, ripens in late September. Perhaps the hardiest, fruitful pear tested. Blight resistant.

11/ It is a good practice to plant two or more varieties of pears in the same area for pollination as some varieties are not self-fertile. Pears are recommended for trial only.