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Performance of Peach Varieties in East Texas

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TEXAS AGRICULTURAL EXPERIMENT STATION
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SUMMARY

Economic conditions and improved transportation facilities have encouraged the consumption of the peach as a fresh fruit. Plant breeders of commercial industries and State and Federal experiment stations in recent years have developed peach varieties with fruits of high quality, early ripening and yellow flesh.

This bulletin gives the results of a survey on the performance and characteristics of most of the new varieties, and a number of the older ones, made at the Tyler station during 1949-57.

A report was made in 1947 on 227 peach varieties and selections grown at the Nacogdoches station. The behavior of these varieties was published in TAES Bulletin 687.

SUGGESTED PEACH VARIETIES FOR EAST TEXAS

Ripening	For home use	For local market	For shipping
May 25—June 5	Hiland, Cardinal, Dixired	Hiland, Cardinal, Dixired, Maybelle	Cardinal
June 5-15	Redcap, Jerseyland, Coronet	Redcap, Jerseyland, Coronet	Coronet
June 15-25	Redhaven, Dixigem, Triogem	Redhaven, Dixigem, Triogem, Raritan Rose	Triogem
June 25-July 5	Ranger, July Elberta (Burbank), Vedette	Ranger, July Elberta (Burbank), Vedette, Melba	Ranger
July 5-15	Scarlet Elberta, Loring	Scarlet Elberta, Loring	Scarlet Elberta, Loring
July 15-25	Veteran, Redskin, Summercrest, Brackett	Veteran, Redskin, Summercrest, Brackett	Redskin
July 25-August 5	Elberta	Elberta, Laterose	Elberta
August 5-15	Afterglow, Frank, Michigold	Afterglow, Frank, Michigold	Frank

Performance of Peach Varieties in East Texas

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A LIMITED HISTORICAL REVIEW of peach growing in East Texas, some indications as to the cause for certain failures and a detailed report on an extensive list of peach varieties, were reported in 1947 from work at the Nacogdoches station (21).

Because of changing economic conditions, labor supply and consumer preference, it was necessary to continue and expand the work of selecting peach varieties that might meet the present requirements.

Few home orchards or small acreages are successful or profitable because of equipment cost and the failure to carry out approved cultural, spraying, pruning and thinning operations. Commercial plantings require sufficient acreage to justify the cash outlay needed for equipment essential to the production and marketing of high quality fruit. A successful orchard operation requires the full-time services of a competent operator.

An adequate labor supply continues to be a critical problem with indications of further shortage in the future. Such a situation encourages the grower to select varieties that will spread his harvest operations over 50 to 60 days. Where irrigation can be used profitably, an even longer harvest period could be used to advantage.

Most Texas-grown peaches are used as fresh fruits. Home canning of the fruit appears to be at a low ebb, possibly because of the cost and the availability of the fruit as a high-quality frozen product.

The housewife is a discriminating buyer of fresh fruit. It must have eye appeal as well as flavor to secure a repeat sale. There must be a steady supply over a long period to retain her interest in this fruit. All varieties do not produce fruits which meet the requirement for processing a quality frozen product. These factors alone cause the grower concern when choosing planting material to establish the orchard.

Plant breeders of commercial industries and State and Federal experiment stations in recent years have developed varieties to meet the needs of the orchardist. This report discusses the performance and behavior of a large number of these and already recognized varieties grown at the Tyler station.

CULTURAL METHODS

A site of approximately 10 acres was selected for the 1948-49 varietal planting. The principal soil type is Kirvin with several phases ranging from fine sandy loam to reddish gravelly fine sandy loam.

The trees were set both on the terrace ridge and between terraces with spacing 25 feet in the tree row. The rows between the terraces were 25 feet apart and parallel to the upper terrace. The row width adjacent to the down-slope terrace varied considerably in the spacing but no trees were nearer than 20 feet to those on the down-slope terrace ridge.

A second site of 5 acres was selected in 1951 to provide an opportunity to assemble new varieties and selections recently introduced and include some that were not being grown in the original planting. The soil was largely Nacogdoches fine sandy loam and Nacogdoches gravelly fine sandy loam. Terraces were constructed and trees planted on the terrace ridge and between terraces in line with methods used in the 1948-49 planting.

A winter cover crop of Abruzzi rye and Dixie Wonder peas was planted each season in 1 block of the orchard. A second block was planted to Abruzzi rye and Hairy vetch. An application of 300 pounds to the acre of a 5-10-5 fertilizer was made prior to planting of each cover crop the first 2 years. Tree growth indicated that the additional fertilizer was not required and subsequent cover

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crop plantings were not treated. Cover crops used in the orchard started in 1951-52 consisted of Abruzzi rye and Hairy vetch. No additional fertilizer was applied to the winter cover crops. To prevent populations of stinkbugs, and other insects responsible for the catfacing damage to peaches from feeding on the cover crop, the crop residue was plowed under by early April. A procedure was followed in the plowing operation that would leave a portion of the crop residue on the soil surface to reduce soil erosion.

In addition to the use of cover crops, 5-10-5 commercial fertilizer was broadcast reasonably close to the trees at the rate of 2 pounds per 1-year-old tree. The fertilizer was disked under immediately after being applied. Three pounds of this fertilizer were used the second growing season and the amount was increased by 1 pound each season thereafter until a total of 8 pounds was reached. The treatment remained stable thereafter.

A program was maintained to control insects and diseases affecting the tree, foliage and fruit. The use of materials, timing and rate of applications were altered to coincide with research findings of the Texas Agricultural Experiment Station.

Throughout the test, efforts were made to carry out the approved methods of good orchard cultural practices for economical production in this area.

EXPERIMENTAL PROCEDURE

A total of 130 varieties and selections was used in the 1948-49 planting. Each variety or selection was represented by four trees set in pairs in each of two blocks. The pairs were randomized within each block. For the orchard planting begun in 1951-52 a total of 116 varieties and selections was used for the first season. Additional material has been incorporated each following season. Two trees were used to represent the majority of the varieties and selections, but occasionally three and, in some instances, four trees were used. The trees of a given variety were planted together. No attempt was made to secure trees on any particular rootstock, nor was there any preference for June-budded or dormant-budded trees. The available material representing the variety was accepted, whether it was purchased or donated. Acceptable trees had to be of planting size and free from disease.

Each tree in the test was permanently labeled with an embossed zinc tape label hung from a main frame limb. The row, tree number and variety name were used for identification purposes. Data were recorded on the performance of individual trees. During the first two growing seasons the blooms or young fruit were removed to permit the tree to become well established. During the third and following seasons, bloom data were recorded every third day. The yield and dates of harvest were obtained every third day or at least twice a week during the peak of heavy harvest. Data to determine the size, appearance, quality and other essential characters were taken on 25 or more fruits from each tree representing its variety, Table 1. These records were made each fruiting season to note the effect of seasonal variation. Annual observation on the occurrence of bacterial leafspot and varietal susceptibility to this disease also were made.

Some of the material furnished was not true to variety name, and the trees usually were removed when the mistake was discovered. In a few instances where the true identity is in question, data are shown and the possible error pointed out. Annual inspections were made to locate and remove trees affected by peach mosaic, Phony peach or other uncontrollable diseases. The behavior of these trees is excluded from this report. Where the variety or selection showed little promise of filling a varietal need in this area, the material was removed from the planting after sufficient time was allowed to obtain information on its performance. Although the trees were removed from further test, the performance data are shown in Tables 1 and 2 if a named variety was concerned. All breeding material or unnamed selections are not discussed in detail but are listed in the section on "Other Varieties Grown."

The first and full-bloom date of a variety was determined by averaging the bloom date of the representative trees each season over the period of production which began with the third growing season, Table 2. Because of prolonged dormancy in 1952, a large number of varieties did not reach full bloom and the average date for those that did bloom was a month later than normal, Table 3. Data for this season were not included in the average.

The density of fruit buds and flowers, Table 2, was determined by descriptive classification of buds and flowers per foot of fruiting wood as shown by Blake and Edgerton (1 and 4).

The date of "main harvest" was similarly determined. Data for 1952 were not included and a complete freeze-out in 1955 eliminated that year's fruit crop. The years 1952 and 1955 were not included in determining the average of the "number of days from full bloom to main harvest." The column "number of years in test" is based on the first growing season through 1957 or until the variety was removed from the test. In order to arrive at the "number of years fruiting" the first two growing seasons and 1955 were not included. Records for 1952 were included since some varieties showed an ability to produce in spite of inadequate cold during the winter of 1951-52.

The "size of crop" was determined by averaging the yields of the representative trees of each variety over the production period, Table 2.

TABLE 1. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57

Variety	Flesh					Fruit		Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Afterglow	Yellow	Free	Medium	Firm	Slightly dry and astringent	Medium	Truncate	Upright	Medium	Fruit color rather dark.
Albru	Yellow	Free	Coarse	Firm	Slightly astringent	Large	Round	Upright	Medium	Seed coarse; flesh pulls away from seed.
Amador	Orange-yellow	Free	Medium	Firm	Sweet, slightly dry	Medium	Round	Spreading	Vigorous	Redcrest and Scarlet Elberta more dependable.
Autumn	Yellow	Mostly free	Medium	Firm	Slightly astringent	Large	Truncate	Spreading	Vigorous	Excessive pubescence.
Best June	White	Free	Coarse	Tender	Sweet, flat	Medium	Round-ovate	Spreading	Vigorous	Fruit flavor and color poor.
Best May	White	Semicling	Medium	Medium	Sweet	Medium	Round-ovate	Upright	Vigorous	Is not like Best May reported in TAES B-687.
Blazing Gold	Yellow	Semicling	Medium	Medium	Sweet	Small	Truncate	Spreading	Weak	Cardinal, Dixired or Redcap for the season.
Brackett-B[1]	Yellow	Free	Medium	Medium firm	Slightly astringent	Large	Round-ovate	Spreading	Vigorous	Three days earlier and outyielded Elberta.
Brackett-W[1]	Yellow	Free	Medium	Firm	Slightly astringent	Large	Round-ovate	Spreading	Vigorous	A good Elberta-like fruit.
Bobolink	Yellow	Free	Fine	Firm	Sweet	Very small	Round-ovate	Spreading	Medium	Severe bacterial leafspot on fruit.
Boston Red[2]	White	Free	Fine	Medium	Sweet	Medium to small	Round	Spreading	Vigorous	One of the most dependable nectarines.
Canadian Queen	Yellow	Free	Medium fine	Medium	Slightly tart	Large	Round	Spreading	Vigorous	Flesh very attractive.
Cardinal[1]	Yellow	Cling	Medium	Firm	Slightly tart and astringent	Medium small	Round	Spreading	Vigorous	Colors extra early; many twins.
Cardinal[1]	Yellow	Cling	Medium	Firm	Slightly tart and astringent	Medium small	Round	Spreading	Vigorous	Redcap is a close competition.
Cavalier[2]	Yellow	Free	Medium	Firm	Sweet, slightly flat	Small	Ovate	Spreading	Vigorous	
Charlotte	Yellow	Free	Medium	Firm	Sweet	Large	Ovate	Upright	Vigorous	Excellent flavor.
Cherryred	Yellow	Cling	Medium	Medium	Flat	Medium	Truncate	Upright	Vigorous	Cardinal and Dixired better for season.
Chief	Darkred	Cling	Fine	Very firm	Sweet	Large to extra large	Round	Spreading	Medium	Tendency to shed fruit before ripe.
Chilow	Yellow	Cling	Fine	Firm	Sweet	Small	Round	Spreading	Vigorous	Popular locally for pickling and preserving.
Clark	Yellow	Free	Medium	Medium	Sweet, slightly flat	Medium	Round	Upright	Medium	Of Redhaven and Triogem season.
Coronet	Yellow	Cling	Fine	Firm	Sweet, slightly dry	Medium large	Truncate	Spreading	Vigorous	Slightly earlier than Dixigem.
Cumberland	Greenish-white	Free	Medium	Tender	Acid	Small	Truncate	Spreading	Medium	Not same fruit as reported in TAES B-687.
Dixigem	Yellow	Almost free	Medium	Medium	Sweet, slightly flat	Medium	Round	Spreading	Vigorous	Both Dixigem and Redhaven good for season.
Dixired	Yellow	Cling	Medium	Medium	Sweet	Medium	Round	Upright	Vigorous	A high chiller; flavor better than Dixigem.
Early East	Yellow	Almost free	Medium	Medium	Slightly acid and tart	Medium	Truncate	Upright	Vigorous	More productive than Cardinal but does not sell as well.
Early Elberta (Gleason)	Lemon-yellow	Free	Medium	Medium	Sweet, slightly dry	Medium	Truncate	Spreading	Medium	Not as good as Loring and Redskin.
Early Elberta (Scott)	Yellow	Free	Medium coarse	Medium	Slightly astringent	Medium	Ovate	Spreading	Medium	Not as good as Loring and Redskin.
Early Elberta (Stacy)	Yellow	Free	Medium	Firm	Slightly astringent	Small	Round-ovate	Spreading	Medium	

[1]Trees obtained from different sources. [2]Nectarines.

TABLE 1. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57 — Continued

Variety	Flesh					Fruit		Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Early Elberta (Stark)	Yellow	Free	Medium	Medium	Slightly dry and astringent	Large	Round-ovate	Spreading	Vigorous	Color dull; flavor slightly bitter.
Early Fair Beauty (Juneberta)	Yellow	Free	Medium coarse	Medium	Sweet, slightly dry	Medium	Truncate	Spreading	Vigorous	
Early Flame[2]	Yellow	Cling	Medium	Medium	Sweet	Medium to small	Round	Spreading	Medium	Flavor excellent.
Early Halehaven	Yellow	Free	Medium	Medium	Sweet, slightly flat	Medium	Round	Upright	Vigorous	Triogem of same season; preferred.
Early Profit	Yellow	Free	Medium	Firm	Sweet, slightly dry	Large	Round-ovate	Upright	Vigorous	Fruit shape irregular and slightly rough.
Early Triogem	Yellow	Free	Medium firm	Medium	Slightly astringent	Medium	Round-ovate	Spreading	Vigorous	Of Triogem season which it does not resemble.
Elberta-B[1]	Yellow	Free	Medium	Firm	Slightly astringent	Medium	Round-ovate	Upright	Vigorous	Fruit colors well; tree-ripe flavor is good.
Elberta-K[1]	Yellow	Free	Medium	Firm	Slightly astringent	Medium	Round-ovate	Upright	Vigorous	One of the best shippers.
Envoy	Yellow	Free	Coarse	Medium	Sweet, slightly dry	Medium	Round	Spreading	Vigorous	July Elberta (Burbank) preferred for this season.
Fair Beauty	Yellow	Mostly free	Slightly stringy	Firm	Slightly acid	Large	Round	Upright	Medium	Ranger more certain to bear.
Fairhaven	Yellow	Free	Medium	Medium	Sweet, slightly dry	Large	Round	Spreading	Medium	Yields good but Ranger sells better.
Fallate	White	Free	Medium	Medium	Bitter	Medium	Round	Upright	Vigorous	
Fertile Hale	Yellow	Free	Medium fine	Firm	Slightly astringent	Large	Round	Upright	Vigorous	Yields cannot compete with Elberta.
Fireball	Yellow	Free	Coarse	Medium	Slightly acid	Medium	Round	Spreading	Medium	Not Fireball as reported in TAES B-687.
Fireglow	Yellow	Free	Coarse	Tender	Acid	Large	Elliptical	Upright	Medium	Vedette and July Elberta (Burbank) preferred.
Flamingo	Yellow	Free	Medium fine	Medium	Sweet	Small	Truncate	Spreading	Medium	
Flaming Gold[2]	Greenish-yellow	Free	Medium coarse	Medium	Sweet, slightly dry	Medium	Round	Spreading	Vigorous	Stinkbug damage severe most years.
Frank	Yellow	Cling	Fine	Firm	Sweet	Medium	Round-ovate	Spreading	Vigorous	Much in demand for all purposes.
French (No. 50)	Yellow	Free	Medium	Firm	Slightly dry and astringent	Medium large	Round	Spreading	Vigorous	Production too low for season.
Frost Queen	White	Free	Medium	Firm	Sweet	Medium small	Round	Spreading	Vigorous	Trees very productive; fruit green Sept. 1.
Fuzzless-Berta[2]	Greenish-yellow	Free	Medium	Medium	Sweet	Medium large	Elliptical	Spreading	Vigorous	Fruit has size and flavor but too many radial cracks.
Garden State[2]	Yellow	Mostly free	Medium	Medium	Sweet, slightly dry	Medium	Round	Upright	Vigorous	Good flavor, shy bearer.
Gemmers Late Elberta	Yellow	Mostly free	Medium coarse	Firm	Astringent	Medium	Truncate	Upright	Weak	Seed extra large; flesh pulls away from seed.
Globe Haven	Yellow	Free	Medium	Firm	Sweet	Large	Round	Spreading	Vigorous	Excellent flavor; colors early.
Gold Dust	Yellow	Mostly free	Medium	Medium	Sweet, slightly dry	Small	Round	Spreading	Weak	Prolific; Cardinal or Redcap preferred.
Golden Blush	Yellow	Free	Medium fine	Firm	Slightly astringent	Medium	Round-ovate	Spreading	Vigorous	Fruit and foliage slightly susceptible to bacterial leafspot.
Goldeneast	Yellow	Semicling to free	Medium	Medium	Sweet	Large	Round-ovate	Upright	Vigorous	Excellent flavor; flesh tends to cling.
Golden Elberta Cling	Yellow	Cling	Fine	Firm	Sweet	Large	Round-ovate	Spreading	Vigorous	Excellent for pickling and preserving.

TABLE 1. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57 — Continued

Variety	Flesh					Fruit		Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Golden Jubilee	Yellow	Free	Medium coarse	Medium	Slightly acid	Medium	Elliptical	Spreading	Medium	Cannot compete with Dixigem and Redhaven.
Gold Ray	Yellow	Free	Coarse	Medium	Slightly astringent	Medium	Ovate	Spreading	Medium	Flesh soft along suture.
Goodcheer	Yellow	Mostly free	Fine	Firm	Acid	Medium	Elliptical	Upright	Vigorous	Ranger much preferred for the season.
Halegold	Yellow	Free	Medium	Firm	Slightly astringent	Medium	Round-ovate	Spreading	Vigorous	A high chiller; fruit small some seasons.
Hale Harrison Brilliant	Yellow	Free	Medium fine	Medium	Slightly astringent	Large	Round-ovate	Upright	Very vigorous	Fruits large, slightly soft, color poor.
Halehaven	Yellow	Free	Medium	Medium	Sweet to slightly tart	Medium	Round	Spreading	Medium	Fruits with many suture splits; poor color.
Hazel	Yellow	Mostly free	Medium fine	Firm	Sweet	Large	Round-ovate	Spreading	Medium	Flavor excellent; many radial cracks.
Herb Hale	Yellow	Free	Medium	Firm	Sweet to slightly astringent	Medium	Round	Spreading	Vigorous	Vedette and Goldeneast more productive.
Hiland	Yellow	Cling	Coarse	Tender	Slightly acid	Medium large	Round	Spreading	Vigorous	Is not in class with Maygold, Cardinal or Redcap.
Hinner Hale	Greenish-yellow	Free	Fine	Firm	Sweet	Medium large	Round	Upright	Medium	Of Elberta season.
Hobson	White	Cling	Fine	Firm	Slightly acid	Medium	Round	Spreading	Vigorous	Is not same variety reported in TAES B-687.
Hon-ee-gold	Yellow	Free	Coarse	Firm	Dry, flat	Large	Elliptical	Upright	Vigorous	Michigold few days earlier and preferred.
Honeygem	Yellow	Free	Medium	Firm	Sweet	Medium small	Truncate	Spreading	Vigorous	Fruit too small and late for commercial use.
Jerseyland	Yellow	Semicling	Medium fine	Firm	Slightly acid	Medium large	Round-truncate	Spreading	Vigorous	A good variety to precede Dixigem and Redhaven.
J. H. Hale	Yellow	Free	Medium	Firm	Sweet and slightly dry	Large	Round	Upright	Medium	Is not adapted to East Texas.
July Elberta (Burbank)	Yellow	Free	Medium	Medium firm	Sweet	Medium	Round	Spreading	Medium	Fruit has been mostly free of bacterial leafspot.
Kalhaven	Yellow	Free	Medium	Firm	Sweet	Medium	Round	Spreading	Vigorous	Requires heavy thinning; color good.
Laterose	Greenish-white	Free	Fine	Medium	Sweet	Medium	Truncate	Spreading	Vigorous	The white-fleshed fruits are rough; flavor good.
Loring-S[1]	Yellow	Free	Medium	Firm	Sweet	Medium	Round	Upright	Vigorous	Variety is promising.
Loring-B[1]	Yellow	Free	Medium	Firm	Sweet, slightly dry	Medium	Oblate	Upright	Vigorous	Is 2 weeks later than Loring from Shepard.
Markberta	Yellow	Free	Medium	Firm	Slightly astringent	Medium	Truncate	Spreading	Vigorous	A good shipper.
Maybelle-N.J.[1]	White	Cling	Coarse	Medium	Slightly acid and tart	Medium	Round	Spreading	Vigorous	Heavy yields on young trees.
Maybelle-B[1]	White	Cling	Coarse	Medium	Slightly acid and tart	Medium	Round	Spreading	Vigorous	Heavy yields on young trees.
Maygold	Yellow	Cling	Medium	Medium	Slightly acid	Medium	Round-ovate	Spreading	Medium	Colors early; low chiller.
Meadow Lark	Yellow	Free	Medium fine	Medium	Sweet	Small	Round	Spreading	Medium	Production heavy; fruit attractive; too small.
Melba	White	Mostly free	Medium fine	Medium tender	Sweet	Small	Round	Upright	Vigorous	Requires heavy thinning; flavor tart some years.
Merrill Beauty	Yellow	Free	Fine	Tender	Sweet	Very large	Round	Spreading	Medium	Severe suture split at blossom end.
Merrill Brilliant	White	Semicling	Medium	Medium	Slightly astringent	Medium	Round	Spreading	Vigorous	Flesh red ⅓ to seed; remainder greenish-white.

TABLE 1. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57 — Continued

Variety	Flesh					Fruit		Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Merrill Dandy	Greenish-yellow	Free	Medium	Medium	Slightly astringent	Medium	Round-ovate	Upright	Medium	Moderate infestation of bacterial leafspot.
Merrill Fiesta	Yellow	Free	Medium	Firm	Sweet	Medium	Round	Spreading	Medium	Tree growth slow; good color a month before tree ripe.
Merrill Gem	Yellow	Cling	Medium fine	Firm	Sweet	Medium	Truncate	Spreading	Medium	Of Cardinal, Dixired and Maygold season.
Merrill Gold Rush	Yellow	Free	Fine	Firm	Sweet	Large	Round-ovate	Spreading	Vigorous	Of July Elberta (Burbank) season,
Merrill Hale	Yellow	Free	Coarse	Medium	Sweet	Medium	Round	Spreading	Vigorous	Of Coronet and Dixigem season.
Merrill June	Yellow	Semicling	Medium	Medium	Sweet	Medium	Round-ovate	Upright	Medium	Considerable bacterial leafspot on fruit.
Merrill Rodeo	Yellow	Free	Medium	Firm	Sweet	Medium	Round	Spreading	Medium	Trees stronger than Fiesta.
Merrill Sunrise[3]	Yellow	Cling	Coarse	Firm	Sweet	Very large	Round	Spreading	Medium	Excellent flavor; yield too shy for commercial use.
Merrill Yellow King	Orange-yellow	Free	Medium	Firm	Sweet	Medium	Round	Spreading	Vigorous	Trees strong; appears resistant to bacterial leafspot.
Merrill 49'er	Orange-yellow	Free	Medium	Firm	Sweet	Medium	Truncate	Upright	Vigorous	Moderate infestation of bacterial leafspot.
Michigold	Yellow	Free	Medium coarse	Firm	Sweet, slightly dry	Medium large	Ovate	Spreading	Vigorous	A good variety to extend the freestone season.
Missouri	Yellow	Semicling	Fine	Medium tender	Sweet, slightly dry	Medium	Round	Spreading	Vigorous	Of Triogem season, which is preferred.
Montopolis	White	Free	Medium fine	Firm	Sweet	Medium	Ovate	Upright	Vigorous	Good color, colors well before ripe.
Nectacrest[2]	Greenish-white	Free	Fine	Firm	Slightly tart	Medium	Round	Spreading	Vigorous	
Nectaheart[2]	Greenish-white	Free	Fine	Medium	Sweet, slightly flat	Medium	Round	Spreading	Medium	
Nectalate[2]	White	Free	Fine	Firm	Sweet	Very small	Round	Upright	Vigorous	
Nectarose[2]	White	Free	Medium	Medium	Sweet, slightly dry and flat	Medium	Round	Upright	Vigorous	Fruit resembles Boston Red; ripens later.
Nectar-B	White	Free	Medium coarse	Tender	Sweet	Large	Round	Upright	Vigorous	Flavor good, like Mamie Ross.
Newday	Yellow	Mostly free	Medium	Medium	Slightly acid	Medium	Round-ovate	Upright	Vigorous	Is more susceptible to bacterial leafspot than Elberta.
Nuggett	Greenish-yellow	Semicling	Medium	Medium	Slightly acid	Large	Round-ovate	Spreading	Vigorous	Heavy infestation of bacterial leafspot.
Oriole	Yellow	Almost cling	Coarse	Medium tender	Slightly acid	Medium	Round-ovate	Upright	Vigorous	High percent of split pits.
Osage	Greenish-white	Cling	Fine	Firm	Sweet, flat	Small	Round	Spreading	Vigorous	Foliage and fruit heavily infested with bacterial leafspot.
Ozark-S	Lemon-yellow	Free	Medium coarse	Firm	Sweet, slightly dry	Medium	Round-ovate	Upright	Vigorous	Severe bacterial leafspot on foliage; flavor good.
Ozark-B	Lemon-yellow	Free	Coarse	Firm	Sweet	Medium	Round-ovate	Upright	Vigorous	Fruit slow to color, a bit dull.
Panamint[2]	Orange-yellow	Free	Medium	Firm	Sweet, slightly dry	Very small	Round	Spreading	Vigorous	
Perfect Hale	Yellow	Free	Medium	Firm	Sweet, slightly dry	Large	Round	Upright	Vigorous	Afterglow is more productive.
Philp[2]	Yellow	Mostly free	Medium coarse	Medium	Sweet, slightly dry	Medium	Round	Upright	Weak	
Philip	Yellow	Cling	Fine	Firm	Sweet	Medium	Round	Upright	Weak	Fruit color good.
Pioneer[3]	Yellow	Mostly free	Medium fine	Tough	Slightly astringent	Medium	Round	Upright	Medium	Flesh tough; foliage and fruit susceptible to bacterial leafspot.

free fine astringent

TABLE I. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57 — Continued

Variety	Flesh				Fruit			Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Poppy	Yellow	Semicling	Medium	Firm	Sweet	Medium	Round	Upright	Medium	Good flavor; ripens with Redskin and Veteran.
Prairie Clipper	Yellow	Free	Coarse	Firm	Very astringent	Large	Round	Spreading	Vigorous	A good market fruit if production were greater.
Prairie Dawn	Yellow	Cling	Coarse	Tender	Sweet	Medium large	Round	Spreading	Vigorous	Cannot compete with Dixigem.
Prairie Daybreak	Yellow	Free	Medium coarse	Medium	Sweet, slightly flat	Medium	Obovate	Spreading	Vigorous	Large percent split seed; slow to color.
Prairie Rambler	Yellow	Mostly free	Coarse, stringy	Firm	Slightly astringent	Large	Truncate	Upright	Vigorous	Many good varieties for the season.
Prairie Rose	Yellow	Semicling	Coarse	Medium	Sweet, slightly flat	Medium	Round	Spreading	Vigorous	Has to compete with Dixigem.
Prairie Schooner	Yellow	Mostly free	Medium	Medium	Acid	Medium	Ovate	Spreading	Vigorous	Scarlet Elberta and Redcrest preferred.
Prairie Sunrise	Yellow	Cling	Medium coarse	Tender	Astringent	Large	Round	Spreading	Vigorous	Cardinal earlier and preferred.
Quetta[2]	White	Cling	Coarse	Medium	Very sweet	Medium	Round	Upright	Medium	Skin very tough; seed slightly coarse.
Ranger	Yellow	Free	Medium	Firm	Sweet, slightly dry	Medium	Round-ovate	Upright	Vigorous	Very variable as to time of ripening.
Raritan Rose	White	Free	Medium	Medium	Sweet, slightly dry	Medium	Ovate	Upright	Vigorous	Good for local markets.
Redcap	Yellow	Cling	Medium	Medium firm	Slightly acid	Medium	Round	Upright	Medium	Good variety to follow Cardinal.
Redchief[2]	Greenish-white	Free	Fine	Medium	Sweet	Medium	Round	Upright	Medium	
Redcrest	Greenish-yellow	Free	Medium coarse	Medium firm	Slightly acid, dry	Medium	Ovate	Spreading	Vigorous	Competes with Goldeneast and Scarlet Elberta.
Redglobe	Yellow	Free	Medium	Firm	Sweet	Medium small	Round	Spreading	Medium	Fruit colors early; flesh crisp.
Redhaven	Yellow	Free to semicling	Medium fine	Firm	Sweet	Medium	Round to truncate	Spreading	Medium	Requires heavy thinning to size fruit.
Red Rocket	Yellow	Free	Medium coarse	Medium	Sweet, slightly dry	Medium	Truncate	Spreading	Medium	Tree growth like Golden Jubilee.
Redrose	Greenish-white	Free	Fine	Medium	Acid	Medium small	Truncate	Spreading	Medium	Flesh flavor and appearance poor.
Redskin	Yellow	Free	Medium	Medium firm	Slightly astringent	Medium	Round-truncate	Spreading	Medium	Is earlier and more productive than Elberta.
Rio Oso Gem[1]	Yellow	Free	Fine	Firm	Sweet	Medium	Truncate	Upright	Medium	Did not perform here as reported in TAES B-687. Slow to color, ripens during part of Elberta season.
Rio Oso Gem[1]	Yellow	Free	Fine	Firm	Sweet	Medium	Truncate	Upright	Medium	
Romance-B[1]	Yellow	Free	Medium	Medium firm	Slightly astringent	Medium	Truncate	Spreading	Vigorous	Flavor slightly acid and slightly astringent.
Romance-S[1]	Yellow	Free	Medium	Firm	Slightly acid	Medium	Truncate	Spreading	Vigorous	Yields too low for season.
Salberta	Yellow	Mostly free	Slightly coarse	Firm	Sweet	Medium	Round-ovate	Upright	Vigorous	Seed rather coarse; some radial cracks.
Sandhill No. 1	Yellow	Free	Medium coarse	Medium	Slightly astringent	Medium	Ovate	Spreading	Medium	Loring and Redskin better for season.
Scarlet Elberta	Yellow	Free	Medium	Firm	Sweet, slightly dry	Medium	Round	Spreading	Vigorous	Same as Redelberta as reported in TAES B-687.
Shinn's Delicious	Yellow	Free	Medium	Medium	Sweet	Medium small	Round	Spreading	Medium	Productive; but not for this section.
Shippers Late Red	Yellow	Free	Medium	Firm	Slightly astringent	Large	Round	Spreading	Vigorous	Lacks consistent production.

TABLE 1. DESCRIPTION OF PEACH VARIETIES TESTED, TYLER, 1949-57 — Continued

Variety	Flesh					Fruit		Tree		Notes
	Color	Adherence	Texture	Firmness	Eating quality	Size	Shape	Habit	Vigor	
Short	Yellow	Free	Coarse	Firm	Slightly astringent	Large	Round-ovate	Spreading	Vigorous	Of Elberta season.
Skibbe's Elberta	Yellow	Free	Slightly coarse	Firm	Sweet	Slightly small	Round-ovate	Spreading	Vigorous	Excellent flavor; Redskin preferred.
Southern Glow	Yellow	Free	Medium	Tender	Sweet, slightly flat	Medium	Round-ovate	Upright	Medium	Fruit fails to size under heavy load.
Southhaven (No. 20)	Yellow	Free	Medium	Medium	Slightly astringent	Large	Round	Upright	Vigorous	A week earlier than Southhaven.
Southland-B[1]	Yellow	Mostly free	Medium coarse	Medium	Sweet	Medium	Round-ovate	Upright	Vigorous	Triogem more dependable.
Southland-W[1]	Yellow	Mostly free	Medium coarse	Medium	Sweet	Medium	Round-ovate	Upright	Vigorous	Sunhigh also of same season.
Springtime	White	Cling	Coarse	Very tender	Watery, slightly acid	Small	Round-ovate	Spreading	Weak	Earliest of varieties in test.
Starking Delicious	Yellow	Mostly cling	Medium coarse	Medium	Slightly acid	Medium	Round-ovate	Spreading	Vigorous	Its high yields competes with Dixigem.
Stephenson	Yellow	Cling	Fine	Firm	Sweet	Large	Round	Spreading	Vigorous	Chilling requirements too high.
Stoner	White	Free	Fine	Medium	Sweet	Medium	Round-ovate	Spreading	Vigorous	Cannot compete with fruit of Elberta season.
Sullivan Early Elberta	Yellow	Free	Medium	Medium	Slightly astringent	Medium	Truncate	Spreading	Vigorous	July Elberta (Burbank) earlier and more productive.
Summercrest	Yellow	Free	Medium	Firm	Sweet, slightly dry	Medium	Elliptical	Spreading	Vigorous	Consistent yielder; color slightly dull.
Summerrose	Greenish-white	Free	Fine	Medium	Sweet	Medium large	Truncate	Spreading	Vigorous	Good flavor; colors well.
Sunday Elberta	Yellow	Free	Medium	Firm	Sweet	Medium small	Truncate	Spreading	Vigorous	Of Elberta season; fruit not as large.
Sun Glo	Yellow	Free	Medium	Tender	Sweet	Extra large	Round	Spreading	Vigorous	Fruit bruises easily, color dull.
Sunhigh	Yellow	Semicling	Medium	Firm	Sweet, slightly dry	Medium large	Round-ovate	Upright	Vigorous	Ranger of same season and free of bacterial leafspot.
Texaberta	Yellow	Free	Coarse	Firm	Dry, slightly astringent	Large	Round-ovate	Spreading	Medium	Is not consistent in production.
Triogem	Yellow	Mostly free	Medium	Medium	Sweet	Medium large	Round-ovate	Spreading	Vigorous	Good flavor, attractive color for season.
Tulip	Yellow	Cling	Slightly coarse	Medium	Astringent	Medium	Round-ovate	Spreading	Vigorous	Of Redcap and Coronet season.
Vedette	Yellow	Semicling	Medium	Firm	Sweet to slightly flat	Medium	Round	Spreading	Vigorous	A good variety to precede the Elberta season.
Ventura	Yellow	Mostly free	Fine	Firm	Slightly acid	Medium	Round	Upright	Medium	Is not as productive as July Elberta (Burbank).
Veteran	Yellow	Free	Medium	Firm	Sweet	Medium large	Round	Upright	Vigorous	Flavor excellent; colors early.
Western Pride	Yellow	Free	Medium fine	Firm	Sweet	Medium large	Round-ovate	Upright	Vigorous	Identical to if not July Elberta (Burbank).
White Hale	White	Mostly free	Medium	Medium	Slightly tart and sour	Very large	Round	Upright	Medium	Many fruits 5 inches in diameter.
Wildrose	Greenish-white	Mostly free	Medium coarse	Medium	Sweet, slightly dry	Medium small	Round-ovate	Spreading	Medium	Raritan Rose is much better.
Wilma	Yellow	Free	Coarse	Medium	Slightly acid	Medium	Round	Spreading	Weak	No production on weak trees.
Yates Elberta	Yellow	Free	Medium	Firm	Slightly astringent	Medium	Round-ovate	Spreading	Vigorous	Severe damage to foliage by bacterial leafspot; fruit clean.

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date, main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[3]	Percent of good crops	Notes
Afterglow	750	Medium	Medium	3-1	3-11	8-7	149	1949	1951	9	6	Good	50	Michigold a bit later but preferred.
Albru	850	Light	Few	2-28	3-11	7-21	132	1949	1951	6	4	Poor	0	Yield too low.
Amador	850	Good	Medium	3-2	3-11	7-12	123	1949	1951	8	5	Good	20	Fruit attractive; tip long; objectionable.
Autumn	850	Good	Many	2-28	3-10	8-17	160	1949	1951	6	3	Fair	0	Michigold a bit earlier and more productive.
Best June	850	Medium	Medium	3-1	3-15	7-6	113	1949	1951	5	3	Fair	33	Too soft other than home use.
Best May	850	Light	Few	2-27	3-12	7-1	111	1949	1951	5	3	Poor	33	Yellow fleshed varieties of same season preferred.
Blazing Gold	750	Exceptional	Good	2-24	3-5	6-7	94	1952	1956	6	2	Very good	50	Productive but fruit too small; very susceptible to bacterial leafspot.
Bracket-B[4]	850	Light	Medium	2-28	3-9	7-22	135	1949	1951	9	6	Very good	50	Both selections of Brackett a few days earlier and outyielded Elberta.
Bracket-W[4]	850	Light	Medium	2-27	3-10	7-24	136	1949	1951	9	6	Good	50	
Bobolink	750	Good	Good	2-26	3-6	7-13	129	1952	1956	5	1	Very good	100	Fruit small after heavy thinning; susceptible to bacterial leafspot.
Boston Red[5]	850	Good	Many	2-28	3-9	7-11	124	1949	1951	8	5	Fair	40	Prolific; fruit small; flavor good.
Canadian Queen	850	Light	Few	3-1	3-11	7-21	132	1949	1951	5	3	Poor	0	Yield too low; fruit color dull.
Cardinal[4]	900	Good	Many	2-28	3-12	6-3	83	1949	1951	9	6	Good	17	Price of early, firm and well colored fruit makes up for light yields.
Cardinal[4]	900	Good	Good	3-1	3-11	6-8	89	1952	1956	6	2	Good	50	Many twins; heavy bird damage due to high color.
Cavalier[5]	950	Medium	Medium	2-28	3-8	8-5	150	1953	1956	4	1	Poor	0	Yield too low and ripens too late.
Charlotte	850	Light	Few	2-26	3-7	7-24	139	1949	1952	6	4	Poor	0	Excellent fruit but yields too low.
Cherryred	850	Good	Many	3-5	3-16	6-1	77	1949	1951	8	5	Fair	20	Fruit soft; poor flavor; low yields.
Chief	1,050	Light	Medium	3-9	3-18	7-29	133	1949	1951	8	4	Poor	0	A high chiller; excellent for pickling and preserves.
Chilow	850	Good	Many	2-27	3-7	8-1	147	1949	1951	9	6	Good	50	Frank a bit later but preferred.
Clark	850	Medium	Many	2-26	3-11	6-21	102	1949	1951	9	6	Good	67	Yields have been consistently good.
Coronet	750	Good	Good	2-23	3-6	6-13	99	1952	1956	6	2	Very good	50	Fruit very attractive; flesh color and flavor good.
Cumberland	850	Exceptional	Many	3-1	3-12	6-24	104	1949	1951	5	3	Poor	0	Performance disappointing.
Dixigem	850	Good	Many	3-1	3-12	6-17	97	1949	1951	9	6	Very good	67	One of the better early yellow peaches.
Dixiered	950	Good	Many	3-5	3-17	6-5	80	1949	1951	9	6	Fair	17	Cardinal or Redcap could replace Dixired.
Early East	1,050	Good	Many	3-3	3-14	6-4	82	1949	1951	9	6	Very good	50	A high percent of split pits; fruits rough.
Early Elberta (Gleason)	850	Medium	Light	2-27	3-9	7-19	132	1952	1956	6	2	Fair	50	Very susceptible to scab and bacterial leafspot.

[1]Estimated number of chilling hours below 45° F. necessary to reach full dormancy.
[2]Full bloom to main harvest.
[3]Average over entire period. [4]Trees obtained from different sources. [5]Nectarines.

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date, main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[3]	Percent of good crops	Notes
Early Elberta (Scott)		Good	Good	3-1	3-8	7-15	129	1952	1956	6	2	Very good	100	Same as Sandhill No. 1; regular Elberta preferred .
Early Elberta (Stacy)	850	Medium	Light	2-27	3-6	8-14	161	1952	1956	5	1	Very good	100	Ripens late; fruit small and dull.
Early Elberta (Stark)	850	Light	Medium	3-2	3-11	7-15	126	1949	1951	9	6	Good	33	Fruit soft, color poor, bad suture cracks.
Early Fair Beauty (Juneberta)	850	Medium	Light	3-2	3-8	7-3	117	1952	1956	5	1	Poor	0	Yield too low.
Early Flame[5]	950	Good	Medium	3-6	3-14	6-19	97	1949	1953	8	4	Poor	0	Excellent fruit characters; yield too light.
Early Halehaven	850	Medium	Medium	2-27	3-12	6-22	102	1949	1951	9	6	Good	17	Fruit attractive, slightly soft, flavor poor.
Early Profit	750	Light	Few	3-5	3-15	7-29	106	1949	1951	5	3	Poor	0	Yield too low.
Early Triogem	850	Good	Good	2-27	3-8	6-24	108	1952	1956	5	1	Very good	100	Same season as Triogem; fruit smaller.
Elberta-B[4]	850	Medium	Medium	2-28	3-10	7-27	139	1949	1951	9	5	Good	33	Neither of the Elberta selections have produced as consistenly and heavy as expected.
Elberta-K[4]	850	Medium	Medium	2-26	3-9	7-27	140	1949	1951	9	6	Fair	17	
Envoy	850	Good	Medium	2-27	3-8	6-30	114	1952	1956	6	2	Very goor	100	Fruit attractive; flavor good.
Fair Beauty	1,050	Good	Many	3-6	3-15	6-26	103	1949	1952	8	5	Fair	20	A high chiller; yields too light.
Fairhaven	850	Medium	Medium	3-1	3-12	6-27	107	1949	1951	9	6	Good	33	Fruit slightly soft, color poor, flesh slightly stringy.
Fallate	950	Medium	Medium	2-26	3-6	8-25	172	1952	1956	5	1	Very good	100	Fruit too late and too small.
Fertile Hale	850	Light	Medium	3-3	3-14	7-29	137	1949	1951	5	3	Poor	0	Fruit large, attractive, yield too low.
Fireball	850	Medium	Light	3-11	3-20	7-15	117	1955	1957	3	1	Poor	0	A shy producer; heavy infestation of bacterial leafspot.
Fireglow	750	Light	Few	3-4	3-15	7-3	110	1949	1951	5	3	Poor	0	Severe radical cracks on fruit.
Flamingo	750	Good	Good	2-28	3-7	8-4	150	1952	1956	5	1	Good	100	Fruit small; too late for this section.
Flaming Gold[5]	750	Good	Medium	3-5	3-15	7-13	120	1949	1951	8	4	Fair	0	Promising although yields light.
Frank	800	Good	Many	2-25	3-8	8-10	155	1949	1951	9	6	Very good	67	A late yellow cling that has proven itself.
French (No. 50)	850	Medium	Medium	3-3	3-12	7-29	139	1952	1956	6	2	Fair	0	Elberta season; severe bacterial leafspot on fruit and foliage.
Frost Queen	850	Exceptional	Good	3-1	3-9	8-25	169	1952	1956	5	1	Very good	100	Entirely too late for this section.
Fuzzless-Berta[5]	1,150	Light	Medium	3-5	3-14	8-5	144	1949	1951	6	3	Poor	0	A high chiller; severe radial cracks.
Garden State[5]	950	Poor	Poor	3-4	3-12	7-19	129	1952	1956	6	2	Poor	0	Ripens late; susceptible to bacterial leafspot.
Gemmers Late Elberta	750	Light	Few	3-1	3-14	7-31	139	1949	1951	5	3	Poor	0	Low yields; rough coarse fruit.
Globe Haven	1,050	Medium	Medium	3-2	3-12	7-5	115	1949	1951	9	6	Very good	50	A high chiller that has produced good yields.
Gold Dust	700	Exceptional	Good	2-27	3-7	6-5	90	1952	1956	6	2	Very good	50	Very susceptible to bacterial leafspot.
Golden Blush	850	Good	Good	2-27	3-7	7-29	144	1952	1956	6	2	Good	50	Ripens after Elberta; fruit attractive.
Goldeneast	1,050	Good	Medium	3-7	3-17	7-9	114	1949	1951	9	6	Very good	50	A high chiller but produces well.
Golden Elberta	950	Good	Many	3-4	3-11	7-20	131	1949	1951	8	5	Fair	20	An excellent yellow cling; yield

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Golden Elberta Clone[3] 950 Good Many 3-4 3-11 7-20 131 1949 1951 5 3 Fair 25 light.

TABLE 2.—PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date, main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[2]	Percent of good crops	Notes
Golden Jubilee	850	Good	Many	2-28	3-10	6-17	99	1949	1951	6	4	Fair	0	Suture soft before fruit ripe.
Gold Ray	850	Good	Good	3-2	3-9	6-9	112	1952	1956	5	1	Fair	0	Fruit identical to Golden Jubilee.
Goodcheer	850	Medium	Medium	2-23	3-4	6-26	114	1949	1951	6	4	Poor	0	Long coarse tip that bruises easily.
Halegold	850	Good	Good	2-29	3-9	7-29	142	1952	1956	6	2	Good	100	Very susceptible to bacterial leafspot; yield light for Elberta season.
Hale Harrison Brilliant	950	Light	Few	2-22	3-4	7-21	139	1949	1951	6	4	Poor	0	Trees very vigorous; no yields.
Halehaven	850	Medium	Medium	3-2	3-13	7-6	115	1949	1951	9	6	Fair	0	Has been disappointing in this test.
Hazel	850	Light	Few	3-1	3-12	7-20	130	1949	1951	6	4	Poor	25	Light yield.
Herb Hale	850	Good	Medium	3-5	3-16	7-7	113	1949	1951	9	6	Very good	33	Has performed better than Halehaven.
Hiland	750	Medium	Light	2-24	3-7	6-2	87	1952	1956	6	2	Fair	0	Fruits have coarse suture; breaks down easily with brown rot.
Hinner Hale	1,150	Poor	Poor	3-1	3-11	7-28	139	1952	1956	6	1	Poor	0	A high chiller; no fruit set in 1957.
Hobson	850	Good	Medium	3-1	3-11	7-11	122	1949	1951	8	5	Good	40	Too late for white-fleshed fruit.
Hon-ee-gold	950	Medium	Medium	2-26	3-6	8-16	163	1949	1951	6	4	Poor	0	Low yields, late.
Honeygem	850	Good	Good	2-22	3-3	8-4	154	1952	1956	6	2	Very good	100	A good producer; fruit small as compared to Frank and Afterglow.
Jerseyland	850	Medium	Many	2-27	3-11	6-12	93	1949	1951	9	6	Very good	67	A promising variety and gain-in in favor.
J. H. Hale	850	Light	Medium	3-1	3-12	7-22	132	1949	1951	6	4	Poor	0	Has everything but yield.
July Elberta (Burbank)	750	Medium	Many	3-1	3-11	7-1	112	1949	1951	9	6	Good	50	Still a good variety for season although susceptible to bacterial leafspot.
Kalhaven	950	Medium	Many	3-5	3-14	7-23	131	1949	1951	9	6	Very good	67	Slightly later than Veteran and does not size fruit as well.
Laterose	800	Good	Many	2-23	3-7	8-2	148	1949	1951	6	4	Fair	50	Too late for white-fleshed fruit.
Loring (S)[4]	850	Medium	Medium	2-27	3-7	7-15	130	1952	1956	6	2	Good	100	Fruit attractive; flavor good.
Loring(B)[4]	850	Good	Good	2-26	3-5	7-28	145	1952	1956	5	1	Fair	0	Is not same season as Loring from Paul Shepard.
Markberta	850	Light	Few	2-27	3-9	7-29	142	1949	1951	9	6	Good	50	Not better than Elberta.
Maybelle (N.J.)[4]	800	Good	Good	3-3	3-11	6-3	84	1952	1956	5	1	Very good	100	A good, early, white fleshed cling; flavor slightly tart.
Maybelle (B)[4]	800	Good	Good	3-2	3-11	6-5	86	1952	1956	5	1	Good	100	A good early, white fleshed cling; flavor slightly tart.
Maygold	650	Medium	Light	2-24	3-11	6-17	98	1955	1957	3	1	Poor	0	Fruit very attractive and well shaped.
Meadow Lark	650	Good	Good	2-23	3-3	6-19	108	1952	1956	5	1	Very good	100	Fruit does not size with heavy thinning.
Melba	850-900	Good	Many	3-1	3-11	6-24	105	1949	1951	8	5	Good	60	Excellent white variety for home use.
Merrill Beauty	850	Light	Light	3-1	3-9	6-7	90	1952	1956	5	1	Poor	0	Shy bearer; fruit extra large, soft.

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[2]	Percent of good crops	Notes
Merrill Brilliant	850	Medium	Medium	3-4	3-10	6-9	91	1952	1956	5	1	Good	100	Fruit and flesh appearance not pleasing.
Merrill Dandy	850	Medium	Light	3-1	3-8	7-1	115	1952	1956	6	2	Fair	0	Light yields, fruit rough with poor color.
Merrill Fiesta	850	Medium	Light	3-3	3-12	10-13	215	1953	1956	5	2	Poor	0	Yield is too light and ripens too late.
Merrill Gem	850	Medium	Light	3-4	3-11	6-7	88	1952	1956	6	2	Poor	0	Yield too low.
Merrill Gold Rush	850	Light	Light	2-28	3-5	7-1	118	1952	1956	5	1	Poor	0	Fruit very attractive but yield too low.
Merrill Hale	850	Medium	Medium	3-1	3-6	6-12	128	1952	1956	5	1	Good	100	Very susceptible to bacterial leafspot.
Merrill June	850	Light	Light	3-1	3-9	6-5	88	1952	1956	5	1	Poor	0	Flavor excellent; fruit slightly soft at tip.
Merrill Rodeo	850	Medium	Light	3-6	3-15	10-13	212	1953	1956	5	2	Poor	0	A shy producer of very late fruit.
Merrill Sunrise[5]	950	Medium	Light	3-2	3-10	6-9	91	1953	1956	5	2	Fair	50	Many twins; fruit very large and attractive.
Merrill Yellow King	850	Good	Good	3-1	3-8	8-14	159	1952	1956	6	2	Good	50	Later than Frank; Michigold or Afterglow preferred.
Merrill 49'er	850	Medium	Medium	2-27	3-8	7-27	141	1952	1956	6	2	Fair	0	Yields too light for Elberta season.
Michigold	850	Good	Many	3-1	3-9	8-12	156	1949	1951	9	6	Good	50	Of Frank season and a good Yellow Freestone to follow Elberta.
Missouri	950	Light	Light	3-4	3-12	6-23	103	1952	1956	6	2	Good	50	A high chiller; fruit not too attractive and soft.
Montopolis	850	Light	Few	2-21	3-5	7-24	141	1949	1951	6	4	Fair	50	Inconsistent yields; too late for a white-fleshed peach.
Nectacrest[5]	850	Medium	Light	3-2	3-11	8-8	150	1952	1956	5	1	Poor	0	Ripens too late but free of bacterial leafspot.
Nectaheart[5]	850	Medium	Medium	3-1	3-9	8-4	148	1952	1956	5	1	Fair	0	Ripens too late for this section.
Nectalate[5]	850	Medium	Medium	3-1	3-7	8-25	171	1952	1956	5	1	Good	100	Fruit too small and too late for this section.
Nectarose[5]	850	Medium	Medium	3-2	3-9	8-1	145	1952	1956	5	1	Poor	0	Boston Red earlier and preferable.
Nectar (B)	1,050	Light	Poor	3-3	3-11	7-14	125	1952	1956	6	2	Poor	0	A high chiller; fruit too soft for commercial trade.
Newday	750	Medium	Medium	2-24	3-8	6-23	107	1949	1951	9	6	Good	33	Dixigem a week earlier and more productive.
Nuggett	850	Good	Good	3-1	3-9	7-5	117	1952	1956	6	2	Very good	100	Fruit extra large but slightly rough with some suture cracks.
Oriole	850	Good	Many	3-9	3-19	6-21	94	1949	1951	5	3	Poor	0	Triogem of same season and much preferred.
Osage	950	Medium	Medium	2-25	3-15	8-3	110	1955	1957	3	1	Poor	0	Flesh very firm; production too low.
Ozark (S)	850	Medium	Light	3-1	3-11	7-29	140	1952	1956	6	2	Fair	0	Yield is too light for Elberta season.
Ozark (B)	850	Medium	Medium	2-28	3-10	7-22	134	1952	1956	6	2	Fair	50	Yield is too light for Elberta season.
Panamint[5]	700	Exceptional	Exceptional	2-21	3-1	7-19	140	1952	1956	5	1	Very good	100	Fruit too small for commercial trade.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Low yields; late.

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[3]	Percent of good crops	Notes
Philp[5]	900	Light	Light	3-9	3-27	8-4	130	1952	1956	5	1	Poor	0	Fruit rough and ripens late.
Philip	850	Poor	Poor	3-2	3-9	8-25	169	1952	1956	5	1	Poor	0	Very late; also susceptible to bacterial leafspot.
Pioneer[5]	800	Light	Light	3-1	3-11	7-22	133	1952	1956	6	2	Poor	0	One of the better nectarines; production low.
Poppy	850	Medium	Light	2-23	3-3	7-17	136	1952	1956	6	2	Fair	50	Many rough fruits; flavor good.
Prairie Clipper	850	Light	Few	2-23	3-6	7-23	139	1949	1951	6	4	Poor	25	Seed coarse; high percent splits.
Prairie Dawn	850	Medium	Medium	3-7	3-17	6-15	90	1949	1951	5	3	Poor	0	Flavor excellent; fruit too soft.
Prairie Daybreak	850	Medium	Medium	2-26	3-7	6-8	93	1949	1951	6	4	Good	50	Fruit rough; tip long and soft.
Prairie Rambler	850	Light	Medium	2-24	3-7	7-28	143	1949	1951	5	3	Poor	0	Very susceptible to bacterial leafspot; severe radial cracks.
Prairie Rose	850	Light	Few	3-1	3-11	6-14	95	1949	1951	5	3	Poor	0	Yield too low.
Prairie Schooner	850	Light	Few	3-7	3-15	7-9	116	1949	1951	5	3	Poor	0	Fruit resembles Golden Jubilee; soft on suture.
Prairie Sunrise	850	Light	Medium	2-23	3-6	6-5	91	1949	1951	6	4	Poor	0	Yield too low.
Quetta[5]	1,050	Light	Few	2-28	3-12	7-12	122	1949	1951	6	3	Poor	0	Boston Red of same season and preferred.
Ranger	950	Exceptional	Many	3-6	3-17	6-26	101	1949	1951	9	6	Very good	50	Production consistent although a high chiller.
Raritan Rose	950	Exceptional	Many	3-5	3-16	6-20	96	1949	1951	8	5	Good	60	An excellent white variety but of Dixigem season.
Redcap	750	Good	Good	3-2	3-9	6-9	92	1953	1956	5	2	Good	50	Some twins; fruit attractive and of good flavor.
Redchief[5]	1,050	Medium	Light	2-28	3-7	8-8	154	1953	1956	4	1	Poor	0	Yield too low and ripens too late.
Redcrest	850	Good	Many	2-24	3-5	7-11	128	1949	1951	9	6	Very good	67	Fruit sizes well but color a bit dull.
Redglobe	850	Light	Light	2-27	3-13	7-8	117	1955	1957	3	1	Poor	0	Fruit well colored and firm.
Redhaven	850	Good	Many	3-4	3-15	6-17	94	1949	1951	9	6	Good	67	Dixigem of same season and sizes fruit better.
Red Rocket	950	Light	Poor	2-26	3-8	7-13	127	1952	1956	6	1	Fair	50	A high chiller; trees moderately weak.
Redrose	850	Good	Many	2-25	3-6	6-30	116	1949	1951	6	4	Fair	0	Flesh greenish-white; does not size.
Redskin	800	Medium	Many	2-27	3-8	7-19	133	1949	1951	9	6	Very good	67	A yellow freestone that is gaining in favor.
Rio Oso Gem[4]	850	Good	Many	3-2	3-12	7-30	140	1950	1953	8	4	Good	0	Trees weak; fruit does not size well.
Rio Oso Gem[4]	850	Good	Good	2-28	3-9	7-29	142	1952	1956	6	2	Fair	50	Trees lack vigor; fruit does not size as desired.
Romance (B)[4]	950	Good	Good	2-26	3-8	7-29	143	1952	1956	6	2	Good	50	Of Elberta season and not as productive.
Romance (S)[4]	950	Medium	Medium	2-26	3-9	7-23	136	1952	1956	6	2	Poor	0	A high chiller; foliage heavily infested with bacterial leafspot.
Salberta	850	Light	Medium	2-25	3-8	8-11	156	1949	1952	6	4	Fair	25	Michigold much preferred.
Sandhill No. 1	850	Light	Light	3-3	3-12	7-17	127	1953	1956	5	2	Poor	0	A shy producer; susceptible to bacterial leafspot.
Scarlet Elberta	850	Medium	Medium	2-26	3-9	7-10	123	1949	1951	9	6	Very good	67	Yields have been good; fruit color a bit dull.
Shinn's Delicious	750	Good	Good	2-26	3-6	6-24	110	1952	1956	6	2	Very good	100	Very susceptible to scab and bacterial leafspot.

TABLE 2. PERFORMANCE OF PEACH VARIETIES, TYLER, 1949-57—Continued

Variety	Cold requirement[1]	Density of Fruit buds	Density of Flowers	Av. bloom date First	Av. bloom date Full	Av. date, main harvest	No. of days[2]	Year planted	First bearing season	No. years In test	No. years Fruiting	Size of crop[3]	Percent of good crops	Notes
Shippers Late Red	850	Medium	Medium	3-1	3-13	7-21	134	1949	1951	6	4	Fair	50	Did not show to advantage in this test.
Short	850	Light	Few	2-25	3-8	7-28	142	1949	1951	6	4	Poor	0	Yield much less than Elberta.
Skibbe's Elberta	850	Light	Few	2-23	3-10	7-17	129	1949	1951	5	3	Poor	0	Fruit small, flesh coarse and stringy.
Southern Glow	850	Medium	Medium	2-23	3-6	6-27	113	1952	1956	6	2	Very good	50	Fruit soft, watery; color dull.
Southhaven No. 20	900	Light	Light	3-2	3-10	6-24	106	1952	1956	5	1	Poor	0	Fruit set too light; color poor.
Southland—B[4]	750	Medium	Medium	2-20	3-3	6-23	112	1949	1951	6	4	Poor	0	Has low chilling requirement but failed to produce satisfactory yields.
Southland—W[4]	750	Medium	Medium	2-22	3-6	6-20	106	1949	1951	6	4	Poor	25	
Springtime	600	Good	Medium	2-26	3-8	5-18	71	1953	1956	5	2	Fair	0	Very susceptible to bacterial leafspot.
Starking Delicious	800	Good	Many	3-3	3-13	6-14	93	1949	1951	9	6	Very good	67	Of Dixigem season; dependable.
Stephenson	1,050	Light	Few	3-7	3-17	7-29	134	1949	1951	5	2	Poor	0	Fruit characters excellent but yield too low.
Stoner	750	Good	Medium	3-1	3-8	7-28	142	1952	1956	5	1	Very good	100	White flesh not accepted by commercial trade.
Sullivan Early Elberta	850	Good	Many	3-1	3-10	7-10	122	1949	1951	9	6	Good	50	Slightly susceptible to bacterial leafspot.
Summercrest	950	Medium	Many	3-3	3-12	7-20	130	1949	1951	9	6	Very good	50	A steady high yielder; fruit color a bit dull.
Summerrose	750	Good	Many	2-25	3-7	7-1	116	1949	1951	6	4	Fair	50	An excellent white variety.
Sunday Elberta	850	Good	Many	2-28	3-8	7-25	139	1949	1951	6	4	Fair	25	Very heavy thinning required to size fruit moderately.
Sun Glo	900	Medium	Medium	3-9	3-19	7-23	126	1949	1951	5	2	Poor	0	Fruit extra large; flavor excellent.
Sunhigh	750	Light	Medium	2-26	3-7	6-25	110	1949	1951	9	6	Very good	50	Foliage very susceptible to bacterial leafspot; most fruit clean.
Texaberta	850	Light	Medium	2-24	3-5	7-21	138	1949	1951	6	4	Fair	0	Does not perform well in East Texas.
Triogem	850	Good	Many	3-3	3-12	6-22	102	1949	1951	9	6	Good	50	Dependable; fruit sizes well but color a bit dull.
Tulip	950	Medium	Light	3-6	3-11	6-11	92	1952	1956	6	2	Fair	50	A high chiller; fruit sizes well under heavy load.
Vedette	1,050	Good	Many	3-5	3-15	7-5	112	1949	1951	9	6	Very good	83	Very dependable but requires thinning.
Ventura	750	Good	Good	2-18	3-1	7-1	122	1952	1956	6	2	Good	100	Fruit firm and attractive; very susceptible to bacterial leafspot.
Veteran	1,050	Medium	Medium	3-9	3-18	7-17	121	1949	1951	9	6	Very good	67	A high chiller that is profitable.
Western Pride	750	Good	Medium	2-27	3-9	7-1	114	1949	1951	9	6	Very good	83	Must be heavily thinned to obtaine size.
White Hale	900	Light	Medium	2-28	3-12	8-2	143	1949	1951	6	4	Fair	0	A high chiller; fruit extra large.
Wildrose	750	Good	Many	2-20	3-4	6-23	111	1949	1951	6	4	Fair	50	Yield too light for a white-fleshed peach.
Wilma	850	Light	Few	3-9	3-19	7-15	118	1949	1951	5	3	Poor	0	Low yields; performance disappointing.
Yates Elberta	850	Medium	Medium	2-27	3-9	7-29	142	1952	1956	6	2	Fair	50	Yield too light for Elberta sea-

TABLE 3. WINTER AND SPRING TEMPERATURES AFFECTING PEACH CROP AND BLOOM DATE, TYLER, 1948-57

Year	Average monthly temperatures					Av. temp. Oct.-Feb.	Last killing frost in spring	Last injurious freeze	Average date full bloom of varieties listed in performance Tables 1 and 2
	Oct.	Nov.	Dec.	Jan.	Feb.				
1948-49	67.2	57.1	53.5	46.0	53.1	55.4	Feb. 28—32°	Feb. 2—22°	
1949-50	67.1	60.4	53.0	54.2	56.0	58.1	Mar 14—27°	Mar. 14—27°	
1950-51	70.6	56.0	48.3	49.0	50.6	54.9	Mar 14—30°	Mar. 13—27°	Mar. 16—all 96 varieties.
1951-52	68.8	54.2	52.5	56.0	55.4	57.4	Mar. 28—32°	Feb. 17—27°	Apr. 12—68 varieties out of possible 96 reached full bloom.
1952-53	63.2	55.2	47.9	50.0	49.2	53.1	Feb. 23—32°	Feb. 22—24°	Mar. 10—All 96 varieties.
1953-54	69.0	54.6	46.0	48.2	55.0	54.6	Mar. 15—30°	Mar. 14—27°	Mar. 1—All 146 varieties.
1954-55	70.3	56.2	50.0	46.3	48.4	54.2	Mar. 28—32°	Mar. 27—24°	Mar. 10—All 121 varieties.
1955-56	67.2	55.1	49.2	47.1	52.4	54.2	Mar. 8—27°	Mar. 8—27°	Mar. 11—All 120 varieties.
1956-57	69.7	52.7	52.1	45.7	56.0	55.2	Mar. 8—24°	Mar. 8—24°	Mar. 18—All 84 varieties.
Average	68.1	55.7	50.3	49.2	52.9				

The yields of 1952 were included. The year 1955, with its complete freeze-out, was not used in the averages.

The method used to express the "size of crop" was determined after considering the number of varieties that had produced what are normally considered profitable crops in East Texas. Where the yield per tree over the period of production averaged as much as 3 bushels or more of marketable fruit it was expressed as "very good." An average yield of 2 to 3 bushels per tree was expressed as "good." "Fair" represented an average yield per tree of 1 to 2 bushels, while a yield of less than a bushel per tree was considered "poor."

The data for the column "percent of good crops" in Table 2 were determined by using the yields normally expected in this area for the first fruiting season of a young tree and increasing the amount each year following until the production began to level off. The expected yields used in this report are: first fruiting season, one-half bushel or more per tree; second season, 1½ bushels or more; and the third season, 3 bushels or more per tree. For the fourth and following seasons average yields of 4 bushels or more were considered good crops. The total of the seasons meeting these production requirements was divided by the number of fruiting years, resulting in an expression of the percentage of good crops during the time a variety was under test.

The prolificacy of a variety was determined by the amount of fruit on the tree at the time of thinning. With this method, a variety might be prolific yet show low yields of marketable fruit, which might be due to any of the following reasons: Preharvest injury by insects or diseases, failure of the fruit to size after thinning, or an extremely late ripening season. A number of late varieties are prolific and produce a heavy yield of fruit, but because of unfavorable soil moisture conditions and repeated attacks from insects and diseases, the recorded yields of marketable fruit are usually "poor." The results of this test indicate that in most years the soil moisture supply is adequate to mature the fruit of varieties immediately following the Elberta season. Further, a high percentage of the fruit of these varieties is free of stinkbug and peach scab damage and does not require an additional application of spray materials. Varieties that are later than Frank require an additional spray and in most years fail to size the fruit because of unfavorable soil moisture conditions.

EFFECT OF TEMPERATURE AND RAINFALL ON PRODUCTION AND QUALITY

Temperatures prevailing during the winter largely determine the success of the following crop and fruit. Extreme minimum temperatures have not been sufficient to kill trees by freezing the root system in this area. A damage known as "winter-injury" occurs to the trunk and portions of the main frame limbs in some years. The damage is caused by excessively prolonged high temperatures during January or February which break the rest period of the tree, followed by a sudden drop in temperature to near 0° F. or less.

To promote full dormancy of the tree and to avoid prolonged dormancy at bloom time, an average temperature of 54° F. or less is required during October through February. Another means of determining if the chilling requirement has been sufficient is to record the number of hours of 45° F. or below obtained during the period. Varieties vary in their cold requirements for flower and leafbuds as shown by Weinberger (25). Furthermore, there is a wide variation between varieties as evidenced by Maygold with a cold requirement of 650 hours as compared with Mayflower with 1,050 hours of 45° F. or less required for development of their flowerbuds.

TABLE 4. HOURS OF 45° F. OR LESS, PER MONTH FOR THE WINTERS, TYLER, 1948-57

Season	Oct.	Nov.	Dec.	Jan.	Feb. 1-15	Total Oct. 1-Feb. 15
1948-49	0	166	279	469	189	1103
1949-50	22	66	261	291	162	802
1950-51	0	204	356	330	199	1089
1951-52	5	255	303	236	59	858
1952-53	92	227	443	295	119	1176
1953-54	9	176	432	339	70	1026
1954-55	14	92	256	357	183	902
1955-56	18	251	335	425	210	1239
1956-57	3	219	218	421	17	878
Annual average						1008

Table 3 shows the behavior of the varieties listed in Tables 1 and 2, as influenced by the average temperature for the winter. Table 4 also shows the number of hours of 45° F. or less recorded during the period of October 1 to February 15.

The average temperature of 54.9° F. during the winter of 1950-51 produced prolonged dormancy effects on a number of varieties even though 1,089 hours of 45° F. or less were recorded. This was further evidenced by the late full bloom of March 16. Considerable bloom thinning was caused by the temperature of 27° F. on March 13.

The season of 1951-52 produced costly damage from prolonged dormancy following an average winter temperature of 57.4° F. which included 858 hours of 45° F. or less. Of 96 varieties, only 68 reached full bloom which was April 12, a month later than normal. The minimum temperature of 32° F. on March 28 did not cause any appreciable damage.

A total of 1,176 hours of 45° F. or less during the winter of 1952-53, with an average winter temperature of 53.1° F. resulted in heavy fruit set. All 96 varieties reached an average full bloom on March 10. The last injurious freeze occurred February 22.

An early bloom season was experienced during 1953-54 as 956 hours of 45° F. or less were obtained by the end of January which was sufficient to break dormancy for most varieties. The average winter temperature was 54.6 degrees. The average full bloom date was March 1 for all 146 varieties. Minimum temperatures of 27 and 30 degrees on March 14 and 15, respectively, caused heavy loss of fruit.

The 1954-55 season had an average winter temperature of 54.2° F. and a total of 902 hours of 45° F. or less. The average date of full bloom for all 121 varieties was March 10. A complete freeze-out of all fruit followed the extreme minimum temperatures of 28°, 23° and 24° F. on March 25, 26 and 27, respectively. An average temperature of 54.2° F. was recorded during the winter of 1955-56 along with 1,239 hours of 45° F. or less. Although 1,029 of these had passed by the end of January, sufficient cold prevailed during February to prevent an early bloom. The average full bloom date for all 120 varieties was

TABLE 5. EFFECT OF LATE FROST AND COLD ON YIELD OF SELECTED VARIETIES, TYLER

Variety	Yield after late frost				Yield without late frost				Effect of late frost on yield
	1951	1954	1956	Av.	1952	1953	1957	Av.	
Date of last killing frost	3-13	3-14	3-8		2-17	2-22	3-8		
	Pounds per tree								Percent
Afterglow	12	36	215	87.7	28	173	308	169.7	51.7
Brackett-B	12	14	289	105.0	4	223	392	206.3	50.9
Brackett-W	11	60	243	104.7	2	222	264	162.7	64.4
Cardinal	3	140	118	87.0	1	107	267	125.0	69.6
Chilow	27	50	155	77.3	21	160	278	153.0	50.5
Clarkhaven	32	212	202	148.7	17	94	272	127.7	116.4
Dixigem	49	78	209	112.0	33	152	405	196.7	56.9
Dixired	14	80	48	47.3	1	105	264	123.3	38.4
Early East	36	175	267	159.3	41	88	400	176.3	90.4
Early Elberta (Stark)	5	54	391	150.0	3	91	215	103.0	145.6
Early Halehaven	18	163	189	123.3	11	76	303	130.0	94.8
Elberta-B	1	43	236	93.3	0	92	248	113.3	82.3
Elberta-K	12	42	210	88.0	0	77	169	82.0	107.3
Fairhaven	13	59	238	103.3	2	131	469	200.7	51.5
Frank	59	24	249	110.7	73	254	325	217.3	50.9
Globehaven	45	169	289	167.7	28	119	344	163.7	102.4
Goldeneast	15	164	304	161.0	2	286	252	180.0	89.4
Halehaven	9	184	121	104.7	8	86	184	92.7	112.9
Herb Hale	18	147	249	138.0	4	126	407	179.0	77.1
Jerseyland	32	212	337	193.7	19	110	346	158.3	122.4
July Elberta (Burbank)	40	80	333	151.0	42	136	264	147.3	102.5
Kalhaven	36	110	215	120.3	2	260	455	239.0	50.3
Markberta	17	42	218	92.3	8	272	311	197.0	46.8
Michigold	11	3	262	92.0	18	191	312	173.7	53.0
Newday	27	14	293	111.3	30	120	162	104.0	107.0
Ranger	21	204	79	101.3	4	204	468	225.3	45.0
Redcrest	30	1	303	111.3	3	264	409	225.3	49.4
Redhaven	28	88	233	116.3	1	194	338	177.7	65.4
Redskin	60	11	259	110.0	48	245	332	208.3	52.8
Rio Oso Gem	0	117	185	100.7	0	61	180	80.3	125.4
Scarlet Elberta	36	30	319	128.3	6	219	373	199.3	64.4
Starking Delicious	38	187	319	181.3	56	202	356	204.7	88.6
Sullivan's Elberta	23	7	341	123.7	8	151	216	125.0	99.0
Summercrest	22	151	319	164.0	14	243	458	238.3	68.8
Sunhigh	44	7	334	128.3	66	127	331	174.7	73.4
Triogem	49	135	194	126.0	12	172	294	159.3	79.1
Vedette	35	301	346	227.3	6	200	423	209.7	108.4
Veteran	5	318	238	187.0	1	238	346	195.0	95.9
Western Pride	41	75	422	179.3	75	210	428	237.7	75.4

March 11. The last injurious freeze of 27° F. occurred on March 8 and caused considerable loss in orchards with improper air drainage.

The 1957 crop had a narrow escape from prolonged dormancy through the Tyler-Gilmer area while Jacksonville growers experienced an almost complete failure. The average temperature for the 1956-57 winter was 55.2° F. and a total of 878 hours of 45° F. or less was recorded at the Tyler station. March 18 was the average date of full bloom for all 84 varieties. A low chiller, Maygold, was in full bloom March 11, Elberta in full bloom March 18, and Ranger, Veteran and Goldeneast all high chillers did not reach full bloom until March 31.

Late frosts in the spring during or following the bloom period are instrumental, and in some seasons entirely responsible, in determining the final amount of fruit produced any 1 year. For instance, the average temperature for the winter of 1954-55 was 54.2° F. and the number of hours of 45° F. or less was 902, both considered adequate to produce a normal bloom of peach. A total of 121 varieties under test that year on the average attained full bloom on March 10 which was considered not too early as the average date of the last killing frost is March 14. Two cold periods occurred following full bloom. The first on March 21 and 22 with minimum temperatures of 33° and 28° F. Examination of fruit and late blooms showed an approximate loss of 10 percent. On March 25, a second cold period followed with high cold dry winds reducing the temperature to 28° F. Heavy frosts on the mornings of March 26-28 were produced by minimum temperatures of 23°, 24° and 32° F., respectively. These extremely low temperatures killed all fruit for 1955.

Data for 1955 were not included in Table 5 which shows the effect of late frosts on the yield of 39 varieties grown in the test continuously during 1949-57. During the test, late spring frosts occurred in 1951, 1954, 1955 and 1956. During the 1951 season the first crop was allowed to set as the trees were in their third growing year in the orchard.

The effectiveness of late frosts was gaged on a minimum of 27° F. since 28° F. ordinarily is not severe enough to kill young fruit protected by floral parts. The relation of the time frost occurred to the stage of bloom was another factor considered. For instance in 1951, 27° F. on March 13, 3 days before the average full bloom date, was more injurious than 24° F. on March 8, 1957, when the average full bloom was not until March 18.

Yield data for 1952 are shown in Table 5 primarily to stress the effect of prolonged dormancy or delayed foliation as a result of insufficient cold during the preceding winter. The average temperature for October 1951 through February 1952 was 57.4° F. and only 858 hours of 45° F. or below were recorded. The average yield for the 4-year-old trees in 1952 was considerably less than that of the 3-year-old trees in 1951. In most instances the low yields of 1952 were largely responsible for 10 of the 39 varieties listed in Table 5 having a higher average yield during the years with late frosts than for those when frosts were not considered as affecting the crop. Yields of 29 varieties during years having late frosts ranged from 38.4 to 99.0 percent of the yields for years without late frosts. These figures are reliable only within limits but indicate differences in ability to produce in spite of the frost hazard.

The distribution of rainfall at Tyler usually is sufficient to provide the soil moisture required during the growing season to produce tree growth and fruit buds, and to size the fruit adequately for the market, Table 6. This has been especially true for the varieties ripening before and during the Elberta season. The summer of 1956 proved an exception because of an inadequate supply of subsoil moisture following a period of 7 months, October 1955 through April 1956, with less than normal rainfall. A total of 2.54 inches during June and July was not sufficient to produce optimum size of Elberta fruit. A large number of trees growing in heavy clays not only failed to size fruit, but also died before effective rains were obtained. In some years, such as 1948, 1954 and 1956, low rainfall during summer was not sufficient to properly size the fruit of the Frank, Rio Oso Gem and Autum varieties, or those ripening after the Elberta season.

Excessive rainfall, as experienced in May 1948, 1950, 1953 and 1957, and July 1949 and 1953, makes it difficult to maintain a good spray schedule and to provide an effective lasting coverage of fruit with spray materials. The surplus soil moisture at the end of harvest tends to promote additional new growth and heavy foliage

TABLE 6. MONTHLY AND ANNUAL RAINFALL IN INCHES, TYLER, 1948-57

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1948	3.66	3.24	3.29	3.09	8.08	.90	.25	.41	1.23	1.28	3.62	2.32	31.37
1949	9.25	2.10	3.54	5.37	4.21	2.95	10.11	2.43	.81	10.63	.38	3.31	55.09
1950	5.93	6.85	1.67	6.07	9.59	1.13	4.80	1.30	3.51	1.07	2.69	Tr.	44.61
1951	2.51	4.35	2.66	2.22	2.25	4.76	2.11	.20	5.46	2.26	2.89	2.64	34.31
1952	1.77	4.92	3.74	6.22	5.24	.97	2.53	Tr.	.62	.16	7.93	5.97	40.07
1953	1.77	1.77	4.97	3.87	7.60	1.70	9.22	2.21	1.89	2.31	2.94	5.09	45.34
1954	3.04	1.11	1.47	2.43	8.05	.77	.17	.10	.19	7.61	4.63	2.56	32.13
1955	2.13	4.08	4.19	4.37	4.18	2.49	3.65	8.74	2.73	.67	.34	1.56	39.13
1956	3.02	3.46	1.05	1.72	4.43	1.53	1.01	2.82	.68	2.47	4.90	1.41	28.50
1957	2.62	4.40	3.61	15.74	8.47	5.35	1.47	2.97	5.05	8.37	6.35	2.62	67.02

which provides ideal conditions for the development of infestations of scale insects. A post-harvest spray of a contact poison, such as parathion, is required under these conditions to prevent loss of many secondary and primary frame limbs and, in some instances, the entire tree.

GENERAL COMMENTS ON PEACH VARIETIES

Source

The sources from which materials was obtained for the work at the Tyler station are listed in Table 7 to assist the fruit grower in locating a supply of trees for any variety reported in this manuscript. This listing is made without prejudice of the merits of any source of the same material.

Planting material for commercial purposes is not available from either the State or Federal institutions that conduct fruit breeding work. They will supply a list of sources from which named varieties can be obtained.

At the conclusion of each discussion of individual varieties in this section is an abbreviated symbol indicating the nursery or source of each variety.

TABLE 7. SOURCE OF PEACH VARIETIES GROWN AT TYLER, 1949-57

Symbol	Name and address of nurseries and other sources
(AN)	Armstrong Nurseries, Ontario, California
(BRN)	Bountiful Ridge Nurseries, Princess Anne, Maryland
(CNC)	Carlton Nursery Company, Forest Grove, Oregon
(CN)	Champion Nurseries, Perry, Ohio
(C&ONC)	Columbia & Okanogan Nursery Company, Wenatchee, Washington
(FN)	Fowler Nurseries, New Castle, California
(FN-1)	Frankston Nursery, Frankston, Texas
(GN)	Greening's Nursery, Monroe, Michigan
(HBN)	Harrison Bros. Nursery, Berlin, Maryland
(MN-1)	Markham's Nursery, Flora, Illinois
(MSFES)[1]	Missouri State Fruit Experiment Station, Mountain Grove, Missouri
(O.S.GPN)	O.S. Gray Pecan Nursery, Arlington, Texas
(PRF)	Peach Ridge Farms, Clemson, South Carolina
(RAN)	Ramsey's Austin Nursery, Austin, Texas
(SN)	Stahelin's Nursery, Bridgman, Michigan
(SBN)	Stark Bros. Nursery, Louisiana, Missouri
(SN-1)	Stribling's Nurseries, Merced, California
(TAN)	The Ackerman Nurseries, Bridgman, Michigan
(TGMO)	The Grant Merrill Orchards, Red Bluff, California
(TKN)	The Krider Nursery, Middlesbury, Indiana
(TNJPC)	The New Jersey Peach Council, Princeton, New Jersey
(TVN)	The Vienna Nursery, Vienna, Illinois
(U.S.PIS)[1]	United States Department of Agriculture, Plant Industry Station, Beltsville, Maryland
(U.S.HFL)[1]	United States Department of Agriculture, Horticultural Field Laboratory, Fort Valley, Georgia
(VAES)[1]	Virginia Agricultural Experiment Station, Blacksburg, Virginia
(WN)	Waynesboro Nurseries, Waynesboro, Virginia

[1]These institutions do not supply trees for the commercial trade. They can advise as to source of supply of any variety they have introduced.

Varieties

Afterglow (N.J. 84). — Introduced commercially in 1938 by the New Jersey Station (M.A. Blake). It is a cross between J. H. Hale and New Jersey 27116 made in 1923 (9). The fruit is medium sized, firm and rather dark in color. The flesh is yellow, freestone and of good quality. It is 11 days later than Elberta. (TNJFC)

Albru (USPP 813[1]).—Originated in Port Clinton, Ohio, by Lawrence Satterfield (9). It is a bud mutation of J. H. Hale discovered in 1932. The freestone fruit is large and firm. The yellow flesh is coarse, tending to pull away from the large seed most years. It is 6 days earlier than Elberta and produced low yields at this station. (CN)

Amador. — A freestone with orange-yellow flesh was introduced to the commercial trade in 1942. It is a cross of Elberta x Ontario made by the U. S. Department of Agriculture at Palo Alto, California (9). The firm, round fruit is attractive and ripens 2 weeks earlier than Elberta. Redcrest and Scarlet Elberta of the same season were more productive. (WN)

Autumn (N.J. 145).—This yellow freestone was introduced in 1947 by the New Jersey Station. It is a cross of (J. H. Hale x Eclipse) x Late Crawford (9). In this test it ripened 3 weeks later than Elberta and produced only fair yields. (TNJPC)

Best June.—The white, freestone flesh is too soft for other than home orchards. It ripens in the Halehaven season or 3 weeks earlier than Elberta. The fruit color is dull and yields are low for its ripening season. (RAN)

Best May.—The trees provided for the studies at the Tyler station did not perform as previously reported (21). The date of ripening was almost a month later. The fruit was dull in appearance, the flesh semicling, and the production low. (RAN)

Blazing Gold (S-47-3).—This is an introduction of the Stribling's Nursery, Merced, California. It is an open-pollinated seedling of Kim (July) Elberta selected in 1947 (9). Like the majority of peach and nectarine varieties originating on the west coast, this variety proved very susceptible to bacterial leafspot. The trees were spreading and weak but set good crops. The attractive fruit ripened almost as early as Cardinal. Its yellow flesh had good flavor, but was more semicling some seasons than freestone. (SN-1)

Brackett.—It originated in 1912 at Augusta, Georgia, and was introduced by J. P. Berckmans (22). Trees were obtained from two sources for the test and each lot performed similarly. The yellow-fleshed, freestone fruit is very similar to Elberta but in this test ripened 3 to 4 days earlier.

[1]USPP—United States Plant Patent number.

The variety was more productive in this test than Elberta. A large, coarse seed is one of the main objections to the variety. (BRN) (WN)

Bobolink (USPP 1,150).—Introduced by the Armstrong Nurseries, Inc., Ontario, California, in 1953, it is a cross of (unnamed seedling of Goldmine Nectarine x Rio Oso Gem) x (unnamed seedling of Goldmine Nectarine x July Elberta) (10). The trees were of medium vigor and produced good crops. The fruit is freestone, flesh yellow and good flavored. Susceptibility to bacterial leafspot eliminates it from orchards in this section. (AN)

Boston Red (Nectarine).—The trees obtained for this test are strong, upright and produce heavy crops. Due to late season, 2 weeks before Elberta, the yields are materially reduced by catfacing insects and brown rot. The medium-sized, red, freestone fruits are attractive. The flesh is white, of fine texture and good quality. The early coloration creates a tendency to harvest the fruit before firm ripe. (C&ONC)

Canadian Queen.—This is an introduction by J. E. Markham of Flora, Illinois (22). This yellow freestone is a cross between Canadian Banner x Early Elberta and is 5 days earlier than Elberta. The trees are large and vigorous but low in production. The fruit is large with attractive yellow flesh of a slightly tart flavor. (MN-1)

Cardinal (FV-101).—This yellow cling peach is our most profitable early peach. The yields have not been excessively heavy any one season but because of its exceptional color, earliness and firmness the fruit commands a premium price. It is a seedling of Halehaven, selfed in 1941 by Dr. J. H. Weinberger at the U. S. Horticultural Field Laboratory, Fort Valley, Georgia. Nine hundred hours are required to break the dormant period of the fruit buds. (U.S.HFL) (PRF)

Cavalier (Nectarine) (V.P.I. 17). — Originated in Blacksburg, Virginia by the Virginia Agricultural Experiment Station. Its parentage is (P.I. 43143 x unnamed V.P.I. peach seedling) x self. The cross was made in 1936 (10). At the Tyler station, the fruit ripened more than a week later than Elberta instead of being 8 days earlier as previously indicated. The tree is large, upright and strong. Fruit bud set is average. The cold requirement to promote full dormancy is high. The yellow, freestone fruit is small but well colored in advance of ripening. Its flesh is firm, fine grained and has a sweet flavor bordering on near flat. (VAES)

Charlotte.—Originated by J. A. Evans, Arlington, Texas. As previously reported (21) the yields are erratic with one fair crop out of 4 fruiting years. The yellow-fleshed fruits are large, attractive and of excellent flavor. It is a freestone. (O.S.G.PN)

Cherryred (N.J. 129). — Originated by the New Jersey Agricultural Experiment Station and introduced commercially in 1947. It is an open-pollinated seedling of (J. H. Hale x Goldfinch) (9). The strong, upright trees produced one good crop out of 5 bearing years. The yellow, cling fruit ripened 2 days earlier than Cardinal. The flavor is poor even for an early variety. (TNJPC)

Chief.—An Indian Cling selection made by Wolfe Nursery, Stephenville, Texas (21). It is typical of the old type Indian Cling as it is dark beet red to the seed. This type is very much in demand in this area for preserving and pickling. The yield each season has been light with the fruit sizing large to extra large. Its chilling requirement is high: 1,150 hours of 45° F. or less to break the rest period of the fruit buds. (WN-1)

Chilow (Elberta Cling). — This is a yellow-fleshed seedling of Chinese Cling (16). It is consistent in producing good crops of medium to small round firm fruit which is favorably received for picking. A tendency to shed its fruit at the hard-ripe stage is one of its main faults. Frank is 9 days later and has a larger number of desirable characters. (RAN)

Clark (Clarkhaven). — This open-pollinated seedling of Halehaven originated in the Bristol Orchards, Inc., Bristol, Indiana, in 1942. In this test, the fruit was similar to that of Halehaven in most characters. Clark ripened 2 weeks earlier and produced heavier and more consistently than its parent. Dixigem and Redhaven are 4 days earlier and as productive as Clark. Fruit of Redhaven is firmer and of better quality. (TKN)

Coronet (FV 126-79).—This early, firm, yellow, mostly cling peach is the result of a cross made in 1945 between a seedling of Halehaven, selfed (FV 5-56), and Dixigem at the U. S. Horticultural Field Laboratory, Fort Valley, Georgia (9). The spreading trees are strong and produce good yields. The fruit does not color as early as Cardinal but still is attractive. It is proving to be an excellent variety to follow the Cardinal season and to open the Dixigem, Redhaven season. (U.S.HFL)

Cumberland (25 B.G.). — The variety originated from a cross of Bell x Greensboro made in 1914 by M. A. Blake of the New Jersey Agricultural Experiment Station (2). As a moderately early, white freestone it proved to be rather popular and earned a place on the local market at the Nacogdoches station during 1937-46 (21). In this test the performance was disappointing and the trees were removed after the third fruiting season. Ranger and Triogem have many more desirable characters. (BRN)

Dixigem (FV 8-35). — This mid-June, almost freestone, yellow-fleshed variety has proved to be a consistent producer of good yields in this test. It is the result of the cross (Admiral Dewey x St. John) x Southhaven made in 1936. It was originated by the USDA (15). The trees are large and spreading. The medium-sized fruits are

attractive and color sufficiently early to permit shipping. Some seasons the flesh texture is rather coarse. (BRN)

Dixired (FV 5-70).—Originated by the USDA in 1936 and released commercially in 1945 (15). The seedling is a Halehaven selfed. The yellow flesh is medium firm and of better flavor than Dixigem. It is a clingstone that ripens 2 days later than Cardinal. Its yield has not been as heavy as Cardinal although both have high chilling requirements of 900 to 950 hours. (BRN)

Early East (N.J. 134).—This is another introduction of the New Jersey Agricultural Experiment Station. It is a cross of an open-pollinated seedling of J. H. Hale x (Slappey x Admiral Dewey) (2). In this test the flesh was not entirely free when tree ripened. The fruit shape was rough with a high percentage of split seeds. The trees were large and consistently bore heavier crops than Cardinal which ripened at the same season. Cardinal was the more profitable because of color, firmness and shape of fruit. (TNJPC)

Early Elberta (Gleason).—This is a seedling of Elberta, which first fruited for Dr. Sumner Gleason, Kaysville, Utah (18). Like many of the Early Elberta selections it is very susceptible to bacterial leafspot. The trees are only medium in vigor but produce fair yields. The yellow-fleshed, freestone fruit lacks color. Loring and Redskin are much preferred for the season. (PRF)

Early Elberta (Scott).—This is an Elberta-type peach found by Dr. L. E. Scott at the Sandhill, South Carolina Station (14). The selection also was grown in this test as Sandhill No. 1. The freestone, yellow-fleshed fruit has good shape and is attractive. It ripens 10 to 12 days earlier than the regular Elberta. Loring and Redskin are of the same season and have proved more profitable. (PRF)

Early Elberta (Stacy). — The material furnished to represent this variety did not produce an Early Elberta-type fruit. The greenish-yellow-fleshed fruits were small and ripened 18 days after Elberta. (PRF)

Early Elberta (Stark).—Also known in the commercial field as Early Elberta (Gleason). It was introduced by Stark Bros., Louisiana, Missouri. The yellow, freestone fruits are large, of poor color and have many suture cracks. The flavor is astringent to slightly bitter. Loring and Redskin are preferred for the season. (SBN)

Early Fair Beauty.—Originated in Nashville, Arkansas, by J. T. Warren and introduced commercially in 1946. It is the result of a bud mutation of Fair Beauty (9). It is supposed to ripen 2 to 3 weeks earlier than its parent, but in our test the fruit matured a week later. The strong, spreading trees set a moderate crop of fruit buds and indicated a high cold requirement similar to that of Fair Beauty. The color of the freestone fruit is attractive several days before ripening. Its flesh is yellow, medium-coarse in texture and has good flavor. Its low yield eliminates its use for commercial plantings in this section. (PRF)

Early Flame (Nectarine).—This is an open-pollinated seedling of Flaming Gold discovered in 1942 by R. H. King, Sheffield, Alabama (9). In this test the fruit was medium to small and of excellent flavor. The yield of the yellow-fleshed semicling fruit was fair some seasons. Its high chilling requirement limits its use in this area. (SBN)

Early Halehaven.—Originated as a bud mutation of Halehaven in the orchard of John Nametz near Benton Harbor, Michigan (9). The strong, upright trees have produced fair to good crops most seasons. The medium-sized fruits are well shaped and attractive. The yellow, freestone flesh is slightly soft and rather low in quality. Triogem fruits this season and is more profitable. (GN)

Early Profit.—A yellow freestone peach said to have originated in Herrin county, Michigan, and to ripen early. At the Tyler station it ripened with Elberta which it resembled in almost every way with the exception of its low yields. (TAN)

Early Triogem.—The variety is of Triogem season and has produced heavy yields. The yellow freestone fruit is smaller and does not have the attractive appearance of Triogem. (PRF)

Elberta. — This time-proved, widely adapted variety originated from an open-pollinated tree of Chinese Cling grown by Samuel H. Rumph, Marshallville, Georgia (16). Trees to represent the variety were obtained from two sources to observe the variation of characters. Their performance from bud set through maturity was identical. One selection was somewhat more productive than the other. For the season, this firm, yellow freestone fruit holds it own with all new varieties. (BRN) (FN)

Envoy (N. J. 102).—Originated from a cross of J. H. Hale x Sunbeam made by the New Jersey Agricultural Experiment Station (9). The yields have been very good. The yellow, freestone fruit colors early and is of good quality. During most seasons, the flesh texture has been coarse. In sections where bacterial leafspot is not too severe the use of July Elberta (Burbank) is preferred on account of firmness and size of fruit. (TNJPC)

Fair Beauty. — This is an open-pollinated seedling of Elberta discovered in 1920 by W. V. Henson and R. W. Fair, Arp, Texas (9). The attractive fruit has yellow semicling flesh that is slightly stringy. The trees are not too vigorous and are short lived in this section. It has a high chilling requirement of 1,050 hours. Ranger ripens in this season and bears heavier yields of a firm freestone fruit. (BRN)

Fairhaven.—This is another introduction of the Michigan Agricultural Experiment Station.

Stanley Johnston selected it from a cross made in 1935 of J. H. Hale x South Haven (9). The ripening date is the same as Ranger and it is not as productive. The freestone yellow flesh is slightly soft and stringy. It has good flavor. The fruit is large; the color dull. (BRN)

Fallate (N.J. 183). — A firm, white-fleshed, freestone peach that ripens in this section almost a month after Elberta. The fruits are small and the flavor bitter. It is a cross of J. H. Hale x Eclipse and was introduced by the New Jersey Experiment Station in 1947 (9). (TNJPC)

Fertile Hale (USPP 175). — Originated in Lawrence, Michigan, by L. B. LeDuke (9). It is a bud mutation of J. H. Hale discovered in 1927. This is a light bearer, like most of J. H. Hale selections in this section. The fruit is large and very attractive. In this test, it ripened with Elberta and a week later than J. H. Hale. The flesh is yellow to the seed and of excellent quality most seasons. (GN)

Fireball (False Sunhigh).—Two lots of trees of this variety were grown. Those supplied under the name of Fireball were susceptible to bacterial leafspot while those representing False Sunhigh were not infected and came through with heavy yields. There was also a considerable difference in dates of first and full bloom. Fruit characters, other than yield, were very similar if not identical. The yellow-fleshed, freestone fruit was rough with a dull color and many suture cracks. Introduced commercially in 1952 by the Peach Ridge Farms and Nursery, Clemson, South Carolina (9). (PRF)

Fireglow.—This is a cross of J. H. Hale x Marigold made by the New Jersey Agricultural Experiment Station in 1923 (9). The yellow freestone fruits are large and have a high percentage of radial cracks. The flesh is tender and coarse with an acid flavor. Its production is low. Vedette and July Elberta (Burbank) are of this season. (WN)

Flamingo (USPP 661). — Originated in Ontario, California, by Walter E. Lammerts. It is an open-pollinated seedling of Rio Oso Gem selected in 1940 (9). The yellow freestone fruits are very small. The flesh is medium-fine in texture and has a sweet flavor. The trees are spreading and of medium vigor. In this test, its ripening date was 4 days after Rio Oso Gem. (AN)

Flaming Gold (Nectarine). — This yellow-fleshed, freestone fruit was selected by Luther Burbank, Sebastopol, California, in 1916 (9). Its parentage is unknown. The ripening date is 2 weeks earlier than Elberta. Because of its high chilling requirement, the yield has been low. The flesh is greenish yellow, medium coarse in texture and has a sweet flavor. (AN)

Frank.—The variety was raised in 1903 by J. W. Stubenrauch, Mexia, Texas, from a pit of Elberta (16). It is a high-yielding, yellow cling that follows the Elberta season by 2 weeks. The firm, fine-textured flesh has an excellent quality and is much in demand for canning, preserving, pickling and freezing. The trees are spreading, vigorous and consistent in producing heavy yields. The fruit must be thinned heavily to secure size and color in view of its late ripening season. Oriental fruit moth damage limited plantings in some sections until the introduction of DDT (20). (WN-1)

French (No. 50).—This is a seedling selection made by the Stahelin's Nursery, Bridgman, Michigan. The yellow, freestone fruit ripens with Elberta. Its yield has been fair although the trees are vigorous growers. During 1957 bacterial leafspot was very damaging to both foliage and fruit. There are more productive varieties for the season. (SN)

Frost Queen (N.J. 159 and 185). — A very late, white freestone variety developed by the New Jersey Agricultural Experiment Station (9). It is a cross of (J. H. Hale x Eclipse) x Berks. The spreading, vigorous trees produced heavy yields of firm fruit which ripened a month or more after Elberta. (TNJPC)

Fuzzless-Berta (Nectarine) (USPP 479). — Originated in Blacksburg, Virginia, by Frederick W. HofMann (9). The parentage is unknown, but it is probably an F_2 segregate of a cross between peach and nectarine. Its chilling requirement is too high for this area. The tree growth in this test was spreading and vigorous. The yields were low each season. The large, round, yellow-fleshed fruits are attractive and have good quality. The fruit ripens a week later than Elberta and has a high percentage of loss from radial cracks. (SBN)

Garden State (Nectarine) (USPP 92).—The variety is another introduction by the New Jersey Agricultural Experiment Station (9). It was developed by M. A. Blake from open-pollinated Elberta. The trees are upright and vigorous. The yield of the medium sized, round, yellow-fleshed fruit is poor. It ripens about a week before Elberta. It is susceptible to bacterial leafspot. (PRF)

Gemmer's Late Elberta.—Originated in Sussex, New Jersey, by Conrad Gemmer (13). The parentage is unknown but the fruit is late and of Elberta type. In this test, the yields each season have been very poor. The greenish-yellow-fleshed, freestone fruit was coarse and the flavor astringent. The seed is extra large. The upright trees are weak growers. (BRN)

Globe Haven.—This is a cross of Vivid Globe x South Haven and ripens 10 days earlier than Elberta (22). At the Tyler station, the ripening date was 3 weeks earlier than Elberta. The tree is spreading and vigorous in growth. The production has been consistent and good crops have been produced most years. The yellow, freestone fruits are large and round and color early. The firm flesh has excellent flavor. (MN-1)

Gold Dust (Stribling S-47-4).—Originated in Merced, California, by T. B. Stribling, Jr. (9). It is an open-pollinated seedling of Kim Elberta selected in 1947. The yellow flesh is mostly free, of good flavor and medium in firmness. The round fruit is small. The spreading trees are weak growers but are prolific. Bacterial leafspot is severe on both foliage and fruit. This is not the same variety reported in TAES Bul. 687 (21). (SN-1)

Golden Blush (USPP 473). — Originated in Lakeside, California, by B. H. Haley (9). The parentage is unknown. This yellow freestone has firm flesh that is slightly astringent in flavor. The fruit is well colored and of medium size. It ripens 2 days later than Elberta. During the 1957 season it showed slight susceptibility to bacterial leafspot. The trees are spreading and vigorous. It is claimed that they are more resistant to delayed foliation than Elberta. (AN)

Goldeneast (N.J.97).—This is another of the New Jersey Agricultural Experiment Station introductions. It is a cross of Elberta x New Jersey 38 E. G. made in 1923 (9). As previously reported (21) the variety has several excellent characters and has proved to be profitable in spite of its high cold requirement of 1,050 hours. The tree growth is upright, vigorous and ably supports a heavy load. The fruit is large, very attractive and packs and ships well. The quality of the yellow flesh is excellent and desirable for either fresh eating or canning. The set of fruit buds is heavy, yet the variety does not tend to be overprolific. It sizes well when moderately thinned. It is almost 3 weeks earlier than Elberta or 3 days later than Halehaven. (TNJPC)

Golden Elberta Cling.—This firm, fine-textured, yellow-fleshed cling peach originated in Fort Smith, Arkansas, by Will R. Gaunaway (9). Its production has been moderately light in this test with an indication of high chilling requirement. The trees are vigorous and spreading. The fruit is large, very attractive and firm enough to pack well. Inconsistent production of profitable crops will limit its use in this section since it ripens a week before Elberta. (SBN)

Golden Jubilee.—This variety was introduced by the New Jersey Agricultural Experiment Station in 1926 (9). It is a cross of Elberta x Greensboro. Its yield of fruit in this test was considerably less than at the Nacogdoches station (21). The objectionable fruit character of becoming soft on the tip and suture bulge while slightly green about the stem end eliminates its use for commercial purposes in this section. Other yellow-fleshed varieties of, or almost of, the same season, such as Dixigem, Redhaven and Triogem readily replace it. (BRN)

Goldray.—This bud mutation of Golden Jubilee was detected in Lexington, South Carolina by J. Roy Cunningham (9). In this test, it had all the tree and fruit characters of its parent except that it ripened 8 days earlier. Considering the uneven ripening of the fruit, coarse flesh of slightly astringent flavor and light yields, it does not have a place in the commercial plantings of this section. (BRN)

Goodcheer (N.J. 152). — This yellow, freestone variety originated at the New Jersey Agricultural Experiment Station and was introduced commercially in 1947 (9). It is a cross of (J. H. Hale x Eclipse) x Laterose and was reported to ripen a week later than Elberta. The trees secured for this test are not representative of the variety as the fruit ripened a month before Elberta. (TNJPC)

Halegold.—Originated in Commerce, Georgia, by Early Stark and introduced commercially about 1930. The parentage is unknown (10). The yellow-fleshed, freestone fruit ripens with Elberta. It has been very susceptible to bacterial leafspot in this test. The yield is less than that of a number of varieties which ripen during the period. (PRF)

Hale Harrison Brilliant (USPP 814). — This large, freestone, yellow-fleshed variety originated in Crozet, Virginia, and was propagated by Oscar F. Jones (9). The parentage is unknown. The trees are upright and very vigorous. The yield was very low for each of the four fruiting seasons. Indications are that it has a high chilling requirement along with a light bud set. It is a week earlier than Elberta. (HBN)

Halehaven.—This is a Michigan Agricultural Experiment Station introduction of 1932 (22). It is a cross of J. H. Hale x South Haven made in 1924. During the late thirties and forties, the variety was extensively planted in this section and proved to be acceptable in most plantings (21). In recent years its popularity has been on the decline due to lack of fruit color, a high incidence of cracking and soft flesh during seasons of excessive rainfall. It ripened 3 weeks before Elberta. The yield in this test has been disappointing. (BRN)

Hazel.—Originated by J. A. Evans, Arlington, Texas. The large, yellow, freestone fruits are very attractive and of excellent flavor. The ripening date is a week earlier than Elberta. As previously reported (21), the yield is too light for commercial acceptance in this section. (O.S.G. PN)

Herb Hale (USPP 588).—The variety originated in Yakima, Washington, by Herbert Donahey, and was introduced commercially in 1944 (6). The parentage is unknown. The trees are spreading and vigorous with a good fruit bud set. The fruit is freestone and medium sized, with yellow flesh that is slightly astringent in flavor. Its production has been higher than Halehaven but not as good as Vedette or Goldeneast. These

varieties ripen 3 weeks earlier than Elberta. (C&ONC)

Hiland (FV 123-41).—This is another of the USDA introductions from Fort Valley, Georgia. The variety resulted from a cross between Southland and a seedling of Hiley x Halehaven in 1945. It ripens with Cardinal. The fruit is large, tender, and has not colored well under our growing conditions. The yellow flesh clings to the seed and is coarse with a sharp acid flavor. The yields have been light considering the bud set and large strong trees. Since it has a low chilling requirement, the variety can be considered for early market purposes in the southern peach section. (U.S.HFL)

Hinner Hale.—The fruit ripens with Elberta. It is yellow-fleshed, firm, a freestone and good flavored. The trees are upright and of medium vigor. The bud set and density of flowers is poor. Its cold requirements are high. Lack of yield eliminates it from plantings in East Texas. (PRF)

Hobson. — As previously reported (21), the variety has performed variably in previous tests in Texas. The trees secured for this test add to the confusion as the fruit is a white clingstone that ripens around July 10, or almost 3 weeks earlier than Elberta. The flesh is firm and would be good for pickling. The yellow-fleshed freestones, Redcrest, Scarlet Elberta and Goldeneast, are of the same season. (RAN)

Hon-ee-gold. — Reported by Stahelin's Nursery, Bridgman, Michigan, as a yellow freestone, larger than Elberta and much later. It is winter hardy and is an excellent shipper. In this test, the yields were consistently low. It has a high chilling requirement. The trees are strong and upright in growth. Michigold is 4 days earlier and much preferred. (SN)

Honeygem (N.J. Low acid 8). — This late, yellow freestone of low acid quality was introduced by the New Jersey Agricultural Experiment Station (9). It is the result of the cross (J. H. Hale x P. I. 55564) x Estella. It has a good bud set, is prolific to the point that heavy thinning is required, but the fruit is small. The flesh is firm and sweet. It ripens a week later than Elberta. The fruit is not as large as Afterglow or Frank. (TNJPC)

Jerseyland (N.J. 135).—A variety that continues to perform well in this test. It was introduced by the New Jersey Agricultural Experiment Station in 1946 (9). It is an open-pollinated seedling of J. H. Hale x (Slappey x Admiral Dewey). Some growers object to its slightly dull color and tendency to cling. The yellow flesh has medium-fine texture. The fruit packs exceptionally well for an early peach. Its flavor is slightly acid. The trees are spreading and vigorous. The density of bud set is medium. It ripens with Starking Delicious, and is 5 days earlier than Dixigem and Redhaven. (TNJPC)

J. H. Hale.—This is a chance seedling found by J. H. Hale, South Glastonbury, Connecticut, and introduced in 1912 (16 and 22). The performance of this variety was identical to that obtained at the Nacogdoches station (21). The fruits are large, very attractive, firm and ship well. The flesh is yellow, freestone and of excellent flavor. The upright trees have only medium vigor and a light bud set. Because of its very low yield, the variety is not considered for commercial purposes in this section. (SBN)

July Elberta (Burbank) (USPP 15). — A many-name variety as evidenced by the list of Brooks and Olmo (9) which shows (Burbank Elberta, Kim Early Elberta, Brentwood Beauty, Early Elberta, Jewell). It is a Luther Burbank origination made at Sebastopol, California, and was introduced commercially in 1930. The chief fault of the variety in this section is its susceptibility to bacterial leafspot. Because of its early ripening the fruit is free of the lesions some seasons, depending on the time the disease appears in the orchard. The freestone, yellow-fleshed fruit is medium-firm with good flavor. The trees are strong and ably support heavy loads. It has a lower chilling requirement than Elberta, 750 hours, which causes considerable damage when late spring frosts occur. The ripening date is almost 4 weeks earlier than Elberta. (SBN)

Kalhaven.—This very prolific, yellow, freestone variety was developed by the Michigan Agricultural Experiment Station in 1924. It is a J. H. Hale x Kalamazoo cross (9). Good yields were produced during four of the six bearing seasons. The annual average yield was very good. The fruits do not size in seasons when extensive thinning is delayed. The trees are spreading, strong and ably support full crops. The variety is 4 days earlier than Elberta. Its high quality fruit has a good color. (GN)

Laterose (N.J. 109).—A high quality, white freestone that matures too late for profitable production in this section. It is an introduction of the New Jersey Agricultural Experiment Station (9) and is a cross of J. H. Hale x Delicious. The yield was favorable of a sweet, fine-textured, medium-sized fruit. The fruit is rough but well colored. Its chilling requirement is less than Elberta. An excellent variety for home canning and freezing. It is 6 days later than Elberta. (TNJPC)

Loring.—Originated in Mountain Grove, Missouri, by the Missouri State Fruit Experiment Station and introduced commercially in 1946 (9). It is a cross of Frank x Halehaven. Trees were obtained from two sources for the test at the Tyler station. Those furnished by Paul Shepard of the Missouri Station produced results comparable to the earlier descriptions of the variety. The fruit is medium sized, attractive, and has yellow, freestone flesh that is firm and of good quality. The trees are strong and upright in growth. It rip-

ens 12 days earlier than Elberta, near the season of Redcrest and Scarlet Elberta. (MSFES) (PRF)

Markberta.—The variety was developed and introduced by J. E. Markham, Flora, Illinois, (22). It is a cross of Halberta x Canadian Queen. Trees are strong, spreading and ably support heavy loads. The ripening date and yield of fruit were in line with Elberta. The fruit is medium sized, well colored and firm; it is a good shipper. Its yellow flesh is freestone and has a slightly astringent flavor; otherwise quality is good. (MN-1)

Maybelle (N.J. 164). — An introduction of the New Jersey Agricultural Experiment Station made commercially in 1948 (9). It is a cross of Raritan Rose x ([J. H. Hale x Goldfinch], open-pollinated). Trees for the test were secured from two sources. They are vigorous growers and spreading in habit. The fruit ripens with Cardinal. It is medium sized, attractive and colors well in advance of ripening. The flesh is stringy or coarse, white with heavy red streaks throughout and has a tart slightly acid flavor. It is more cling than semifree as grown under our conditions, and can be packed and marketed locally if harvested firm-ripe. (TNJPC) (PRF)

Maygold (FV 132-12). — This early, yellow clingstone was selected for the southern area where winters are too warm for Redcap and Dixired. Its cold requirement is 650 hours of 45° F. or less by February 15. It is an introduction of the U. S. Horticultural Field Laboratory, Fort Valley, Georgia. It resulted from a cross between Sunhigh and Southland made in 1945. Based on the results of one fruiting season, the date of first bloom is early, but full flowering is delayed until Elberta blooms. Yields were light, largely as a result of bird damage to the highly colored fruit. The very attractive color appears well in advance of hard-ripe. The flesh is yellow and of medium texture. Flavor is good although slightly acid. The trees are spreading and medium weak in vigor. (U.S.HFL)

Meadow Lark (USPP 528). — Originated in Ontario, California, by Walter E. Lammerts. It is a cross of (Early Imperial x Coolidge Double Red) x Socala and selected in 1941 (9). The chilling requirement is slightly less than Babcock. Vigor of the spreading tree is medium. Density of bud set is good. It is prolific to the extent that heavy thinning is required. The attractively colored fruit is small, regardless of rate and time of thinning. The yellow flesh is freestone, of medium-fine texture and has a sweet flavor. It cannot compete with Dixigem or Redhaven which are of the same season. (AN)

Melba.—This small, white-fleshed fruit originated in San Antonio, Texas, by a Mr. Yost. The parentage is unknown. It was introduced as Improved Pallas but later was renamed (9). The tree is upright, strong and ably supports a heavy load. The fruit must be thinned early and extensively or it will not size. Its quality varies from season to season from a honey-sweet to a tart slightly acid flavor. It ripens with Ranger and Triogem. It might be used for home plantings as heavy production of a white-fleshed fruit is usually assured. (WN-1)

Merrill Beauty (USPP 905).—An extensive number of named varieties and selections made by Grant Merrill, of Red Bluff, California, was grown at the Tyler Station. Of the lot, 12 named varieties will be given in this report. The Merrill Beauty is an open-pollinated seedling of J. H. Hale (9). Its bud set is very light and yield is poor. The yellow, freestone fruits are extra large, tender, with flesh of fine texture. The flavor is sweet. There is a high incidence of suture cracks at the stem end. (TGMO)

Merrill Brilliant.—This is a cross of July Elberta x Florence selected in 1945 (9). It is a white-fleshed, semicling of medium firmness and has only fair quality as the flavor is slightly astringent. The spreading trees are vigorous and produce good crops. It ripens with Redcap. (TGMO)

Merrill Dandy. — An open-pollinated seedling of Candoka selected in 1943 (9). The foliage and fruit are moderately susceptible to bacterial leafspot. Trees are upright and of medium vigor. The fruit has poor color and is rough. The flesh is free, of a greenish-yellow color with a slightly astringent flavor. It ripens with July Elberta (Burbank), or 4 days later than Ranger. The yield is too light for the season. (TGMO)

Merrill Fiesta. — This is an open-pollinated seedling of Kirkman Gem (8). The tree growth is vigorous but slow. The fruit bud set is ample and a good crop is set most years. Due to the extreme late ripening, mid-October, a high loss occurs from insect, disease and bird damage. The flesh is yellow, firm, freestone and of good quality. The color is very attractive. (TGMO)

Merrill Gem (USPP 868).—A cross of J. H. Hale x Red Bird selected in 1943 (9). The yellow flesh is firm, of medium-fine texture and of good quality. It is a clingstone. The production of the spreading, rather weak trees is too low for the season. It ripens with Cardinal and Dixired. (TGMO)

Merrill Gold Rush.—It is an open-pollinated seedling of J. H. Hale selected in 1942 (9). The bud set is light and yield is too low for an early variety. It ripens 4 days later than Ranger and is of the July Elberta (Burbank) season. The fruit is large, very attractive and firm. The yellow flesh is freestone, of fine texture and excellent flavor. (TGMO)

Merrill Hale (USPP 1,246).—An open-pollinated seedling of J. H. Hale selected in 1942 (11).

It is supposed to ripen between July Elberta and Elberta. Its ripening date at the Tyler station was of the Coronet and Dixigem season. The vigorous, spreading trees produced good crops. The foliage and fruit were very susceptible to bacterial leafspot. The flesh of the yellow, freestone fruit is coarse but of good flavor. (TGMO)

Merrill June (USPP 869).—This is another selection of an open-pollinated seedling of J. H. Hale made in 1943 (9). The upright trees have medium vigor. The fruit bud set and yield is light. The quality of the yellow semicling is excellent. The flesh is medium firm with a tendency to soften at the tip before tree-ripe. It ripens in the Cardinal, Dixired season. Bacterial leafspot damage to fruit is moderate to severe. (TGMO)

Merrill Rodeo (USPP 1,097).—A selection of an open-pollinated seedling of Kirkman Gem made in 1950 (8). The trees are spreading and stronger than Fiesta. The firm, yellow, freestone fruit ripens in mid-October at the Tyler station or 2½ months after Elberta. The flavor is excellent for a late fruit. The yield is materially reduced following continued attacks of insects, diseases and birds. (TGMO)

Merrill Sunrise (Nectarine).—An open-pollinated seedling of F_2 J. H. Hale peach x Flaming Gold selected in 1949 (10). A very large, attractive fruit that is entirely red. The yellow, cling flesh is also very pleasing in appearance although coarse. Its quality is excellent. Damage from radial cracks is extensive some seasons. During the 1957 season, twinning was rather severe. A promising nectarine for this section if cold requirement is not too high and production improves. (TGMO)

Merrill Yellow King. — Another open-pollinated seedling of J. H. Hale selected in 1945 (9). Trees are strong and spreading and appear resistant to bacterial leafspot. The yield is good. The firm, medium-sized fruit is attractive but ripens later than Frank or 2 weeks after Elberta. Michigold is of the season and more productive. (TGMO)

Merrill 49'er.—This open-pollinated seedling of J. H. Hale was selected in 1943 (9). The upright, vigorous trees show a moderate infestation of bacterial leafspot. The yields are too light for the Elberta season. Flesh of the medium-sized fruit is orange-yellow, freestone, firm and of good flavor. (TGMO)

Michigold.—Originated in the sand dunes of Michigan by Stahelin's Nursery, Bridgman, Michigan. It was introduced commercially in 1945 (12). This is an excellent, yellow freestone to follow the Elberta season. It ripens with Frank in mid-August. The trees are strong and ably support a full crop. The bud set is good although only moderate thinning is required to size the fruit. The pleasing color of the medium-large, firm fruit appears well in advance of ripening. Its flesh is moderately coarse in texture. The flavor is sweet and slightly dry. It has not been as susceptible to bacterial leafspot as Elberta. (SN)

Missouri. — A Missouri State Fruit Experiment Station origination. It is an open-pollinated seedling of Sunbeam selected in 1942 (9). It has a high chilling requirement. The fruit bud set is light on trees that are spreading and vigorous. The medium-sized fruit has not been attractive and is soft. The yellow flesh is semicling and has a fine texture. The flavor is sweet and slightly dry. It ripens with Triogem and Sunhigh. Triogem is preferred. (PRF)

Montopolis.—A medium-sized, white-fleshed freestone that ripens 3 days earlier than Elberta—a period during which a large number of yellow freestones are coming on the market. The fruit is well colored in advance of ripening. The flesh is firm, of medium-fine texture and of good quality. The bud set is light. Production has not been consistent. The tree is upright and a strong grower. It can be used if local markets demand a white-fleshed peach. (RAN)

Nectacrest (Nectarine) (N.J. 8).—Four varieties of the "Necta" series of nectarines developed by the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey, were grown at the Tyler station. Their date of ripening was from a week to a month later than Elberta, which is too late for profitable nectarine production in this section. Stinkbugs, brown rot and prevailing drouth conditions are primary factors in reducing yield and size of fruit. It is a cross of Garden State x ([Goldmine x Belle selfed], open-pollinated) (9). The tree growth is vigorous with only a medium fruit bud set. The medium-sized, round fruit has flesh of greenish-white color, fine texture and a slightly tart flavor. The freestone fruit is firm and ripens 11 days after Elberta. (TNJPC)

Nectaheart (N.J. 10).—Introduced commercially in 1947. Its parentage is Garden State x ([Goldmine x Belle selfed], open-pollinated) (9). The round, medium-sized, freestone fruit ripens a week after Elberta. The greenish-white flesh has fine texture and has a sweet to slightly tart flavor. The spreading tree has only a medium set of fruit buds and is of medium vigor. (TNJPC)

Nectalate (N.J. 4).—A cross of Garden State x selected seedling (9). Its production is the heaviest of the four and ripens a month after Elberta. The tree is upright and of strong growth. Its fruit bud set is only medium. The very small, round fruit is firm. The white flesh has fine texture and good quality. (TNJPC)

Nectarose (N.J. 9).—It is a cross of Garden State x ([Goldmine x Belle selfed], open-pollinated) (9). The tree growth is upright and vig-

orous. Fruit bud set is medium. The fruit resembles Boston Red, but ripens 3 weeks later, or 4 days after Elberta. It is medium-sized, round, dark red and medium in firmness. The freestone fruit has white flesh and a flavor that is sweet, slightly dry and flat. (TNJPC).

Nectar (USPP 86).—Originated in Bakersfield, California, by Oliver P. Blackburn and introduced commercially in 1935 (5). Parentage unknown (probably Early Wheeler x Stanwick). The upright tree is vigorous but has a light fruit bud set. The chilling requirement is high. The large, attractive fruit is too tender for commercial trade. The flesh is white, of medium-coarse texture and has a sweet flavor somewhat like Mamie Ross. It is a freestone which ripens 2 weeks earlier than Elberta. (PRF)

Newday (N.J. 79).—An introduction of the New Jersey Agricultural Experiment Station. It is a cross of J. H. Hale x New Jersey 40 C. S. made in 1923 (9). It is of the Dixigem and Triogem season and has not been productive. Under our conditions, the color has not been good and some seasons the fruit is slightly soft. The fruit is medium to large in size, well shaped and of good quality. The flesh is yellow and mostly free. The tree is upright and vigorous although more susceptible to bacterial leafspot than Elberta. (TNJPC)

Nuggett.—The material supplied for observation in our test was supposed to produce a large, yellow-fleshed, clingstone fruit that ripened 7 to 10 days later than Elberta. With us, it is a large, yellow-fleshed fruit that is a semi-clingstone and ripens 3 weeks earlier than Elberta. Although the production has been very good, the fruit has a tendency to crack along the suture and is rough in appearance. Goldeneast and Vedette are preferred for the season. (SN)

Oriole.—Is a cross of Slappey x Dewey made in 1916 and named in 1925 by the New Jersey Agricultural Experiment Station (2). The production was disappointing in this test. The yellow flesh is coarse, almost clingstone, slightly acid in flavor and medium tender in firmness. It is of Triogem season. (GN)

Osage.—An open-pollinated seedling of Alton selected in 1945 by the Missouri State Fruit Experiment Station (9). The spreading tree is vigorous, but showed a heavy infestation of bacterial leafspot in 1957 on foliage and fruit. The small, round fruit has flesh of fine texture and is firm. It is a clingstone ripening a week after Elberta. Its yield is too low for this season. (PRF)

Ozark.—Another of the Missouri State Fruit Experiment Station introductions. It is a cross of Frank x Halehaven (9). Materials to represent the variety were obtained from two sources and their behavior was very similar. Yield of fruit was only fair. It ripened approximately a week before Elberta. The flesh is lemon yellow, fairly coarse in texture but firm with a sweet flavor. The fruit is slow to color and is slightly dull. The upright tree growth is vigorous. Its production is too low for the season. (MSFES) (PRF)

Panamint (Nectarine) (USPP 1,100).—Originated by Armstrong Nurseries, Ontario, California (8). Its parentage is (Babcock peach x Boston) x (Goldmine x Rio Oso Gem peach). It has a very low chilling requirement. The fruit bud set is exceptionally heavy and it is a prolific bearer. Three thinnings failed to size the fruit to meet commercial demand. The flesh is orange yellow, firm and of dry sweet flavor. The trees are speading, willowy and vigorous but show a high susceptibility to bacterial leafspot. (AN)

Perfect Hale. — Fruit is Elberta-type which ripens a few days later than Elberta. It has not produced as well as Elberta or a number of other varieties which come in this season. The yellow, firm flesh is free and of medium texture. The round fruit is large and attractive. The tree is strong and upright. (SN)

Philp (Nectarine) (Calif. 27-12). — Originated in Winters, California, by the California Agricultural Experiment Station (19). The parentage is Humboldt x Burbank's Gold. The tree growth is upright and weak. The fruits are medium sized, mostly round but many are rough and irregular. The flesh is coarse, mostly free and yellow with a dry sweet flavor. It ripens a week after Elberta. Without irrigation it has failed to produce the desired size. Like the majority of nectarines, the fruit is repeatedly attacked by several species of plant and stinkbugs along with the plum curculio. (FN)

Philip.—A yellow cling introduced by J. F. Bogue, Marysville, California. Fruit bud set and fruit yield were poor. The fruit ripened the last of August, or a month later than Elberta. The upright, weak tree and its fruit are very susceptible to bacterial leafspot. Frank is 2 weeks earlier and much preferred. (FN)

Pioneer (Nectarine) (USPP 787).—Originated by Herbert C. Swim, Ontario, California, and assigned to Armstrong Nurseries (9). Its parentage is (Goldmine nectarine x Rio Oso Gem peach) x self. The yellow flesh is mostly free, of tough texture and has a slightly astringent flavor. The upright trees are only medium in vigor and foliage and fruit are susceptible to bacterial leafspot. Its yield is low with a ripening date about a week before Elberta. (AN)

Poppy. — It was developed by the Missouri Station Fruit Experiment Station, Mountain Grove, Missouri (9), and introduced commercially in 1947. It is a cross of Frank x Halehaven. The yellow flesh was more semicling than free under our conditions. It has firm texture and good quality. The fruits are round although some are

rough and irregularly shaped. The ripening date is 10 days earlier than Elberta. It is a good shipper. The production has not been as heavy as Redskin and Veteran. (MSFES)

Prairie Clipper (K-47).—Thirty selections of Dr. M. J. Dorsey, made at the Illinois Agricultural Experiment Station, were grown at the Tyler station. Seven are named varieties of the Prairie series and will be included in this report. Prairie Clipper is the result of a cross made in 1933 of J. H. Hale x Gage (9). The fruit bud set is light; seeds are coarse and show a high percentage of splits. The flesh is yellow, firm but coarse, with a very astringent flavor. The large, round fruits are freestone, good shippers and ripen 4 days earlier than Elberta. Brackett is more productive in the same season. (TVN)

Prairie Dawn (K-73).—A cross of Valiant x Halehaven made in 1937. Like a majority of the series the fruit bud set is light. Its production has been low. The yellow flesh has been a cling under our conditions. It is coarse, tender and of excellent quality. The round fruit is medium large. Its low yield of soft fruit makes it less desirable than Dixigem. (TVN)

Prairie Daybreak (K-69).—A cross of Halehaven x Sun Glo made in 1937. The yellow flesh is medium coarse with a sweet flavor that is slightly flat. The fruit is a freestone, obovate in shape, with a long soft tip. The tree is spreading and strong. Yields are good for an early ripening variety. It is of the Redcap season, 50 days earlier than Elberta. (TVN)

Prairie Rambler (K-43).—Dr. Dorsey crossed Elberta x Gage in 1933 to secure the variety. It was introduced commercially in 1946. The tree is vigorous and upright but has proved very susceptible to bacterial leafspot. The yellow flesh is mostly free, coarse and stringy but of firm texture. The truncate-shaped fruit is large with many radial cracks some seasons. Because of its ripening with Elberta and its low yield, the variety is not suggested for planting in this section. (TVN)

Prairie Rose (K-80).—Its parentage is Gage x Halehaven. The cross was made in 1937 and the variety introduced commercially in 1946. The yield of the spreading, vigorous tree was poor. The yellow flesh is semicling, coarse and has a sweet flavor that is slightly flat. It is early, ripening in the Dixigem season. (TVN)

Prairie Schooner (K-40).—It originated from a cross of Elberta x South Haven made in 1933. The yellow flesh is mostly free and of medium texture and firmness. The fruit resembles Golden Jubilee in shape and also has the character of being soft on the suture before firm-ripe. The tree is a vigorous grower and spreading. Its yield has been low. It ripens almost 3 weeks earlier than Elberta and is of Scarlet Elberta and Redcrest season, either of which is preferred. (TVN)

Prairie Sunrise (K-74).—The earliest ripening variety of the Prairie series was the result of a cross of Valiant x Halehaven. It ripens with Dixired. The yield is low. The yellow flesh is cling, medium coarse in texture and tender. Its flavor is astringent. Cardinal is earlier and more dependable in this section. (TVN)

Quetta (Nectarine).—A clingstone fruit that is very attractive. The flavor is good and sweet. The white flesh is coarse and the skin tough. The seed is coarse. The upright trees are only medium in vigor and have a light fruit bud set. Production has been poor. Boston Red is of the same season and has been more consistent in production. (C&ONC)

Ranger (USDA 12160).—An introduction of the USDA and was developed at Beltsville, Maryland. It is a seedling of Raritan Rose selfed in 1940 (23). The variety has proved itself for commercial planting in this section. The consistent production of profitable crops under adverse climatic conditions and resistance to bacterial leafspot are among its most valuable characters. Its cold requirement is more than Elberta, 950 hours. However, because of its exceptionally heavy set of fruit buds a good set of fruit is obtained in seasons that are marginal on cold hours for varieties in the Elberta group of 850 hours. The tree is strong and spreading in growth habit. Its fruit is a round-ovate shape and medium size most seasons. It is well colored in advance of maturity. The flesh is yellow, freestone, firm and medium in texture. The flavor is good. Chief objection to the variety is one of its most valuable assets—the very heavy fruit bud set which requires extensive thinning of fruit during favorable seasons. Another objection is the variation in date of ripening from season to season; extremes being full ripe June 7, 1954 to July 12, 1957. Its average date of full ripe is June 26 or a month earlier than Elberta. (U.S.PIS)

Raritan Rose (N.J. 97).—An introduction of the New Jersey Agricultural Experiment Station. Its parentage is J. H. Hale x Cumberland. The cross was made in 1926 (3). The upright tree is very vigorous and produces heavy crops. The fruit bud set is exceptionally heavy. A freestone with white flesh that has good quality for an early-ripening fruit. The fruit is medium to large, attractive and well colored in advance of ripening. Like Ranger it has proved very resistant to bacterial leafspot. Considering its production, color and quality of fruit, the variety should be of value for local markets where a white-fleshed fruit is desired. There are many proved yellow freestones of the season, such as Triogem, Sunhigh, Redhaven and Dixigem. (TNJPC)

Redcap (FV 121-58).—Another development by J. H. Weinberger, of the U. S. Horticultural Field Laboratory, Fort Valley, Georgia (15). It is the result of a cross between Southland x Dixired made in 1945. It is promising as a variety to

follow Cardinal. It has a tendency to set twins but is not as persistent in the habit as Cardinal. Fruit is very attractive and colors well in advance of ripening. The quality of the yellow, cling flesh is exceptionally good for the extremely early season. The upright tree is of medium vigor, although the foliage is large and of dark-green color. An unusually high infestation of several species of stinkbugs has been observed on the tree-ripe fruit some seasons. (U.S. HFL)

Redchief (Nectarine). — Introduced by the Virginia Agricultural Experiment Station, Blacksburg, Virginia. Its parentage is (P.I. 43143 x unnamed V.P.I. peach seedling) x (P.I. 63973 x unnamed V.P.I. peach seedling); cross was made in 1936 (10). The fruit is well colored far in advance of ripening. It is too late for this section as it ripens a full 2 weeks later than Elberta. The greenish-white flesh is fine grained, of medium firmness and has a sweet flavor. It is a freestone. Vigor of the upright tree is medium and has a medium to heavy set of fruit buds. (VAES)

Redcrest (N.J. 126). — Introduced commercially in 1946 by the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey (9). The parentage is unknown. It was considered a close competitor of Summercrest which it precedes by 9 days. With us the tree has not been as strong or as large, but has consistently produced yields in line with Summercrest. Date of full bloom usually is a week earlier than Summercrest and late frosts have provided all the fruit thinning required. The greenish-yellow flesh is freestone, medium coarse in texture and of medium firmness. The flesh separates from the seed under dry weather conditions. The flavor is slightly acid and dry. Regardless of these faults, the fruit moves well on local markets. (TNJPC)

Redglobe (USDA B 7398).—The variety resulted from a cross between a seedling of Admiral Dewey x St. John (W 3-16) and Fireglow (24). It is an introduction of the USDA and was developed at Beltsville, Maryland. The variety is promising, based on its performance of one season's production. It is a freestone with yellow, firm flesh of good quality. The fruit colors attractively, well in advance of ripening. The fruit is round and has not sized too well in the limited trial at this station. It ripens 19 days earlier than Elberta, with Scarlet Elberta and Goldeneast. (U.S.PIS)

Redhaven.—Originated at the Michigan Agricultural Experiment Station, South Haven, Michigan. It is the result of a cross made in 1930 of Halehaven x Kalhaven (9). The variety has been criticized by some growers in Texas for excessive thinning requirements, tendency of fruit to be undersized, softening rapidly after firm-ripe stage, excessive redness of the flesh and being slightly pointed. As grown in this test, the trees have been rugged and productive. The fruit is attractive and colors well in advance of ripening. Heavy thinning does not exceed that required by Vedette, Ranger and other varieties with heavy fruit bud set; it is required most seasons to secure proper size. The flesh is yellow, entirely freestone when full ripe, firm and of good quality. Excessive red prevails through the flesh. It ripens 40 days ahead of Elberta or with Dixigem which sizes better under the same conditions. Each variety fills a needed place in the orchards of this section. (BRN)

Red Rocket.—Trees supplied by Stahelin's Nurseries, Bridgman, Michigan. It is reported as a bud sport of Fertile Hale. The fruit is a yellow freestone with firm flesh and is said to ripen 6 days later than Halehaven. At the Tyler station the tree growth has been similar, if not identical to Golden Jubilee. The fruit bud set is very light. It has a high chilling requirement. There is a pronounced suture bulge on the truncate-shaped fruit that is objectionable. Redcrest and Scarlet Elberta of this season are more productive. (SN)

Redrose (N.J. 98).—A freestone fruit with greenish-white flesh was developed by the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey (3). Its parentage is J. H. Hale x Delicious, the cross made in 1925. The tree is spreading, of medium vigor and has only fair production. The flavor of the flesh and the appearance of the fruit is not pleasing. It has an acid flavor. Considering the fruit yield, quality and appearance, it is doubtful that the variety has a place in our local plantings. (TNJPC)

Redskin (Md. 1-15).—Originated in College Park, Maryland, by the University of Maryland Department of Horticulture and introduced commercially in 1944 (9). It is a J. H. Hale x Elberta cross. The spreading tree is not as strong as Elberta. Production of yellow-fleshed, freestone fruit is a week earlier and much heavier than Elberta. Fruit of Redskin is not as firm and does not size as well as Elberta under drouth conditions. Because of its lower chilling requirement and slightly heavier set of fruit buds it has promise for sections where Elberta has not been too reliable. Flavor is good, although under certain conditions some astringency is noted. The fruit is attractive and colors well several days before ripening. (BRN)

Rio Oso Gem (USPP 84).—Orginiated in Rio Oso, California, by W. F. Yerkes. Parentage is unknown; introduced commercially in 1933 (9). Two sources of trees were used to obtain material to represent the variety. Neither proved as promising as previously reported from the Nacogdoches station (21). Fruit color and size when adequately thinned did not show to advantage. The tree is a slow grower and weak, although able to support a heavy crop without undue breakage. Fruit bud set is heavy and particular thinning attention is required. Because of scant foliage

cover most seasons, the fruit is not damaged excessively by peach scab and brown rot. The yellow freestone flesh is firm and ships well. The flavor is good. (HBN) (PRF)

Romance.—Introduced commercially in 1947 by the Missouri State Fruit Experiment Station, Mountain Grove, Missouri (9). A cross of Wilma x Halehaven. Material to represent the variety was obtained from two sources. This report covers that supplied by the originator. The spreading tree is vigorous but sets only a medium number of fruit buds. It has a high cold requirement. The foliage was more susceptible to bacterial leafspot in 1957 than Elberta. The yellow freestone flesh is firm, of medium texture and has a slightly acid flavor. The ripening season at the Tyler station is a week earlier than Elberta although it is reported to be 16 days earlier. (MSFES) (PRF)

Salberta. — This is a cross of Salwey x Elberta. Tests conducted at the Nacogdoches station reported it ripening with Elberta (21). Material to represent the variety at the Tyler station ripened 2 weeks after Elberta with Michigold. The upright tree is strong but has a light set of fruit buds. Date of full bloom is the same as Elberta. The yellow flesh is slightly coarse and has a tendency to cling slightly to the large, coarse seed. The flavor of the firm flesh is sweet and of good quality. The medium-sized fruit colors well in advance of ripening. Michigold has been more consistent in producing a desired marketing fruit. (GN)

Sandhill No. 1. — This is an Elberta-type peach ripening about a week before the Elberta. It was found in a planting of Elberta peaches at the Sandhill, South Carolina Station by Dr. L. E. Scott (14). It was thought to be superior to Sullivan Elberta in some respects. In the Tyler planting, it was 10 days earlier than Elberta, in the Loring and Redskin season, either of which is preferred. The spreading trees are of medium vigor, are light bearers and susceptible to bacterial leafspot. The yellow flesh is medium coarse, and has a slightly astringent flavor. It is a freestone. (U.S.PIS)

Scarlet Elberta.—The variety is very similar, if not identical, to Redelberta (USPP 232) which was grown at the Nacogdoches station (21). This is particularly true for fruit characters. The trees in this test are larger, stronger, and have been more consistent in production than previously reported for Redelberta. The fruit is very attractive, well colored with red outside, ranging from bright to dark, before ripening. The flesh is yellow with light red throughout. It stands up well in packing and shipping. The quality is excellent. It is a freestone, ripening 2 weeks or more ahead of Elberta. (SN)

Shinn's Delicious (USPP 15).—Originated in Russelville, Arkansas, by C. T. Shinn and L. C. Smith (11). It is a bud mutation of July Elberta and is reported to ripen 3 weeks earlier than its parent. At the Tyler station it ripened a week earlier than July Elberta. The tree is upright and exhibits a willowy growth. The fruit bud set is heavy, resulting in a heavy set of fruit each season. Excessive thinning failed to improve fruit size which ripened as medium small and was not acceptable for shipping. The fruit is a freestone with yellow flesh that has excellent quality. It is medium in texture and firmness. The foliage and fruit are more susceptible to bacterial leafspot than the parent. (HBN)

Shipper's Late Red. — It is almost a week earlier than Elberta, which it resembles very closely. The trees are strong with a medium fruit bud set. It has not been consistent in producing good crops. The fruit is large, well colored most seasons, firm of flesh and is a good shipper. The flesh is freestone, of medium texture and slightly astringent. (BRN)

Short. — Originated by J. A. Evans of Arlington, Texas. The tree is spreading, vigorous and can ably support a heavy load. Fruit bud set was light each season resulting in lower yields than produced by Elberta. The large fruit is attractive, coloring several days in advance of ripening. The firm flesh is yellow and freestone, with a coarse texture. Its flavor has a slight astringency. It ripens with Elberta. (O.S.G.PN)

Skibbe's Elberta.—This yellow-fleshed, freestone peach originated in Eau Claire, Michigan. Its parentage is unknown. The trees are spreading and vigorous, but have a light fruit bud set. The well-colored fruit is small and has excellent flavor. Its flesh is slightly coarse but firm. Production was poor each season. It matures 10 days earlier than Elberta with Redskin. (TAN)

Southern Glow (False Fireglow). — Origin unknown, but discovered among a lot of trees ordered as Fireglow (8). Introduced commercially in 1951 by the Peach Ridge Farms and Nursery, Clemson, South Carolina. The trees are upright and of medium vigor. The freestone fruit does not size well under a heavy load. Its color is dull. The yellow flesh is tender, slightly watery and sweet to almost flat. The ripening date is a month earlier than Elberta in the Ranger and Sunhigh season. (PRF)

Southhaven No. 20. — A selection of Southhaven that ripens a week earlier than its parent. The trees are strong and upright but produce low yields. The fruit bud set is light. The large, round fruit has poor color. The yellow flesh is of medium texture and firmness. It is a freestone. It ripens with Triogem, Ranger and Sunhigh. (PRF)

Southland (FV 4-155). — Material to represent the variety was obtained from two sources It was originated by the USDA (9). It has a low chilling requirement, 750 hours of 45° F. or less.

The strong upright trees failed to produce satisfactory yields during four fruiting seasons. The yellow flesh is mostly free when tree-ripe. It is medium coarse with some stringiness noted. The quality is excellent. Triogem of the same season is more dependable and has a higher color. (BRN) (WN)

Springtime.—Originated in Ontario, California, by Armstrong Nurseries. Its parentage is (unnamed seedling of Luken's Honey x July Elberta) x Robin (10). It is reported as a yellow freestone, but trees supplied by the above nursery for this test produced clingstone fruit with white flesh. The flesh was coarse, very tender and watery with an acid flavor unless soft-ripe. The fruit colored attractively, well in advance of ripening which was May 18 at the Tyler station. The fruit bud set was good with heavy crops set. Yield was usually low, due to foliage and fruit susceptibility to bacterial leafspot and to repeated attacks by birds. Tree growth was weak, spreading and willowy. (AN)

Starking Delicious (USPP 803).—It is a bud mutation of July Elberta, discovered in 1944, at Dover, Arkansas, by Henry Frank Smith (9). The production has been very good with four good crops during the six fruiting seasons. The flesh is mostly cling, yellow and medium coarse in texture. Its flavor is slightly acid with good quality for the early season. Color of the medium-sized fruit is attractive. It is 3 days earlier than Dixigem and has a higher yield. (SBN)

Stephenson.—A yellow cling developed by J. A. Evans, Arlington, Texas (21). Its fruit characters are excellent and much desired by the trade. The consistently low yields do not justify its planting in this section. The flesh is firm and of fine texture with a flavor that is sweet. Excellent for preserving, freezing and pickling. Some prefer it to the Frank for canning. It ripens 2 days after Elberta. The tree is large and strong but sets a light crop of fruit buds. It has a high chilling requirement of 1,050 hours or more. (O.S.G.PN)

Stoner (USPP 798).—Material to represent the variety was secured from the Peach Ridge Farm and Nursery, Clemson, South Carolina. It was described as a yellow, freestone bud sport of Early Elberta. The fruit grown in this test was a white freestone with good to excellent flavor. Its flesh had fine texture and was medium firm. The tree is strong, spreading and ably supported heavy loads. Fruit bud set is good; yields are high. Because it ripens with Elberta and the trade lacks interest in a white-fleshed peach of the season, it is not recommended for planting. (PRF)

Sullivan Early Elberta.—A bud mutation of Elberta discovered by P. M. Sullivan, Zebulon, Georgia (9). The vigorous, spreading tree sets a good fruit bud crop. It has produced good crops at the Tyler station 50 percent of the fruiting years. The medium-sized fruit does not color as early as desired. Its flesh is yellow freestone and of medium texture and firmness. The quality is only fair. July Elberta (Burbank) is 9 days earlier, produces heavier yields of well-colored fruit. Both varieties are susceptible to bacterial leafspot. (BRN)

Summercrest (N.J. 94).—Originated by M. A. Blake of the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey (3). Its parentage is J. H. Hale x Cumberland; the cross was made in 1926. As previously reported (21) the variety is well adapted to East Texas conditions and fits into the season between Goldeneast and Elberta. Another promising variety, Redskin, is of the same season. Each has outstanding characters that justify its use. The tree is strong, spreading and ably supports heavy loads. The fruit bud set is medium but sufficient to set heavy crops most seasons. Excessive thinning is not ordinarily required. The fruit colors well in advance of ripening. Its color is slightly dull during periods of excessive rainfall. The firm fruit is uniform in size and shape, packs and ships well. It is a freestone with yellow flesh that has an excellent quality. To date, bacterial leafspot has not bothered the variety. (TNJPC)

Summerrose (N.J. 101). — Another of the New Jersey Agricultural Experiment Station introductions by M. A. Blake. It is a cross of J. H. Hale x Delicious (9). It is an excellent white freestone of the July Elberta season. The medium-large fruit colors well in advance of ripening and is attractive. The flesh has a greenish tinge that does not detract from its flavor appeal. Its texture is fine and medium firm. The tree is spreading, vigorous and sets a heavy crop of fruit buds. Light production, in addition to white flesh, limits its use for this section. (TNJFC)

Sunday Elberta (USPP 418).—Originated in Baroda, Michigan, by George P. Sunday. The parentage is unknown (9). The tree is spreading and vigorous, but had a high breakage of limbs under a heavy crop of fruit. A heavy set of fruit buds was made each season. During the years when a heavy fruit crop was set, excessive thinning was required. However, fruit size did not reach that desired for commercial purposes. The medium-small fruit is attractive and colors well in advance of ripening. Its yellow flesh is firm, of good quality and of medium texture. It is a freestone. The ripening date is with Elberta. (GN)

Sun Glo (South Haven). — Originated in South Haven, Michigan, by A. G. Spencer. It is a bud mutation of St. John discovered in 1911 (9). It has a high cold requirement; consequently, the fruit bud set is limited in some seasons. As grown at the Tyler station, the trees are spreading and have only medium vigor. The ex-

tra-large fruit bruises easily and most seasons its color is dull. The yellow flesh is tender and of excellent quality. It is a freestone ripening 4 days earlier than Elberta. If the yield were higher and more consistent it would be an excellent variety for home use. (GN)

Sunhigh (N.J. 82). — Originated in New Brunswick, New Jersey, by the New Jersey Agricultural Experiment Station (9). Its parentage is J. H. Hale x New Jersey 40 C.S. Its chief fault is its susceptibility to bacterial leafspot. In some seasons the fruit is entirely freestone, and in others it approaches a semiclingstone even when full-ripe. Its chilling requirement is less than Elberta, about 750 hours. The medium-large fruit is well colored and attractive. The round-ovate fruit packs and ships well and is popular with the trade. The flesh is yellow, freestone and firm. It has excellent quality. The upright, vigorous tree usually sets a light fruit bud crop, sufficient to set a good crop of fruit most seasons. It ripens a month earlier than Elberta and is of the Ranger and Triogem season. An excellent variety where bacterial leafspot is not a problem. (TNJPC)

Texaberta.—Originated in Belton, Texas, by E. E. Griffith and introduced commercially in 1938 (9). Its parentage is unknown. Its behavior in the tests at Tyler is similar to that reported from the Nacogdoches station (21). Inconsistent production of profitable crops and a very light set of fruit buds are its chief faults. The tree is only medium in vigor and was short lived in this test. The large, round-ovate fruit had good color most seasons. The yellow flesh is firm but coarse in texture. The flavor is dry with a trace of astringency even in full-ripe fruit. It is a freestone that ripens a week earlier than Elberta. (WN-1)

Triogem (N.J. 70).—Another origination of the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey (21). Its parentage is J. H. Hale x Marigold, the cross being made in 1923. The variety is of the Sunhigh and Ranger season and has proved itself commercially in the Jacksonville section over a period of years. The trees are strong and upright, with a tendency to spread and the ability to size a heavy crop. The fruit bud set is generous, yet it is not considered to be a highly prolific variety. The fruit is medium large and the color is excellent for display in both small and large packs. The fruit ripens slowly and can be harvested for shipping several days before fully ripe. The yellow flesh is mostly free of the seed. The quality is good. Some have criticized the lack of high color of fruit especially on fast-growing young trees or during periods of excessive rainfall and cloudy days. (TNJPC)

Tulip.—Originated in Mountain Grove, Missouri, by the Missouri State Fruit Experiment Station. It is an open-pollinated seedling of Sunbeam (9). The chilling requirement is high. Its fruit bud set is moderate and bloom is light. The tree is vigorous and spreading. The fruit, as grown at Tyler, is a cling rather than freestone as previously reported (9). The flesh is yellow, slightly coarse in texture and of medium firmness. Its flavor is astringent. It ripens with Redcap and Coronet, either of which varieties is preferred. (PRF)

Vedette. — Orginated in Vineland, Ontario, Canada, by the Ontario Horticultural Experiment Station. It is an open-pollinated seedling of Elberta (9). The report on its behavior at the Nacogdoches station during the 1938-48 period was favorable (21). Similar performance has been observed at the Tyler station during the 1949-57 period. The tree is strong, vigorous and spreading. It has the ability to support heavy loads and size the fruit. The fruit bud set is good each season. Thus far, bacterial leafspot has not attacked either foliage or fruit to any extent. It is consistent in setting heavy crops and excessive thinning is required most years. It has a high chilling requirement. The fruit is well colored several days in advance of ripening and can be shipped. It makes an attractive pack. The flesh is yellow, firm and has an excellent quality. It is a semi-clingstone. It ripens 3 weeks ahead of Elberta with Halehaven and has proved more dependable than the latter variety. (BRN)

Ventura.—Originated in Riverside, California, by the University of California Citrus Experiment Station and the California Agricultural Extension Service, Ventura, California. Its parentage is Hermosa x an early yellow-fleshed freestone seedling (71-9). First released in 1946 as Seedling 202-10 (7). It has a lower chilling requirement than Babcock. On the basis of two fruiting seasons, the variety was very promising for those sections where a very low chiller is needed, until bacterial leafspot showed during 1957. It proved very susceptible to the disease; the tree was bare of foliage early in June and fruit was extensively damaged before the hard-ripe stage was reached. The yellow flesh is firm and has fine texture. Its flavor is slightly acid. The flesh tends to cling slightly unless full-ripe. It ripens with July Elberta (Burbank). (FN)

Veteran.—Originated in Vineland, Ontario, Canada, at the Ontario Horticultural Experiment Station and introduced commercially in 1928 (9). Its parentage is Vaughan x Stark Early Elberta. In spite of its high cold requirements, 1,050 hours, the variety has been dependable in production at the Nacogdoches (21) and Tyler stations. Sixty percent of its fruiting years at Nacogdoches, 1940-46, it had good crops, while 67 percent good crops were produced at Tyler during 1951-57. The trees are upright and strong. Fruit bud set is light in some seasons, with a tendency most seasons to produce considerable blind budwood. The fruit is round and makes a pleasing pack. The color is not as rich as that of Vedette or Redskin. Its aroma and quality have been rated by many to be superior to any of the varieties tested. The flesh is yellow and variable in its adherence to

the seed as some fruits are semicling while others are freestone. It might be considered more free than semicling. Its flesh is firm and of medium texture. Since Redskin has a lower chilling requirement, a more attractive fruit color, the same ripening period and is equally productive, it might take the place of Veteran in most East Texas orchards. (BRN)

Western Pride.—Originated in Fresno county, California, by Carlton Nursery Company, Forest Grove, Oregon (12). It is said to be an improved Rochester. The tree is strong, upright and ably supports a heavy load. It is very prolific and requires excessive thinning to secure fruit size. Its production record during six fruiting seasons shows 83 percent of the years with good crops. In three of the seasons, it had very heavy yields. It ripens with July Elberta (Burbank) which it resembles in fruit characters. It has not proven as susceptible to bacterial leafspot as July Elberta (Burbank). The shape of the fruits some seasons has been somewhat objectionable because of a prolonged tip. The flesh is yellow, firm and has a medium-fine texture. Its flavor is sweet and of good quality. It is a freestone. Should its lack of susceptibility to bacterial leafspot continue, it could be considered for orchards of this section to precede Elberta by some 4 weeks. (CNC)

White Hale (N.J. 63) (USPP 31). — Originated in New Brunswick, New Jersey, by the New Jersey Agricultural Experiment Station. It is a cross of J. H. Hale x Belle made in 1922 (9). The tree is medium in vigor and sturdy, but is a slow grower. Apparently its chilling requirement is higher than formerly thought since considerable blind budwood is produced most seasons. Its production has not been heavy enough to warrant its growth in commercial orchards. The fruit bud set is light. The fruit is attractively colored well in advance of ripening. Under a moderate set of fruit, the size is unusually large, many fruits being calipered at 4½ to 5 inches in diameter. The flesh is white with considerable streaking of red throughout. It is medium in texture and firmness with a tendency to be tender in certain areas. The flavor is slightly tart to sour. The round fruit is a freestone that ripens a few days after Elberta. (TNJPC)

Wildrose (N.J. 118). — It is another of the New Jersey introductions that ripens at the Tyler station about June 20. These are Cumberland, Golden Jubilee, Newday, Oriole, Raritan Rose, Sunhigh and Triogem. Its parentage is J. H. Hale x Delicious (9). The yield is too low for a white-fleshed freestone ripening at this season; Raritan Rose is more productive. (TNJPC)

Wilma.—It was grown from a pit of Elberta by W. C. Rofhar, Port Clinton, Ohio. The first budding was done in 1911 (17). Its performance as reported from the Nacogdoches station (21) was fairly satisfactory. It was not placed on the recommended list for East Texas plantings. The performance of the variety at the Tyler station was disappointing. The trees are spreading, weak and have a very light set of fruit buds. The yellow, freestone fruit is supposed to follow the Elberta season. At Nacogdoches it was 2 days earlier and in this test it ripened 12 days before its parent. The flesh is coarse and has a flavor that is slightly acid. (GN)

Yates Elberta.—A yellow-fleshed, freestone fruit ripening 2 days later than Elberta. The tree

TABLE 8. LIST OF UNNAMED PEACH SELECTIONS TESTED AT TYLER, 1949-57, WHICH WERE NOT INCLUDED IN PERFORMANCE TABLES AND VARIETY DISCUSSIONS. A NUMBER OF NAMED VARIETIES ARE SHOWN WHICH HAVE NOT BEEN UNDER TEST LONG ENOUGH TO PROVIDE CONCLUSIVE RESULTS

Source	Selection or variety
Armstrong Nurseries Ontario, California	Valigold, Palomar (Nectarine)
Department of Horticulture A. & M. College System College Station, Texas	A 100-1
Kirby Nursery Mt. Selman, Texas	Richhaven, Sunhaven
Peach Ridge Farms Clemson, South Carolina	Early Burbank July Elberta No. 1, Early Burbank July Elberta No. 2, Early Burbank July Elberta No. 3, Early Burbank July Elberta No. 4, Icy Delight, Keystone (FV 177-17), M. A. Blake (NJ 117), No. 1-17, No. 80 (FV-20), Redglobe (B7398), Royal Fay, So Good, Somervee, Sunrise (NJ 133), Supernuts, Vanguard
Texas Agricultural Experiment Station Montague, Texas	Late Elberta
Texas Agricultural Experiment Station Stephenville, Texas	WCT-I, WCT-II
The Grant Merrill Orchards Red Bluff, California	C4-43, C7-43, C9-16, C9-122, C9-161, C9-216, C12-6, C12-16, C14-2, C14-19, C14-38, C14-96, C16-51, C17-19, C17-39, C17-50, C17-63, C17-101, C17-107, C18-6 (Nectarine), C18-8 (Nectarine), C18-20 (Nectarine), C20-52, C20-54, C21-66, C24-10, CB-43, CD-104, CD-107
The New Jersey Peach Council Princeton, New Jersey	Constitution (NJ 176)
The Vienna Nursery Vienna, Illinois (Selections from Illinois Agricultural Experiment Station)	K-61, K-62, K-71, K-76, K-78, K-82, K-87, K-105, K-111, K-124, K-125, 2-8-5, 3-15A-1 (K-128), 2-4A-8, 3-4-1, 3-19-38, 2-7A-18, 3-14-39, 3-18-42, 3-22-2, 3-19A-3, 3-20-2, 1-27-13
USDA Plant Nursery Station Beltsville, Maryland	7230, 7426, 8639, 10362, 10365, 10552, 2-1856 (Nectarine), 3-1284 (Nectarine) 3-1406 (Nectarine), 3-1827 (Nectarine) B3-567, B3-641, B3-736, B3-744, B3-764, B3-777, B3-854, B3-1649, B3-1671, B3-2539, B6-348, B6-643, B6-649, B6-651, B6-741, B7-753, B7-1029, B7-1059, B9-134, B9-286, B9-647, B11-208, B-2765
USDA Horticultural Field Laboratory Fort Valley, Georgia	FV 89-14, FV 90-25, FV 110, FV 11-114, FV 131-50, FV177-28
Virginia Agricultural Experiment Station Blacksburg, Virginia	4-36, 5-64, 10-5 (Nectarine), 10-21 (Nectarine), VPI-34N (Nectarine), VPI-37N (Nectarine), VPI-41N (Nectarine), VPI-43N (Nectarine)

is strong, spreading and able to support a heavy load. Production has been too light for the season. During the 1957 season, bacterial leafspot caused severe damage to the foliage but did not cause any appreciable loss of fruit. (PRF)

Other Varieties Grown

Table 8 shows 122 peach and nectarine selections and named varieties. Performance records have been obtained on most of the selections. Some information has been obtained on most of the named varieties but is not adequate to aid in forming an opinion as to the real merit of the variety.

A report on the performance of any individual variety or selection can be obtained by contacting the Horticulturist, Texas Agricultural Experiment Station, Tyler, Texas.

RECOMMENDED VARIETIES FOR EAST TEXAS

Three principal types of orchards to be considered in recommending a list of peach varieties are the home orchard, plantings of several acres for supplying roadside stands and nearby markets and large plantings to be used mainly for shipping to distant markets.

For Home Orchard

Although the success of home orchards and small acreage plantings is questionable in East Texas, some new plantings are made each season.

A number of the more recent introductions along with some of the older ones will supply the home orchardist with yellow-fleshed varieties which ripen from late May through mid-August. The majority are of high quality and are desirable for fresh eating, dessert, freezing, pickling and canning.

The following varieties cover these requirements (dates are main harvest or full ripe): May 25-June 5, Hiland, Cardinal and Dixired; June 5-15, Redcap, Jerseyland and Coronet; June 15-25, Redhaven, Dixigem and Triogem; June 25-July 5, Ranger, July Elberta (Burbank) and Vedette; July 5-15, Scarlet Elberta and Loring; July 15-25, Veteran, Redskin, Summercrest and Brackett; July 25-August 5, Elberta; and August 5-15, Afterglow, Frank and Michigold.

For Roadside Stands and Nearby Markets

The varieties suggested for home orchard planting, with few exceptions, have good to very good yields and have overlapping ripening periods. Such a combination assures a continuous supply of fruit for 2½ months, June 1 to August 15.

In those areas where interest in white-fleshed varieties justifies their being grown we suggest Maybelle, June 3; Raritan Rose, June 20; Melba, June 24 and Laterose, August 2.

For Shipping

The commercial orchardist interested in shipping to distant markets is confronted with the problem of selecting a few varieties having heavy yields of fruit with high standards of appearance, firmness and quality, in order to have sufficient acreage of each variety to attract buyers interested in wholesale lots.

The following list of nine varieties selected on the basis of their performance with commercial growers, and in our test, should meet the requirements of the commercial orchardist. Dates shown are average for full ripe. Cardinal, June 3; Coronet, June 13; Triogem, June 22; Ranger, June 26; Scarlet Elberta, July 10; Loring, July 15; Redskin, July 19; Elberta, July 27 and Frank, August 10.

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LITERATURE CITED

(1) Blake, M. A. 1943. Classification of fruit bud development on peaches and nectarines and its significance in cultural practice. N. J. Agr. Exp. Sta. Bul. 706.

(2) Blake, M. A. and Connors, C. H. 1936. Early results of peach breeding in New Jersey. N. J. Agr. Exp. Sta. Bul. 599.

(3) Blake, M. A. and Edgerton, L. J. 1946. Breeding and improvement of peach varieties in New Jersey. N. J. Agr. Exp. Sta. Bul. 726.

(4) Blake, M. A. and Edgerton, L. J. 1946. Standards for classifying peach characters. Their use in identifying New Jersey peach varieties. N. J. Agr. Exp. Sta. Bul. 728.

(5) Brooks, Reid M. and Olmo, H. P. 1944. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 45:467-490.

(6) Brooks, Reid M. and Olmo, H. P. 1950. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 56:509-537.

(7) Brooks, Reid M. and Olmo, H. P. 1951. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 58:386-407.

(8) Brooks, Reid M. and Olmo, H. P. 1952. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 60:497-504.

(9) Brooks, Reid M. and Olmo, H. P. 1952. Register of New Fruit and Nut Varieties, 1920-1950. Univ. of Calif. Press. 206 pp.

(10) Brooks, Reid M. and Olmo, H. P. 1953. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 62:513-526.

(11) Brooks, Reid M. and Olmo, H. P. 1954. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 64:535-549.

(12) Brooks, Reid M. and Olmo, H. P. 1955. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 66:445-454.

(13) Brooks, Reid M. and Olmo, H. P. 1956. Register of new fruit and nut varieties. Proc. Amer. Soc. Hort. Sci. 68:611-631.

(14) Havis, A. Leon. Correspondence of May 15, 1953.

(15) Havis, A. Leon. Correspondence of January 2, 1958.

(16) Hedrick, U. P., *et al.* 1917. The peaches of New York. N. Y. (Geneva) Agr. Exp. Sta. Bul. Rpt. 1916. Pt. II.

(17) Hedrick, U. P. 1923. New or noteworthy fruits, VI. N. Y. (Geneva) Agr. Exp. Sta. Bul. 497.

(18) Hedrick, U. P. 1928. New or noteworthy fruits, IX. N. Y. (Geneva) Agr. Exp. Sta. Bul. 551.

(19) Hesse, O. Claron. 1950. Philp and Mabel. Two new nectarines for California. Calif. Agr. Exp. Sta. Bul. 717.

(20) King, D. R. and Morris, H. F. 1957. Peach and plum insects and their control. Tex. Agr. Exp. Sta. Misc. Pub. 190.

(21) Morris, H. F. 1947. Peach varieties for Central East Texas. Tex. Agr. Exp. Sta. Bul. 687.

(22) U. S. Dept. Agr. Yearbook of Agriculture. 1937. pp. 676-677.

(23) USDA Bureau of Plant Industry, Beltsville, Maryland. Release of May 8, 1952.

(24) USDA Bureau of Plant Industry, Beltsville, Maryland. Release of May 11, 1954.

(25) Weinberger, J. H. 1950. Chilling requirements of peach varieties. Proc. Amer. Soc. Hort. Sci. 56:122-128.