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Tree Fruit Varieties in North Texas



AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS
T. O. WALTON, President

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Tree fruit varietal investigations were begun at the Wichita Valley Station with the setting of a large number of trees in 1926. This report includes the results of these investigations through the year 1935. Apples and pears have proved unsatisfactory because of susceptibility to cotton root rot. The Moorpark apricot gives promise of being a worthy variety for this section. Cherries have proved unadapted, having died from natural causes without fruiting. Peaches and plums are the most dependable tree fruits for this section. The success of either depends to a great extent on the proper selection of varieties. The outstanding limiting factor is lack of hardiness to late spring freezes. A few varieties of both peaches and plums of bearing age have missed fruiting only once in seven years. The Dr. Burton peach has been outstanding in yields and consistency of bearing.

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TREE FRUIT VARIETIES IN NORTH TEXAS

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Fruit growing in this section of Texas dates back to the early settlement of the land but has not as yet become very extensive. There are some commercial orchards on the deep sandy soils along the Red River and in the timbered sections of the northern part of the State, and some of these have been very successful. Peaches make up the larger part of the tree fruits in this section but plums are also grown. Considerable fruit is hauled out by truck and one or two attempts have been made to ship carload lots, but the greater part of the fruit crop is consumed locally.

The life of peach trees on the heavier soils of the Wichita Valley and surrounding region has been about ten years, while on the deeper sands along the Red River and in the cross-timber sections it is much longer. In the station orchard, which is on Yahola loamy very fine sand, nine-year-old peach and plum trees are weakening rapidly and a few are already dead. These losses are largely due to a combination of diseases, mainly crown gall and cotton root rot, but adverse soil types or other unfavorable environmental conditions tend to encourage these troubles.

Methods Employed

Setting trees: Land preparation consisted of breaking the soil to a depth of six to eight inches and putting it into good tilth with disk harrow and float. The land was marked and planted by the square method. Twenty-two feet spacing was used, this being about an average between the wider spacing recommended for apples and closer spacings recommended for some of the smaller type plums. The peach trees were headed back to 12 to 18 inches. Apples and pears were pruned back to a leader type ranging in height from 2 to 4 feet.

Pest control: An oil emulsion was used whenever light infestations of scale occurred. Regular invasions of a type of blister beetle which attacks the flowering parts of late blooming plums were satisfactorily controlled by shaking the beetles from the trees early in the morning while it was still too cold for them to fly and then destroying them with wooden paddles. It was found necessary to watch for the appearance of these beetles very closely, because they come in large numbers and can completely destroy the blossoms of a tree within a few hours.

Cultivation: The site for the variety orchards on this station was infested with Johnson grass at the time the trees were set out, but with close cultivation this was practically cleaned out by the end of the fourth year. Since that time clean cultivation has been given and random weeds have been kept down with a hoe. A three-section spring-tooth harrow has proved a very good orchard cultivator.

Irrigation: The furrow method of irrigation was originally used in this orchard but was never quite satisfactory because of too much slope

in the land, and a soil type that does not absorb water rapidly. Both the downward and lateral movement of irrigation water in this soil are very slow. The fall is about $\frac{1}{2}$ to 1 per cent and allows a tremendous run-off and waste of water as well as considerable washing of the soil. Consequently, in 1933 the orchard was bordered for flood irrigation. By use of the turning plow and V-drag, earth borders were thrown up at intervals close enough to allow for not more than a five-inch fall between borders. These borders were made sufficiently high to force the water over the entire area between borders. The basins include from thirty to forty trees, depending on the amount of slope. Water is run into the borders until the surface is covered. The surface is kept covered for several hours, then drained. Filling and draining are done as rapidly as possible in order to make the distribution of absorbed moisture over high and low area as nearly equal as possible. As irrigation water is used in this district merely to supplement rainfall, the time and frequency of application is very irregular. Winter irrigation is seldom if ever necessary and summer irrigations vary from one to three or four applications during the season, depending upon the amount and distribution of the rainfall and other factors such as wind, humidity, evaporation, and temperature. Where the weather continues dry for a long period during summer it is necessary to irrigate about every two weeks when there is a heavy set of fruit, but less frequently when there is no fruit.

Apples

Attempts to grow apples under irrigation in these experiments were a complete failure because of cotton root rot, which fortunately is restricted to certain areas, but is prevalent in the Wichita Valley. More than two hundred trees including thirty-eight different varieties of apples were set out in the variety test orchard on this station in 1926. A number of these varieties made good growth the first year or two but all were dead before reaching bearing age, and therefore no yield records were obtained. The following are some of the varieties that made fair showings before dying with root rot: Improved Bellflower, Early Harvest, Delicious, McIntosh Red, Helm, Black Ben, Senator, Paragon Wine-sap, and Wealthy. Jonathan, King David, Arkansas Black, and both strains of Delicious are said to be successful in Callahan County.

The 1930 census shows, in round numbers, 100,000 apple trees of bearing age in North Texas, including the Panhandle. Approximately one-fifth of this number is located in two widely separated counties—Callahan with 12,791 trees and Wheeler with 8,496 trees. The next highest ranking counties are Grayson with 4,956 trees, Montague with 4,509 trees, and Gray with 4,182. This makes approximately one-third of the total number of trees in these five widely separated counties.

Apricots

In 1926 and 1927 a number of apricot trees representing five different varieties were set out in the variety test orchard on this station. A large number of these trees died the first season, either from shock of trans-

planting or from lack of hardiness. Three trees of Moorpark survived and have continued to thrive until they are among the largest trees in the orchard at this time. These trees, set out in March 1927, bore their first crop of fruit in 1932 and have had two light crops and one heavy crop in the three seasons since. The fruits of this variety are medium to large in size and are of excellent color and quality. They hang to the tree until fully ripe, but the harvest period is prolonged because of uneven ripening. The blooming period for the Moorpark is about the same as for the earlier blooming peaches. This is a promising variety for home planting.

Three trees of the Nellie apricot were set out in 1929. These have made fair growth but are not nearly so vigorous as the Moorpark. The fruits are small and unattractive and lack the quality of the Moorpark. The trees have fruited the last two seasons but the yields have been somewhat smaller than those of Moorpark. This lack of vigor and the small size and unattractive quality of the fruit is due, at least in part, to its greater susceptibility to the fungus disease commonly called shot hole fungus. The blooming dates have averaged one to two days later than for Moorpark.

Cherries

Cherry production in North Texas has been limited to an occasional tree in the back yard or home orchard. This limitation is due to soil and climatic conditions. No attempt has been made to grow sweet cherries on the Wichita Valley Station, but a number of trees including five varieties of sour cherries were set out in the variety test orchard in 1926. All of these died before the end of the fourth year without having produced any fruit.

Peaches

Of the deciduous fruit trees, the peach has been and continues to be the most important in the state. General cultural practices have been pretty well worked out. Dependable varietal information, however, is frequently lacking, in spite of its importance. This is partly because new varieties are continually being introduced and because the same variety often behaves somewhat differently in different sections. In Texas Station Bulletin 39, published in 1896, R. H. Price reported on over 160 varieties of peaches. The following were recommended for the northern portion of the state: (early) Alexander, Mamie Ross, Amsden, (Miss) Lolo, Amelia, Rivers, Tillotson, Yellow St. John, and Family Favorite; (medium early) Spottswood, Elberta, Thurber, General Lee, Cobler, and Curtis; (late) Mixon Free, Stonewall Jackson, Columbia, Texas, Bilyeu, and Victoria. Not many of these are popular today; several are hardly known.

The present test planting was made to determine the adaptability of varieties to conditions in North Texas, with particular reference to the weather. Each variety was represented by at least three trees, which was

considered sufficient for this purpose. A number of varieties had more than this. The data are presented in Table 1. Since bloom and harvest dates depend upon weather conditions which vary from year to year,

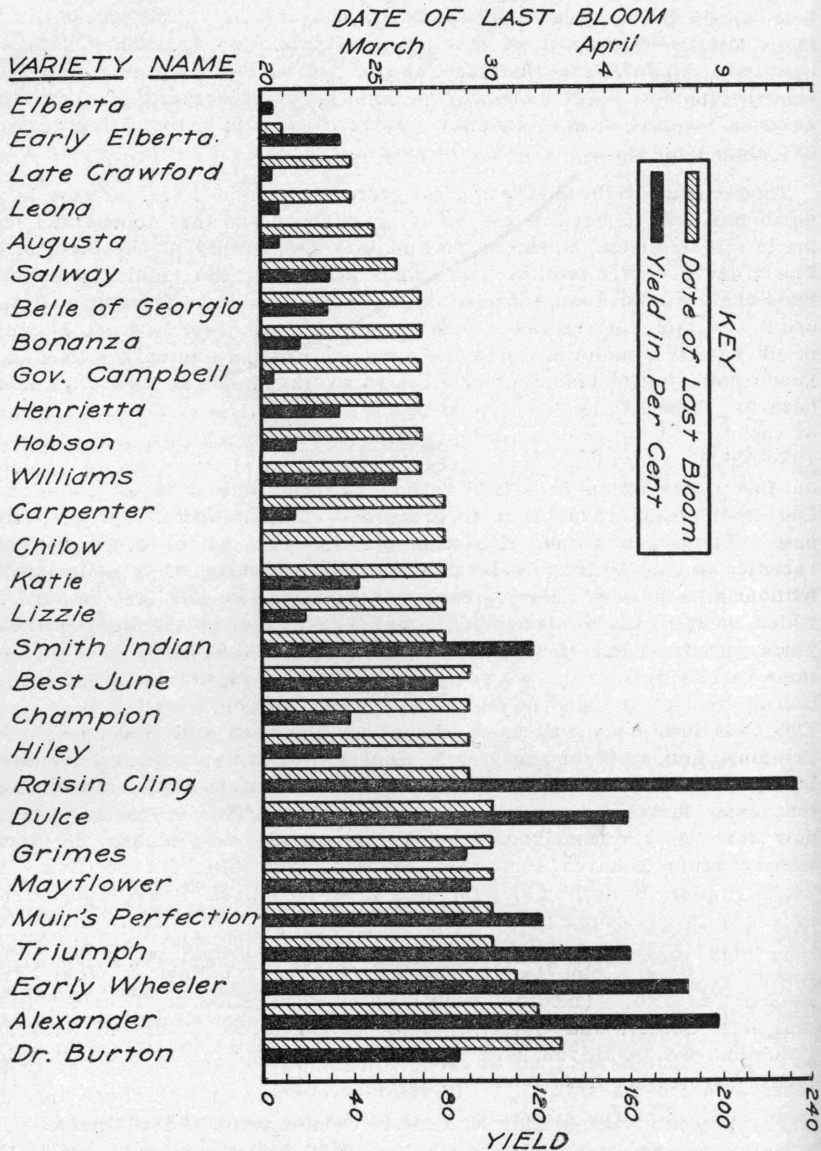


FIG. 1. Peach yields during 3 years of frost hazard expressed as per cent of yield obtained without frost hazard. This is compared with date of last bloom.

the relative periods of bloom and harvest are given rather than a series of dates for the duration of the experiment. Information on yield is presented in a similar way. While a close comparison of yields is not intended, the data do permit an estimate of the ability of a variety to bear under the weather conditions obtaining during the period of the test. Further information (such as the appearance of the fruit as grown under the conditions of the test), which does not lend itself to presentation in tabular form, is included under a discussion of the varieties. In addition, some pertinent varietal descriptive matter available elsewhere is included for the convenience of fruit growers.

Temperature relationships: Partly because of a greater degree of hardiness, and partly because of a later blooming date, some varieties produce fruit under conditions that cause others to fail. Certain varieties bloom more slowly and over a longer period of time, and because all buds are not in the most tender stage of development at the same time, are more likely to produce a crop. Studies were therefore made of all peach varieties planted and calculations were made from the recorded yields and fruit dates to determine which varieties can meet the frost hazard. Figure 1 shows the relation between average yields of a number of varieties to the average dates of last bloom for a three-year period—1930-32-33—in which the frost hazard was an important factor. Yields on this chart are shown in percentages, with the average yields for 1934-35—two years without frost hazard—treated as the 100 per cent base. Yields are presented in this way in order to compare what the varieties can do under unfavorable weather conditions with their record without this hazard. For example: Elberta shows a 7 per cent yield, which means that the average yield for that variety during the three years with frost hazard was only 7 per cent of the average yield for the same variety during the two years without frost hazard, this great reduction in yield presumably being due to the unfavorable weather conditions. The 1934 crop only was used as the 100 per cent base for Alexander, Triumph, and Williams, as the trees were either dead or nearly so in 1935. For Muir's Perfection the 1929 yield was used for the 100 per cent base, as the trees were practically dead in 1934. For Mayflower, only 2 years with frost hazard were used, as the yield records for 1930 were incomplete.

Raisin Cling and Dulce show relatively large yield percentages for the frost hazard years, but it should be noted that these varieties have never been high producers. Smith Indian, although midseason in blooming period, is apparently hardy in bloom and bears consistently in spite of frost hazards. Hiley, although medium late in date of last bloom, has shown considerable susceptibility to frost injury during the three years of study. Champion failed to produce a crop only once during the three years with frost hazard, but the yield percentage on the chart appears small because of the extremely large yields in the frost-free years.

The range in average date of last bloom of the different varieties in this study was 13 days—March 20 to April 2. It is significant that the

Table 1. Varietal differences in time of bloom, harvest period, and fruitfulness of peaches.

Variety	No. trees	Year set	Bloom period	Harvest period	No. of crops from 3rd year on		
					None to poor	Medium	Good to very good
Alexander.....	6	1926	late	early	2	3	2
Anna.....	3	1926	early	early	4	2	1
Annabel.....	3	1926	medium	midseason	6	0	1
Augusta.....	3	1926	medium	late	4	1	2
Barbara.....	3	1926	medium	late	3	2	dead in '34
Belle of Georgia.....	3	1926	medium	midseason	3	1	3
Belle of Georgia.....	9	1927	medium	midseason	4	0	2
Best June.....	3	1926	medium	early	2	1	4
Bonanza.....	3	1926	medium	very late	4	2	1
Carman.....	3	1926	medium	early	1	2	4
Carman.....	16	1928	medium	early	1	1	3
Carpenter.....	3	1926	medium	midseason	4	1	2
Carrie.....	3	1926	medium	very late	5	1	1
Champion.....	3	1926	medium	midseason	2	0	5
Chilow.....	3	1926	medium	midseason	5	0	2
Crosby.....	5	1929	medium	late	3	0	1
Dr. Burton.....	5	1926	late	early	1	1	5
Dr. Burton.....	5	1927	late	early	1	2	3
Dulce.....	3	1926	late	late	6	1	0
Early Elberta.....	3	1926	early	early	7	0	0
Early Elberta.....	3	1927	early	early	4	0	2
Early Wheeler.....	6	1926	late	very early	4	3	0
Early Wheeler.....	8	1927	late	very early	3	0	3
Early Wheeler.....	17	1928	late	very early	2	1	2
Elberta.....	10	1926	early	midseason	5	1	1
Elberta.....	9	1927	early	midseason	4	0	2
Family Favorite.....	5	1929	early	midseason	2	0	2
Frank.....	3	1926	early	late	5	0	2
Fredericka.....	4	1929	early	late	2	0	2
General Lee.....	3	1929	early	midseason	2	1	1
Goodman's Choice.....	2	1926	medium	late	5	1	1
Gov. Campbell.....	3	1926	medium	midseason	5	1	1
Gov. Lanham.....	3	1926	medium	midseason	5	2	0
Grimes.....	3	1926	medium	early	2	2	3
Handy.....	4	1929	medium	late	2	0	2
Heath Cling.....	4	1929	medium	late	2	0	2
Henrietta.....	3	1926	medium	very late	6	1	0
Hiley.....	3	1926	medium	early	3	3	1
Hiley.....	5	1927	medium	early	4	0	2
Hobson.....	2	1926	medium	midseason	6	0	1
J. H. Hale.....	5	1927	medium	midseason	5	0	2
Katie.....	3	1926	medium	late	6	1	0
Late Crawford.....	6	1926	medium	late	5	0	2
Leona.....	6	1926	early	midseason	6	1	0
Leona.....	18	1927	early	midseason	4	0	2
Liberty.....	3	1926	early	midseason	6	1	0
Lizzie.....	3	1926	medium	late	4	2	1
Mamie Ross.....	3	1926	medium	early	3	1	3
Mayflower.....	3	1926	late	very early	3	1	3
Minnie Stanford.....	3	1926	early	midseason	5	1	1
Minnie Stanford.....	5	1927	early	midseason	3	0	3
Motion's Cling.....	2	1926	early	midseason	5	Dead '34	
Muir's Perfection.....	2	1926	late	midseason	2	0	3
Oldmixon Cling.....	4	1929	medium	late	2	0	2
Raisin Cling.....	3	1926	medium	very late	6	1	0
Ramsey.....	3	1926	medium	very late	5	0	1
Salwey.....	3	1926	medium	very late	3	1	3
Salwey.....	3	1927	medium	very late	3	0	3
Shalil, FPI 63850.....	3	1928	early	late	3	0	2
Shalil, FPI 63851.....	2	1928	early	late	4	0	1
Shalil, FPI 63852.....	2	1927	early	late	4	2	0
Slappy.....	3	1927	early	early	4	0	2
Smith Indian.....	3	1926	medium	late	4	0	3
Smith Indian.....	5	1927	medium	late	3	0	3
Tarbell.....	3	1926	medium	late	5	0	2
Tardio Amarillo.....	3	1927	medium	very late	5	0	1
Taylor.....	3	1926	medium	midseason	6	dead '35	
Tena.....	3	1926	medium	midseason	5	2	0

Table 1. Varietal differences in time of bloom, harvest period, and fruitfulness of peaches.—Continued.

Variety	No. trees	Year set	Bloom period	Harvest period	No. of crops from 3rd year on		
					None to poor	Medium	good to very good
Triumph.....	3	1926	late	early	4	1	2
Victor.....	3	1926	medium	very early	5	dead '34	
Williams Cling.....	3	1926	medium	very late	4	1	2
FPI 32374.....	1	1927	early	midseason	4	0	2
FPI 35201.....	3	1928	medium	late	3	0	2
FPI 36485.....	2	1926	medium	late	7	0	0
FPI 43124.....	2	1928	medium	late	3	0	2
FPI 55563.....	2	1926	medium	late	5	0	2
FPI 55563.....	3	1928	medium	late	2	1	2
FPI 55564.....	3	1928	medium	late	3	0	2
FPI 55813.....	2	1926	early	late	5	0	2
FPI 55813.....	3	1928	early	late	3	1	1
FPI 55885.....	2	1929	medium	late	1	1	2
FPI 55886.....	2	1929	medium	late	2	0	2
FPI 68352.....	3	1929	medium	late	2	0	2
FPI 68353.....	3	1929	medium	late	2	0	2

Definition of terms.

Bloom periods:

- Early—Average date of full bloom by March 20.
- Medium—Average date of full bloom March 21 to 23 inclusive.
- Late—Average date of full bloom March 24 or later.

Harvest periods:

- Very early—Up to June 15.
- Early—June 16 to July 15.
- Midseason—July 16 to August 15.
- Late—August 16 to September 15.
- Very late—Sept. 16 and after.

latest blooming varieties, with the few exceptions mentioned in the preceding paragraph, are the best producers and show yields during the frost hazard years of from 80 to approximately 200 per cent of the yields for the same varieties during years without frost hazard.

In any consideration of weather relationships it must be remembered that these vary with the locality. During some seasons there is insufficient cold even in the northeastern part of the state for normal leafing and fruiting. This is not a factor in the Wichita Valley. For this reason, the effect of low temperature is restricted here to the possibility of injury to blossoms and young fruit.

Discussion of Varieties

Alexander: An old variety, the fruit is small to medium in size, as grown on this station, dark red over green in color, and attractive in appearance. Flesh is tender, juicy, sweet, and clings to the seed. It ripens from June 10 to 30. While too small and tender for a market peach, it is recommended for home orchards because of productiveness and consistency in bearing.

• **Anna:** This is said to be a seedling of Carman. The fruit is small to medium in size, creamy white with bright red blush, and attractive in appearance. It is a white fleshed freestone, ripening a few days ahead of Carman, which it resembles, although not as productive as that variety.

Annabell: This has a large fruit, yellow with red blush. The flesh is yellow, stained with red near the seed, free to semi-free, of dessert quality. It ripens from August 5 to 15. It has been found to be a shy bearer in our trials.

Augusta: According to Ramsey's Nursery catalog, this is a seedling of Elberta. The fruit is large, yellow, with a dull red blush; freestone. It is not as attractive but is equal in quality to, and is more productive than Elberta. It ripens August 25 to September 5.

Barbara: This is a Stubenrauch variety with large spherical fruits, yellow with a red blush. The quality is good, but the tree is only a fair producer and was short-lived in this test. It should be given further trial. It ripens September 1 to 15.

Belle: This well known peach was found to be a productive variety, good for home and local market. It has fruited six years out of seven with four good crops. It ripens July 25 to August 15.

Best June: This originated in Fayette County, Texas. The fruit is large, light in color with red cheek—an attractive freestone. The flesh is white, streaked with red; sweet, juicy, and delicious. Too tender for long distance hauling, it is a fine peach for the home orchard. It ripens June 25 to July 10. It has fruited six years out of seven with five fair crops.

Bonanza: This variety is of Texas origin. The fruit is medium in size, white in color with light splashes of red, and fairly attractive. Flesh is white, stained with red near seed; firm, sub-acid. It ripens late — September 25 to October 15; a medium bearer.

Carman: This peach grew from a seed planted by J. W. Stubenrauch of Mexia, Texas, in 1889. The fruit is small to medium in size, creamy white splashed with red, not as attractive as Mamie Ross or Dr. Burton. The flesh is white, streaked with red; tender, juicy, and sweet. It is prolific, good for home and local market, but too tender for shipping. It ripens July 1 to 15. It is recommended for its consistency in bearing under adverse conditions.

Carpenter: This is a seedling of Chinese Cling originating in Texas. The fruit is small, light in color with traces of red, and not very attractive. The flesh is white, stained with red near seed; fine-grained and sweet. It ripens July 25 to August 15. Although it blooms fairly late, it has been a shy bearer.

Carrie: A seedling of Frank originated by J. W. Stubenrauch. The fruit is large, yellow with red blush, attractive. The flesh is yellow, firm, and of good quality; clingstone. It ripens September 15 to 30. It has been a shy bearer.

Champion: This is a medium to large white freestone, lacking in uniformity of size and color under local conditions. It bears heavy crops consistently. It ripens July 25 to August 15.

Chilow: The fruit is a medium to large, yellow clingstone; the flesh is fine-grained and sweet. It often fails to fruit because of frost damage. It ripens August 10 to 20.

Crosby: The fruit is large, long pointed, greenish-yellow, freestone; the flesh is yellow, rather dry, stringy and firm, but breaking down quickly after harvesting. It is rather susceptible to brown rot; has fruited two years out of four; ripens September 5 to 20.

Dr. Burton: This is a seedling grown by the late Dr. E. L. Burton of Grayson County, Texas (Figure 2). It is a large white freestone,

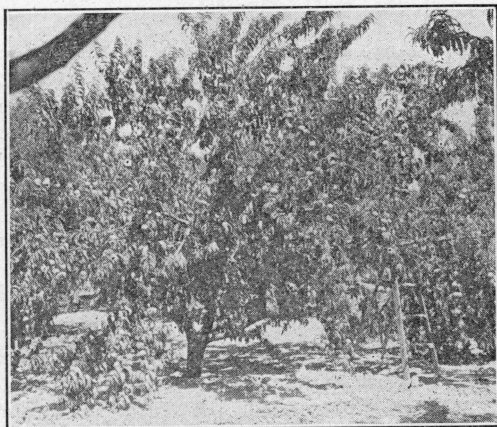


FIG. 2. Seven-year-old Dr. Burton peach tree with branches bending under heavy load of fruit—1934.

splashed and mottled with red, almost as large and attractive as Early Wheeler; firmer in flesh than, and superior in quality to Mamie Ross. The creamy white flesh is streaked with red, especially along the suture. It has a rich buttery flavor, is firmer, and will stand more handling than Carman, Mamie Ross, and others of the white freestone group. It ripens June 25 to July 20. It is leading all others in yields and is recommended for its consistency in bearing.

Dulce: This is a yellow freestone, medium to large in size, and attractive. It ripens September 20 to October 10. It has been a light bearer.

Early Elberta: The fruit is medium large in size, has a rich yellow skin with a red blush, and is rather attractive in appearance. The flesh is bright yellow, fine-grained, tender and sweet. It is a freestone and ripens June 25 to July 15. It blooms rather early and over a short period of time, which may account for its being a light bearer.

Early Wheeler. A seedling of Chinese Cling, this was originated by E. W. Kirkpatrick, McKinney, Texas, about 1900. The fruit is very large and attractive in appearance. The color is white with a bright red blush. It is a clingstone with firm, rather tough flesh that is not of highest quality except for culinary purposes. It is one of the best com-

mercial peaches for this section because of its attractiveness and shipping qualities. It blooms late and over a long period of time, is hardy, and bears consistently, having missed fruiting but once in seven years of bearing age, although it is not a heavy bearer. The Early Wheeler has a conspicuous fault—the seeds split severely when maturing during rainy weather.

Family Favorite: Originated in Fannin County, Texas, this variety is a seedling of Chinese Cling. The fruit is small, round, greenish-white splashed with red; unattractive; freestone. The flesh is greenish-white stained with red near seed. It fruited only twice in four years; ripens August 1 to 20.

Frank: This is a large clingstone peach of the Stubenrauch group. The varieties, Barbara, Frank, Fredericka, Katie, Liberty Lizzie, and Tena, are presumably the result of a cross between Elberta and Bell's October. The parents were budded on the same stock and this was grown in an isolated spot accessible to bees. The skin of Frank is yellow with a dull red blush. It is attractive in appearance and of excellent quality. The flesh is firm, juicy, and sweet. Although this peach has made splendid records in other parts of the state, it has not borne well at this station, having produced only two full crops in seven years of bearing age. The Frank ripens August 25 to September 5.

Fredericka: This is another Stubenrauch variety. The fruit is large, round oval, and yellow with a red blush; the flesh is yellow, stained with red at the pit, medium in texture, slightly stringy, and sweet. It is good for home and market. It had some fruit each of four years since reaching bearing age with two full crops; it matures September 1 to 20.

General Lee: As grown on the station, the fruit is large, roundish-oblong, creamy white with red splash, attractive; the flesh is white, stained with red near the pit, firm, fine-grained, juicy, and sweet. It has fruited three years out of four with two fair crops; it ripens August 5 to 20. The tree is large with dense foliage.

Golden Queen (FPI 68353): From New South Wales. Fruit spherical, medium in size, yellow, clingstone; flesh yellow, firm, fine-grained, mildly sub-acid; fruited four times with two good crops in four years; ripens August 25 to September 15.

Goodman's Choice (FPI 55549): This peach was obtained from New South Wales, Australia, by the Bureau of Plant Industry. It is considered by Australian nurserymen to be their best yellow clingstone peach. The fruit, as it grows on this station, is small to medium in size; yellow in color with red blush; firm of flesh, and rich in flavor when fully ripe. It has proved a shy bearer at this station, having produced only two full crops in seven years of bearing age. It ripens August 15 to September 10.

Governor Campbell: This peach is a clingstone, medium to large in size, greenish white in color with red cheek, fair in quality. It has been a poor bearer at this station. It ripens August 1 to 15.

Governor Lanham: This peach originated at Austin, Texas. The extra large fruit is yellow with red splashes and very attractive. The flesh is yellow and clings to the seed. The quality and flavor are good. It has produced only two medium crops in seven years of bearing age. It ripens August 1 to 15.

Grimes: This is possibly a seedling of Mamie Ross. It originated in Anderson County, Texas. The fruit is of medium size, greenish-white in color splashed with red. The flesh is creamy white streaked with red, fine-grained and sweet. The quality is only medium. It is a clingstone. The Grimes starts blooming fairly early but blooms over a long period and is rather hardy, having missed only two crops out of a possible seven. It ripens July 5 to 25.

Handy: The fruit is small to medium in size, pale yellow with some red; the flesh is yellow, red near seed, fine-grained, firm, tart. It fruited twice in four years; ripens September 1 to 15.

Heath Cling: This is possibly the oldest named American peach. As grown here the fruit is small to medium in size, roundish, with deep cavity, white, unattractive. The flesh is white stained with red at pit, fine-grained, juicy, sweet, clingstone. It is good for culinary purposes only. There were two crops in four years. It ripens September 1 to 20.

Henrietta: The fruit is a medium-sized, attractive, yellow clingstone. The flesh is firm and sweet. It has been a shy bearer. It ripens September 10 to October 5.

Hiley: The red-and-white fruits are of medium size, attractive in appearance, and medium in quality. The flesh is white, stained with red near pit, firm enough to ship, but the skin is rather tender and breaks easily; it is freestone. It has fruited six years out of seven, with four good crops, and ripens July 10 to 25.

Hobson: This is a seedling of Mamie Ross grown by E. W. Kirkpatrick, McKinney, Texas. It is sometimes listed as Improved Mamie Ross. It is a white, semi-cling peach with red cheek, firm flesh, and sweet flavor. It has been a poor bearer at this station, having fruited only four years out of seven with one fair crop. It ripens July 15 to August 5.

J. H. Hale: The fruit is large, round, yellow with red cheek, very attractive; the flesh yellow, stained with red near seed, firm, sweet, and of good flavor; good for both dessert and canning; freestone. Hardier than Elberta, it has fruited four years out of six, and two were excellent crops. Quality and fruiting records have placed the J. H. Hale above other yellow freestone varieties as a commercial variety for this section. It ripens July 25 to August 15.

Katie: This is a Stubenrauch variety. The fruits are large with yellow skin and red cheek. The flesh is yellow, firm, and of good quality and flavor. It is a freestone that yields much better than Elberta, but the trees are apparently not as strong as Elberta. It is a worthy variety that should be given further trial. It ripens August 25 to September 15.

Late Crawford: The fruit is a large freestone with yellow skin that is splashed with red. The yellow flesh is stained with red at the pit, stringy, and not very firm when ripe; the flavor is tart. It is very susceptible to brown rot and breaks down quickly when ripe or after removal from the tree. It has produced only two good crops in seven years. It ripens August 10 to 25.

Leona: This is a large yellow freestone peach that is brighter in color and with less red than Elberta or J. H. Hale. The flesh is sweet and firm and is stained with red near seed. Superior in flavor and dessert quality to Elberta, it will not stand as severe handling. It has been a poor bearer at this station, having produced only two fair crops in seven years. It ripens July 10 to August 1.

Liberty: A Stubenrauch origination. The fruit is a large yellow clingstone of good quality, but has proved a poor bearer at this station, having fruited only three times in seven years and none of these was a heavy crop. It ripens July 20 to August 10.

Lizzie: This is another Stubenrauch variety. The fruit is similar to Frank but is a freestone; the quality is good. It has fruited four times in seven years, with three fair crops. It ripens September 1 to 10.

Mamie Ross: This peach originated with Capt. A. J. Ross in Dallas County, Texas. It is probably a seedling of Chinese Cling. The fruit is medium to large, white with red blush, and is attractive. The flesh is tender, juicy, and sweet; semi-cling. It is very prolific and is recommended for its consistency in bearing. It is too tender for shipping but is excellent for home and local market. It ripens July 1 to 20.

Mayflower: The fruit is small to medium in size; the skin red over greenish background; the flesh white with red veins, juicy, and sweet. The quality is only fair and the fruit is too tender for anything except home use. The Mayflower blooms late, is hardy in bloom, bears consistently, and is the earliest peach to ripen. For these reasons, it is recommended as one of the most desirable varieties for the home orchard in this part of the state. It ripens May 25 to June 10.

Minnie Stanford: This is a clingstone, medium to large in size, with a yellow skin with red blush; attractive. The flesh is firm, juicy, and of the very best quality. It will stand handling, but has proved a very poor bearer at this station, having fruited only three years out of seven with but two fair crops. It ripens July 20 to August 5.

Motion's Cling: This peach was introduced from New Zealand by the Bureau of Plant Industry. The fruit is a yellow clingstone of medium to large size; the flesh yellow, firm; the flavor rather flat; the tree weak. It fruited only once. It ripens July 25 to August 10.

Muir's Perfection: Also a U.S.D.A. introduction from New Zealand. A small freestone peach, white, splashed with red; flesh white, stained with red near pit, mildly acid. Although prolific, the trees are short lived. It is good for home orchard. It ripens July 30 to August 15.

Oldmixon Cling: One of the oldest American peaches. The fruit is small to medium in size, roundish with prolonged tip, creamy white with blush of red; the flesh creamy white, stained with red at pit, firm, slightly stringy and sweet, clingstone. It has fruited three years out of four with two full crops.

Pullar's Cling (FPI 68352): From New South Wales, Australia. Fruit nearly round, small to medium in size, yellow with red blush; flesh firm, yellow, slightly red at pit; fruited four times with two fair crops in four years; ripens September 1 to 20.

Raisin Cling: This variety evidently has Indian blood. The fruit is of medium size, white, splashed with red; the flesh white streaked with red, juicy and sweet. It has been a fairly consistent bearer but the trees were not strong and yields have been light. It ripens September 10 to October 1.

Ramsey: This peach originated with a Mr. Ramsey in Montague County, Texas. It is medium to large, white, clingstone; its flesh firm, juicy, but not of the best flavor. The trees are short-lived and yields light. It ripens September 10 to October 1.

Salwey: The fruit is large, round, yellow with red blush; freestone when fully ripe. The flesh is yellow, slightly stained with red at pit, firm, and sweet. The tree is hardy and vigorous, starts blooming fairly early, but blooms over a long period, and the bloom is hardy. It bears consistently, maturing later than other peaches of its type, and so extending the peach season. It ripens September 25 to October 10. It should be in every home orchard and is a good commercial peach.

Shalil Seedlings: These varieties were introduced from the Northwest Province, India, by the Bureau of Plant Industry. (FPI 63850) The fruit is small in size, oval, light yellow; the skin tender, easily separating from the tender flesh, which is mealy and not very sweet; free-stone; the seed light in color. It fruited only two years out of five; ripens August 10 to September 1. This variety is recommended as being nematode resistant.

(FPI 63851): Somewhat similar to No. 63850 but sweeter and with flesh slightly stained with red near pit. It is semi-cling; the seed are much darker in color; it ripens a few days earlier. It is also reported to be resistant to nematodes.

(FPI 63852): Fruit medium in size, yellow, clingstone, of fair quality. This is a shy bearer but is suggested for trial as a stock, because of its resistance to nematodes.

Slappey: This peach is a yellow freestone with red cheek; its flesh yellow, tender, and sweet; of high quality. It ripens with Early Elberta and is similar to this variety in appearance and fruiting habits. It is not very hardy, having produced only two full crops in six years.

Smith Indian: This peach is small to medium in size, has mottled reddish-brown skin, the white flesh being heavily streaked with red. It is firm, juicy, and tart. This clingstone is in demand for sweet pickles.

It is a consistent bearer of good crops and so is recommended for the home orchard and local market. Its faults are small size and susceptibility to brown rot. It ripens August 25 to September 15.

Tarbell: The fruit is large, round, pale yellow; the flesh yellow with a trace of red near seed, firm, sweet, and of good flavor. It has fruited only four years out of seven with only two good crops. It ripens August 20 to September 5.

Tardio Amarillo: A seedling of the Spanish variety by the same name. Grown at the F.P.I. gardens in Chico, California. The fruit is small, round, golden yellow with a reddish tinge; the flesh yellow, stained red near pit, juicy, and of fair flavor and texture. It has fruited three years out of six. It ripens September 10 to 25.

Tena: Originated by Mr. Stubenrauch. The fruit is medium to large in size and similar to Elberta in color but brighter. The flavor is better than that of Elberta. The flesh is yellow, stained with red near the seed, firm, freestone. It has fruited five years out of seven, but only two have been fair crops. This is a promising commercial peach that should be given further trial in this area. It ripens July 30 to August 10.

Triumph: The fruit is small, with dark red skin that is usually pubescent, and flesh that is tender, juicy, and sweet. It is the earliest yellow peach; a freestone when fully ripe; rather susceptible to brown rot; hardy in bloom and a consistent bearer. It should be in every home orchard. It ripens June 20 to July 15.

Victor: This peach is reported to have originated with a Mr. Bass of Bass, Texas. It is of unknown parentage. The fruit is medium in size, round; the color creamy white with bright red blush; the flesh creamy white, juicy, and with a distinctive flavor. The tree is weak and a poor bearer. It ripens June 1 to 20.

Williams Cling: This peach originated in the yard of H. M. Williams, Austin, Texas. The fruit is medium in size, yellow with a dull red blush, clingstone; the flesh firm and juicy; the flavor fair. It fruited four years out of seven with two very heavy crops. It ripens September 20 to October 5.

FPI 32374: This peach originated at the U.S.D.A. Experiment Station at San Antonio, Texas, among a lot of plants grown from seed obtained in Mexico by G. Onderdonk. The fruit is of medium size, yellow with dull red blush; the flesh firm, sweet, and of good flavor, and clingstone. It has made two full crops in six years of bearing age and ripens August 1 to 20.

FPI 35201: An introduction from Yunnan, China. The fruit is a golden yellow clingstone, firm in texture, and sweet; it has fruited four years out of five with two full crops, and ripens August 20 to September 10.

FPI 36485: An introduction from India. The fruit is small, yellow; flesh yellow, medium firm, clingstone; pit large; the tree large and

vigorous but not productive. It produced a few fruit two years out of seven; ripens August 10 to 20.

FPI 43124: Introduced from New Zealand. The fruit is nearly round, pointed, small to medium in size, yellow with touch of red; the flesh yellow, sweet, and mealy; clingstone. It has fruited four years out of five but with only two full crops. It ripens August 15 to September 5.

FPI 55563: From Spain. Fruit medium to large in size, yellow with red blush; flesh yellow, firm and sweet, clingstone; medium bearer; somewhat tender to frost in Spring; fruited five times with two full crops in seven years; ripens August 25 to September 10.

FPI 55564: Grown from seed obtained at Valencia, Spain. Fruits small to medium in size, round, yellow with red blush; flesh yellow, firm and of fair flavor; fruited four years out of five with two full crops; ripens August 30 to September 10.

FPI 55813: Fruit small to medium in size, yellow with red cheek; flesh yellow, firm, juicy and of good flavor, freestone; fruited four years out of seven with two full crops; ripens August 15 to 30.

FPI 55885: Introduced from Yunnan, China. Fruit small, round, reddish in color; flesh reddish, juicy and with cherry-like flavor, clingstone; fruited some each of four years since reaching bearing age with three fair crops; good for home orchard; ripens August 20 to September 5. This peach has been recommended for trial as a nematode resistant stock.

FPI 55886: Similar to No. 55885. Very prolific. Recommended as being resistant to nematodes.

Pears

Of 17 varieties and strains of pears set out on this station in 1926, only a few small trees remained in 1935, the majority having died from root rot and other causes. Very few fruits were harvested and little merit has been shown by any variety under local conditions. Insufficient varietal data were obtained from these tests to warrant recommendation. However, in localities where pears are grown successfully, the Keifer, Bartlett, and Garber are popular varieties.

Pear growing in North Texas holds about equal rank with apple growing, according to the 1930 census. The distribution of the two fruits in North Texas is much the same; both being widely scattered. Cooke County with over 12,000 bearing trees, which was approximately 1/8 of the total in this North Texas area in 1930, is the leading county in pear production in this section and is second only to El Paso. Dallas County follows with 9,000 trees. Grayson and Montague counties rank third and fourth in North Texas with 7,000 and 6,000, respectively. Cooke County with the six neighboring counties of Montague, Wise, Parker, Denton, Dallas, Grayson, and Fannin contain approximately 50 per cent of the bearing pear trees in this area. This would indicate that the concentration of pear production is a little farther east than for apples.

Pear trees do not require as fertile soil as apple trees. They seem to do best on a clay loam or a sandy loam with a clay subsoil. The soil must have good drainage. On poor soil growth is slow but the trees are considered to be hardier and more able to withstand diseases and other troubles. Like apples, the main limiting factor to pear growing in this irrigated valley as well as other parts of North Central Texas, especially the blackland section, is its susceptibility to cotton root rot.

Plums

Plums rank second to peaches in importance among the tree fruits in this section of the State. They are grown practically everywhere peaches are grown, but not to the same extent commercially. On the average, in this valley, plums are practically as hardy as peaches. They show more variation in blooming period, some varieties starting with the earliest blooming peaches while others bloom after the latest blooming peaches are through. Some varieties, such as Kernuco and Minco, and some of the cherry-plum hybrids, bloom after peaches are practically through. Incidentally, all of these except Kernuco are among the most consistent bearers of all the plums tried on this station.

The same cultural care was given the plums as the other tree fruits. The planting distance was the same as for peaches. This might have been closer for some of the smaller type trees such as the cherry-plum hybrids.

As with peaches, a plot of three trees was considered sufficient to give the information desired. Most of the data are presented in Table 2. Additional information is included in the discussion of varieties. While there is considerable variation among varieties, yields in general were not as satisfactory as with peaches.

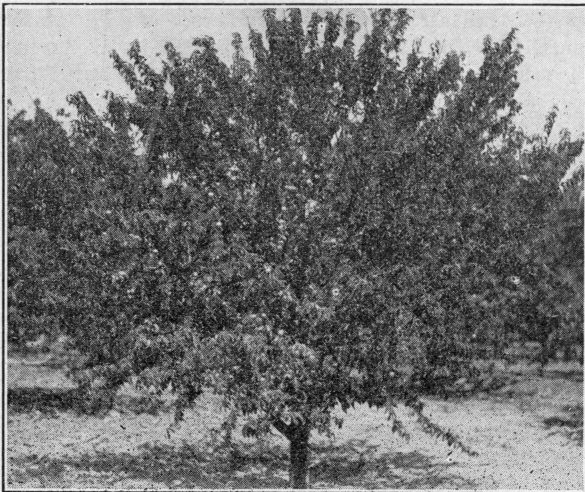


FIG. 3. A 5-year-old American plum tree. This picture was taken three weeks before harvest, at which time 98 pounds of fruit were secured.

Table 2. Varietal differences in time of bloom, harvest period and fruitfulness of plums and prunes.

Variety	No. trees	Year trees bloom	Bloom period	Harvest period	No. crops from 3rd year on		
					None	Poor to medium	Good to very good
Abundance(1)	2	1927	midseason	.....	2	.....	.....
Advance	2	1926	early	very early	2	5	0
Advance(2)	3	1927	early	very early	2	3	.....
Alpha	2	1926	midseason	early to mid	2	4	1
America	2	1928	midseason	mid to late	2	2	1
America	4	1929	midseason	mid to late	1	1	2
Best's Hybrid	2	1926	early	midseason	5	1	1
Bilona	3	1927	early	midseason	2	4	0
Bruce	3	1926	midseason	very early	2	4	1
Burbank	3	1926	midseason	midseason	2	5	0
Burbank	3	1929	early to mid	midseason	1	3	0
Compass Cherry	3	1926	late	midseason	2	5	0
Compass Cherry	5	1927	late	midseason	1	4	0
Compass Cherry	4	1929	late	midseason	0	4	0
Gold	2	1926	midseason	mid to late	3	2	2
Gold	6	1929	midseason	mid to late	0	4	0
Gonzales	3	1926	early	midseason	2	5	0
Hanska	3	1928	midseason	midseason	2	3	0
Happiness	2	1926	early	midseason	2	5	0
Italian Prune(3)	3	1926	late	.....	5	.....	.....
Kernuco	1	1926	late	midseason	6	1	0
Kernuco	3	1928	late	midseason	2	3	0
May Beauty	5	1926	early	early	3	4	0
May Beauty	4	1927	early	early	3	3	0
Marianna	2	1928	midseason	midseason	2	3	0
Methley	2	1926	early	early	5	2	0
Methley	4	1927	early	early	4	2	0
Milton	3	1928	late	early to mid	1	4	0
Minco	3	1926	late	very late	3	4	0
Monitor	3	1928	late	mid to late	2	3	0
Munson	3	1929	early to mid	early	0	3	1
Omaha	5	1929	midseason	very late	0	3	1
Opata	6	1926	late	midseason	0	4	3
Opata(4)	3	1927	late	midseason	0	4	1
Opata	5	1929	late	midseason	0	2	2
Papagone Prune	1	1926	late	.....	7	0	0
Red June	2	1928	midseason	early to mid	2	3	0
Santa Rosa	2	1926	early	midseason	4	3	0
Sapa	4	1926	mid to late	midseason	0	5	2
Sapa	1	1927	late	midseason	2	4	0
Sapa	5	1929	mid to late	midseason	0	2	1
Sharp's Early	1	1926	early	early to mid	5	2	0
Shiro	1	1926	midseason	midseason	3	4	0
Spinosa x Domestica							
FPI 32670	1	1926	late	late	6	1	0
FPI 38282	1	1926	midseason	midseason	6	1	0
FPI 47935	1	1926	early	early	5	1	1
Sultan	2	1926	early	early to mid	4	2	1
Tragedy Prune	2	1926	early	midseason	5	2	0
Waneta	3	1928	late	mid to late	2	0	3
Wickson	1	1926	early	midseason	5	2	0
Wright's Early	1	1926	early	early	6	1	0
Yellow Iowa	2	1926	early	midseason	4	1	2

- (1) Dead 1932.
- (2) Dead 1935.
- (3) Dead 1934.
- (4) Dead 1935.

Definition of terms
 Bloom periods:
 Early—Up to March 18.
 Medium—March 19 to 24.
 Late—March 25 and later.

Harvest periods:
 Early—Up to June 15.
 Midseason—June 16 to July 15.
 Late—After July 15.

Discussion of Varieties

Abundance: The trees as grown on this station were weak and died without having fruited.

Advance: The fruit is small to medium in size, red with many conspicuous dots; flesh yellow, watery, clingstone. It will not stand much handling when ripe. The variety fruited five out of six years with two fair crops. Ripens May 25 to June 1.

Alpha: The fruit is small to medium in size, roundish, purple; flesh greenish yellow, tender, juicy, fine-grained, sweet. It fruited five years out of seven with two full crops. Ripens June 5 to 20.

America: It is of medium size, round, yellow with currant-red cheek; flesh yellow, juicy, firm, tart, clingstone. It fruited three out of five seasons, ripening July 1 to 10. It is recommended for home and commercial orchard (Figure 3).

Best's Hybrid: From New Zealand. The fruit is small to medium in size, heart-shaped, greenish yellow; flesh greenish yellow, juicy and of fine flavor. It produced two full crops in seven years of bearing life. Ripens June 15 to July 1.

Bilona: This variety is said to have originated with a Mr. Biles of Roanoke, Texas. The fruit is small, round, coloring red long before ripe; flesh firm, yellow, tart, semi-cling, distinctive flavor. It fruited four years out of six with two full crops. Ripens July 1 to 10.

Bruce: This is a hybrid originated by A. L. Bruce of Donley County, Texas. The fruit is small to medium in size, red, roundish oval; flesh tender, juicy and fine grained but not of high flavor. It ripens early but unevenly and the fruit falls as fast as they ripen so that no large amount of ripe fruit can be harvested at any one time. It is a consistent bearer but crops are often light. Harvest dates range from May 23 to June 5.

Burbank: The fruit is medium to large, round conic, mottled red over yellow; flesh yellow, tender, firm and sweet when fully ripe, clingstone. It produced fruit five years out of seven with three crops. Ripens June 25 to July 15.

Compass Cherry: A cherry-plum hybrid. It is small in size but larger than the true cherry; round, red in color; flesh yellow, firm, tart. It blooms late and bears consistently. The tree is not as hardy as Sapa and Opata. It is recommended for home and market; ripens June 20 to July 1.

Gold: The fruit is medium to large in size, round, yellow; flesh light yellow, firm, juicy, tart, clingstone. It fruited four out of seven seasons with two heavy crops. Ripens July 1 to 15. It is recommended for home and commercial orchards.

Gonzales: This is a chance seedling found in Gonzales, Texas, and introduced by F. T. Ramsey in 1897. The fruit is medium to large, round-conic, red skin; flesh light red, juicy, tender, mild; trees not

strong. It fruited five out of seven years—all light crops. The fruit falls before fully ripe and breaks down quickly after harvesting. It ripens June 15 to 25.

Hanska: The fruit is medium in size, roundish oblate, red with heavy bloom; flesh firm, reddish-yellow, semi-cling. It produced three medium crops in five years of fruiting life.

Happiness: A chance seedling found by Joseph Breck in 1899 and introduced by F. T. Ramsey. The fruit is medium to large in size, mottled red over green, roundish; flesh greenish red, juicy, fine-grained, tender; too soft for shipping. It ripens June 15 to 25. It fruited five years out of seven with only one full crop. The fruit falls before fully ripe and breaks down quickly after removal from the tree.

Italian Prune: The fruit is small to medium in size, long oval, dark purple with heavy bloom. The tree is weak and has not matured a crop, although it has set some fruit two or three years. The fruit falls before maturing.

Kernuco: Introduced by the Kerr Nursery, Sherman, Texas. The fruit is small, round, red over yellow; flesh yellowish, firm and tart. This variety is one of the latest to bloom but has been a shy bearer. Ripens July 1 to 5.

May Beauty: Medium in size, bright red; flesh tender, juicy and sweet; blooms early. It has fruited four years out of seven but has had only one light crop. Ripens June 1 to 15.

Marianna: First grown as a seedling in the orchard of a Mr. Fitze, Marianna, Polk County, Texas. Fruit is small to medium, roundish, bright red with thin bloom; flesh yellow tinged red, firm, tart, clingstone. It has fruited three out of five years with two good crops; ripens June 15 to 25.

Methley: Introduced from South Africa by the Bureau of Plant Industry, U.S.D.A. The fruit is medium in size, round, dark red; flesh dark red, firm, fine texture and flavor. It has had two good crops in seven years. Ripens June 5 to 10.

Milton: The fruit is small to medium in size, oval, red with conspicuous russet dots; skin tough; flesh yellow, fibrous, medium tender, tart, clingstone. It has fruited four out of five seasons with two fair crops. Ripens June 10 to 15.

Minco: This is a seedling of Wayland fertilized by Miner, originated by T. V. Munson. The fruit is small to medium in size, roundish-oval, bright red with distinct dots and light bloom; flesh yellow, firm, juicy, tart unless very ripe. It fruited four years out of seven with three good crops. It blooms late, ripening August 5 to 10.

Monitor: The fruit is large, roundish-oblong, red over green with purple bloom; skin tough; flesh greenish amber, medium firm, stringy, juicy, and tart. It produced three light crops in five years, and it ripens July 15 to 20.

Munson: According to Munson's catalogue, this variety originated with W. B. Richardson of Lufkin, Texas, from a seed of Normand crossed with America or some similar variety. The fruit is large, round, yellow; flesh juicy, tender, sweet, will not stand handling when fully ripe. It fruited each of four years since reaching bearing age with three fair to good crops; recommended for home orchard. It ripens June 5 to 15.

Omaha: The fruit is medium in size, nearly round, dark red with light purple bloom; skin tough; flesh is yellow, firm, juicy, and tart. The fruit is susceptible to sunscald. It fruited each of four seasons since reaching bearing age. Ripens August 10 to 20. Recommended for this section.

Opata: Originated by N. E. Hanson of the South Dakota Experiment Station; a cross between Golden and *Prunus Besseyi* (Sand Cherry). The fruit is of medium size, roundish, reddish purple; flesh green, juicy, fine grained, and sweet. It blooms late and bears consistently, having fruited seven consecutive years with six good crops. It is recommended for home and local market. Ripens June 15 to 25.

Papagone Prune: The weak trees have never fruited.

Reagan: This is said to be an offspring of Wayland crossed with America, introduced by the Texas Nursery in 1907. The fruit is large, red, late. The trees died when young and did not fruit on this station.

Red June: The fruit is medium in size, heart-shaped, red; flesh light yellow, stringy, tender, sweet. It produced three light crops in five years. Ripens June 10 to 20.

Santa Rosa: The fruit is large, round, suture distinct, dark red with conspicuous dots and thin bloom; flesh reddish amber, firm, stringy and sweet. It fruited three years out of seven. Ripens June 10 to 15.

Sapa: This is another of Hansen's cherry-plum hybrids—a cross between Sultan and a Sand Cherry seedling. The fruit is medium in size, a little larger than Opata as grown on this station, dark purple, heavy bloom; flesh purplish red, tender, medium firm, tart with a pleasant flavor, freestone. It fruited seven consecutive years but did not have as heavy crops as Opata; ripens June 15 to 25. The tree is smaller and more compact than that of Opata.

Sharp's Early: This was introduced from New Zealand by the Bureau of Plant Industry. It is said to be a seedling of Botan. The fruit is medium sized, dull red over green, round-cordate; flesh greenish, fine grained, medium firm, sweet. It is a shy bearer with only two crops in seven years. Ripens June 1 to 10.

Shiro: The fruit is medium to large in size, round-conic, dull yellow, light bloom; flesh yellow, almost transparent, very juicy, sweet, clingstone. It fruited four years out of seven with two fair crops. It ripens June 15 to 25.

Sultan: The fruit is large, round, dark red, thick bloom; flesh reddish yellow, stringy, firm, juicy, sweet. It fruited three out of seven years with two fair crops. The fruit will stand shipping; ripens June 10 to 18.

Tragedy Prune: The fruit is small to medium in size, roundish-oval, dark red and purple in color; flesh yellow, juicy, tender, sweet. It fruited two years in seven with only one fair crop; ripens June 25. The tree is short lived.

Waneta: This is one of Hansen's hybrids said to be a cross of America with a Japanese variety. The fruit is large, roundish, dark red; flesh yellow, firm, and of good quality; skin thick, medium tough. It has produced three good crops in five seasons. Ripens July 5 to 15.

Wickson: The fruit is very large, heart-shaped, dark red over yellow; flesh amber yellow, coarse, firm; flavor flat although rather sweet; clingstone. The tree is weak and the fruit does not mature evenly nor color very well. It ripens June 15 to 25. It fruited only twice in seven seasons.

Wilson's Early (FPI 47935): This is a hybrid plum from Russia. The fruit is medium in size, round-flattened, dark reddish-purple; flesh yellow, firm, tender, fine-grained, sweet. It would stand shipping; ripens evenly and clings to tree. It fruited two full crops in seven seasons; ripens about June 1.

Wright's Early: Introduced from New Zealand by the Bureau of Plant Industry. A red skin plum of small to medium size, said to belong to the Japanese group. It is a weak tree that has produced only a trace of fruit on this station.

Yellow Iowa: The fruit is medium to large, roundish oval, green with conspicuous white dots until fully ripe when it becomes a clear yellow; flesh tender, juicy, tart, rather flavorless; ripens very unevenly. It sets a heavy crop almost every year which is lost because of shattering before maturity. Ripens June 15 to July 5.

FPI 32670: Introduced from Russia, it is said to be a hybrid between the Green Reine Claude and the Sloe. The fruit is of medium size, flattened in shape, purple and green; flesh very firm, slightly astringent and with good keeping quality. There was one light crop in seven years. Ripens July 15 to 20.

FPI 38282: A hybrid plum from Shantung, China. Fruit golden yellow, with red blush, medium in size; flesh firm, yellow. It fruited only one year in seven; ripens June 20 to 25.

Quince

Three varieties of quince were set out for trial in the station orchard in March 1926. These were De Antequera, Meech, and Orange. All died the first and second seasons except De Antequera, which, though small and shrubby in growth and often damaged by winter injury, survived until 1935, when it was grubbed out to give space for more promising crops.

VARIETAL RECOMMENDATIONS

Apple: Only where cotton root rot is not prevalent. Delicious, Early Harvest, Golden Delicious, Jonathan, and King David.

Apricot: Moorpark.

Cherry: Hybrids only—Compass Cherry.

Peach: (commercial): Early Wheeler, Dr. Burton, Fredericka, J. H. Hale, Salwey. (Home): Alexander, Best June, Carman, Champion, Dr. Burton, Early Wheeler, Fredericka, Grimes, J. H. Hale, Katie, Mamie Ross, Mayflower, Salwey, Smith Indian, and Triumph. These varieties recommended on productiveness and consistency in bearing.

Pear: Not recommended except where cotton root rot is not prevalent. Bartlett, Garber, and Keiffer.

Plum: America, Burbank, Compass Cherry, Gold, Munson, Omaha, Opata, Sapa, and Waneta.

Quince: Not recommended.