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PEACHES AND PLUMS.

 The Bulletins of this Station will be sent Free to any citizen of the State who desires them.

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NOTES FROM THE EXPERIMENT STATION ORCHARD.

[BY THE AGRICULTURIST.]

PEACHES.

In March, 1885, thirty-six varieties of budded peaches were planted upon a sandy ridge which produced in 1884, only 136 lbs. of seed cotton per acre without manure. By the side of these, 22 seedling-trees, grown from selected seed out of choice seedling peaches, were planted. Next to these one row was planted with seed from which a dozen healthy trees were grown and left where they sprang up.

The object in view was to compare the productiveness, hardiness and longevity of transplanted budded trees, transplanted seedlings and seedlings not transplanted, and at the same time to secure a record of the habits, peculiarities and merits of the varieties of budded fruit.

All of the trees were well grown one year's growth from the bud. These were planted, after having the roots examined to see that they were free from borers, in well prepared soil, liberally manured in the drill with compost and kainit. The trees were all cut back to two or three feet when transplanted and have been pruned each spring since by the classes in the school of agriculture. The objects had in view in pruning have been :

(a) To train each tree to shade its own body to prevent sun-scald.

(b) To distribute the growth of limbs uniformly around and above the body, to secure symmetry and to have the weight of fruit uniformly distributed around the point of support.

(c) To strengthen the limbs by shortening back to enable them to sustain a crop of fruit.

(d) To reduce the quantity of fruit by a judicious shortening of the shoots bearing the fruit buds.

(e) To so direct the growth that the crop of fruit could be gathered by a man standing upon the ground.

All of these objects have been attained in nearly every specimen.

Notwithstanding the immense crop of fruit borne last summer the trees were neither broken nor rendered ill-shapen, while trees not pruned were often stripped of all of their branches.

THE BORER.

In October each year the earth is removed from the collar of the tree until the large roots are exposed; a careful search for borers is then made and the tree left thus exposed until the following March, when another search is made for borers and the earth raised around the bodies of the trees a few inches above the general surface. When the earth is removed the collar is scraped free of soil and gum and the knife freely used to find and destroy the borer. Any not found at that time may be readily detected a few days later by the brown castings at the entrance to their dens. A second examination should always be made in five or six days after removing the earth. The borer works just under the bark and may therefore be readily destroyed with a pocket knife. If not removed, they eventually destroy the trees by girdling them just below the surface of the soil. Thousands of peach and plum trees are thus destroyed, without a suspicion on the part of their owners of the cause of death.

The trees have been slightly affected by what is commonly known as root-knot which is supposed to be caused by nematode worms.* Though present upon the roots of many of the trees no serious injury seems to have resulted.

Another enemy, often mistaken for the yellows, (which does not affect peach trees in the cotton States), has recently made its appearance and is proving quite disastrous in

* See Bulletin No. 9 of this station.

some localities. This is the lava of a small brown beetle, which deposits its eggs near the buds on the new growth and at the base of small limbs upon older wood. The lava burrow under the bark and destroy the tree. This enemy is known to entomologists as *scolytus rugulosus*. It has not appeared in the orchard of this station but is destructive in its neighborhood. Trees infested with this enemy should be burned.

DO SEEDLINGS BEAR WHEN BUDDED TREES FAIL.

The affirmative of this question is frequently asserted with the confidence of positive knowledge. In 1887 and 1888 the peach crop on the station was practically a failure because of late frosts. Several varieties of the budded trees bore from one-third to one-half crop each year while there were none on the seedling trees.

In 1889 all bore full crops, but the seedling fruit was so far inferior to the budded varieties that no one would eat the seedlings. Again the seedlings all ripened within a month, while the budded fruit of different varieties supplied excellent ripe fruit from the 6th of June to October 15th. A census of the trees now living shows that we have lost 2 8-10 per cent. of the budded trees, 23 per cent. of the transplanted seedlings and none of the seedlings left to grow where the seed germinated.

But little notice is taken of the death of a scrub cow, but the death of a petted Jersey attracts much attention. Hundreds of seedlings die without attracting attention because of their inferior fruit and the fact that they cost nothing. Greater regrets are felt at the loss of a budded tree for the opposite reason. Both are short lived if neglected or mistreated. The lives of both are prolonged by proper care and attention.

TIME OF FLOWERING AND SIZE OF THE FLOWERS.

A record of the date and duration of blossoming of each variety has been kept for two seasons and notes made upon the size of the flowers for the purpose of inquiring what relation, if any, either bore to fruitfulness or power of

resisting or escaping frost. During the unfavorable seasons of 1887 and 1888 the only varieties which bore fruit were either late bloomers or those which had very large petals.

A very general impression prevails that early varieties blossom late and late varieties early. An examination of the following reports will show that this is not true, and that there is no uniform relation between the date of flowering and season of ripening.

NOTES ON VARIETIES OF PEACHES.

The dates given for flowering denote the beginning and the close of inflorescence. Those for ripening denote the season during which the variety affords fruit naturally ripened. No note was made of specimens ripened prematurely on account of injury by worms or otherwise.

The following account of the varieties, based upon careful, painstaking observations and comparisons, will enable the reader to make intelligent selection of varieties adapted to the purposes for which they are desired. The perfection attained by the peach during the last season was favorable for such observation upon all except a few late varieties, which ripened during a very severe drouth :

Annie Wylie.—Flowered in '88, March 2d to 16th ; in '89, 5th to 19th. Petals very small, fruit large, skin white with red blush white-red at the seed—Clingstone—tender and juicy—very good.* Ripe August 1st to 12th ; comes in when few varieties as good are ripe. Desirable in family orchard.

Alexander.—Synonym, Amsden. Flowered in '88, March 19th to April 4th. In 1889, March 15th to 27th ; petals large. Size of fruit, medium, skin red, flesh white, semi-cling, flesh firm, good. Ripe June 6th to 25th. A standard early market variety. In cool seasons ripens imperfectly next to the pit.

Bernard, early.—In flower March 2d to 23d in 1888, 8th to 19th in 1889. Petals very small, fruit small, skin yellow

*In classifying as to quality, I follow the time-honored and practical method of the American Pomological Society, viz : *good*, *very good*, and *best*, as conveying to the reader a clearer conception than grading from 1 to 10.

mixed with red, flesh yellow, red at seed ; free, texture fine, firm—best. Season July 6th to 22d—amateur culture.

Bustions Oct.—In flower March 2d to 28th in '88, 9th to 22d in '89. Petals large, fruit medium, skin and flesh white; cling, firm, very good. Season Sept. 16th to Oct. 14th. A good late variety for the family orchard.

Chinese Cling.—In flower March 8th to 21st. Petals very large and showey. Fruit very large, skin white striped with red; flesh white, tinged with red near the pit; cling, flesh firm, tender and exceedingly juicy. Ripe July 20th to 30th. This is the largest peach grown and of best quality but is subject to rot; was free from blemish last season. When perfectly developed, good for all purposes.

Chinese Free.—In flower in '88, March 2d to 24th; in '89, 7th to 20th. Petals smalls, fruit large, white with red blush; flesh white, red at seed. Free, firm, very good; Ripe July 10th to to 25th. A good market variety.

Coggin's Early.—Bloomed in '88 March 19th to April 4th; in '89 March 19th to 28th. Petals large, fruit medium, red, flesh white, firm; semi cling, good. Season June 6th to 29th.

Columbia.—Pace ; in flower in 1888, March 9th to 21st in '89, 14th to 25th. Petals very large, fruit large, skin rough, dingy red mixed with yellow, flesh yellow, coarse, firm, free, quality best. A standard variety for the family orchard, but its appearance is not sufficiently attractive for market.

Connor's White.—In flower '88 March 2d to 16th; in '89, 1st to 15th. Petals very large, fruit medium, white with tinge of red; flesh white, red at seed ; cling, flesh very firm, good. Ripe July 17th to 22d. Better varieties ripen with it and last longer.

Crawford's Early.—In flower '88, March 5th to 23d; in '89, 14th to 22d. Petals very small, fruit large, oblong and pointed, skin yellow with red cheek, flesh yellow, firm, best, ripe July 16th to 31st. Excellent for all purposes, one of the standard market varieties until superceded by Elberta. Should have a place in every family orchard.

Crawford's Late.—Flowered in '88, March 2d to 24th ; in

'89 March 8th to 19th. Petals very small, fruit very large. Similar to Crawford's early, but ripens ten days later. A standard market variety.

Deming's September.—In flower '88, March 5th to 23th ; in '89, March 7th to 18th. Petals very small, fruit large, yellow ground striped with red, free, flesh yellow, soft and coarse, good. Ripe August 20th to 30th.

Downing.—In flower '88, March 19th to April 2d ; in '89, 16th to 26th March. Petals large, fruit medium, red, flesh white, semi-cling, firm, good. Ripe June 6th to July 5th.

Duff's Yellow.—Bloomed in '88, March 5th to 21st ; in '89, 8th to 19th. Petals small, fruit large, yellow, tinged with red, flesh yellow, fine and firm, cling, good. Ripe July 16th to 31st.

Duggar's Golden.—In flower '88, March 2d to 19th, in '89, 8th to 20th. Petals very small, fruit large, yellow with tinge of red, flesh yellow, fine and firm, cling, very good. Ripe July 17th to 31st. A very choice variety.

Duggar's White.—In flower '88, March 2d to 21st ; in '89, 7th to 21st. Petals large, white, fruit medium, white, flesh white, very firm ; quality good, ripe July 16th to 22d. Not prolific.

Eaton's Golden.—In flower '88, March 9th to 30th ; in '89, March 14th to 25th. Petals very large, fruit medium yellow, flesh yellow, firm, juicy, cling ; best. Ripe August 18th to 27th. A very choice variety. The best of its season. Excellent for canning and preserving.

Elberta.—In flower '88, March 2d to 19th ; in '89, 7th to 19th. Petals small, fruit large, yellow with red blush, flesh yellow, texture fine and firm and of best quality. free ; ripe July 15th to August 6th. The most popular market variety. Best freestone of its season for home use.

Foster.—In flower '88, March 5th to 19th ; in '89, March 10th to 21st. Petals small, fruit medium flesh yellow, fine grained, firm and juicy, very good, free. Ripe July 10th to 31st. A very desirable variety for family use.

Stonewall Jackson.—In flower '88, March 2d to 24th. In

'89, 9th to 21st. Petals large. Fruit large and very similar in appearance and quality to its parent, Chinese cling, but ripens earlier.

General Lee.—Flowered '88, March 2d to 28th; in '89, 8th to 21st. Petals very large, fruit almost identical with Stonewall Jackson. This is also a seedling of Chinese Cling. Both are less liable to rot than their parent.

General Taylor.—In flower from 2d to 19th March in 1888, from 9th to 19th in 1889. Petals small, fruit medium, dark red, cling, flesh red and white, fine grained and firm, very good; ripe June 29th to July 22; a very desirable variety.

Hales Early.—In flower in 1888, March 19th to April 2d; in 1889, March 15th to 25th. Petals very large, fruit medium, red, semi-cling, flesh white and very firm, good; ripe June 22d to July 15th. Twenty years ago, this was the earliest peach and a standard market variety. A number of its seedlings now ripen a month earlier. Liable to rot on good land.

Hudson's November.—In flower March 15th to 28th. Petals very large, fruit medium, white tinged with red, cling; flesh white, red at the seed, firm, good. Ripe in October. Too much injured by drouth to determine limits of its season.

Indian Blood.—In flower in 1888, March 2d to 30th; in 1889, 12th to 22d. Petals medium, fruit medium red, cling; flesh red, firm, slightly acid, good. Ripe August 13th to 19th. Not first class in quality, but hardy and reliable.

Lady Parham.—In flower '88, March 7th to April 2d; in '89, March 15th to 22d. Petals very large; fruit medium, white, slightly tinged with red, free. Flesh white, red at seed, soft, good, ripe September 10th to October 10th. A very desirable late variety

Lemon Cling.—In flower in '88, March 5th to 21st; in '89, 8th to 22d. Petals very large; fruit large oblong-lemon shaped, yellow with red blush, cling; flesh yellow, firm, very good. Ripe, August 1st to 20th. A very desirable

variety, rarely fails to bear some fruit even in most unfavorable seasons.

Muscogee.—In flower in '88, March 5th to 16th; in '89, 10th to 18th. Petals small; fruit medium, white, free. Flesh white, red at seed, fine and firm, good. Ripe July 31st to August 20th.

Mixon's White.—In flower '88, March 2d to 24th; in '89, March 8th to 22d. Petals medium, fruit medium, white, cling; flesh firm, white, very good. Ripe September 10th to 25th.

Rivers' Early.—In flower 1888, March 9th to 30th; in '89, March 14th to 24th. Petals very large, fruit above medium, white, tinged with red; semi-cling, flesh white, tender and very juicy; very good; ripe June 17th to July 7th. A choice variety for family use; too tender for marketing.

Royal George.—In flower '88, March 2d to 16th; in '89, 1st to 15th. Petals very small, fruit above medium, white with red flush, free, flesh white, red at stone, tender and juicy; best. Ripe June 26th to July 8th. A very desirable variety for the family orchard.

Stevenson's Oct.—In flower in 1888, March 5th to 24th; in '89, 15th to 23d; petals very large, fruit medium, white, tinged with red, cling, flesh white, red at seed, firm, good. Ripe September 10th to October.

Stump the World.—In flower 1888, March 14th to 30th; in '89, 14th to 21st; petals very small, fruit large, white with red blush, free, flesh white, red at seed, firm and juicy; best. Ripe July 8th to 22d. A standard variety for family use and for market.

Thurber.—In flower in 1888, March 2d to 21st; in 1889, 7th to 19th; petals very small, fruit medium, white, tinged with red, free; flesh white, red at seed, tender but coarse; very good. Ripe July 13th to 25th.

Tillotson.—In flower 1888, March 2d to 19th; in '89, 4th to 15th; petals very small, fruit medium, white, nearly covered with red, free, flesh tender and juicy, best. Ripe June 28th to July 8th; blossoms too early to be a sure

bearer, but the quality of the fruit gives it a place in every collection. Before the introduction of Hale, this was the earliest variety.

Tuskenia.—In flower in 1888, March 2d to 16th; in 1889, 6th to 20th; petals very small, fruit medium, red, cling; flesh yellow, firm, good. Ripe July 10th to 27th.

CLASSIFICATION OF VARIETIES WITH REFERENCE TO USE.

For Shipping.—Alexander, Thurber, Chinese Free, Crawford's Early, Chinese Cling, Elberta, Crawford's Late, Jackson, Lee, and Stump the World.

For Canning.—Bernard, Chinese Free, Columbia, Crawford's Early, Elberta, Crawford's Late, Deming's Sept, Duff's Yellow, Duggar's Golden, Foster, Lemon Cling, Mixon's White, Stump the World, Chinese Cling, Jackson and Lee.

For Family Use.—Alexander, Bernard, Chinese Cling, Chinese Free, Columbia, Crawford's early, Duff's Yellow, Duggar's golden, Eaton's golden, Elberta, Foster, General Lee, Stonewall Jackson, Hale's Early, Lady Parham, Lemon Cling, Mixon's White, Rivers, Royal George, Stump the World, Tillotson, Bustion's Oct.

If only a small number is desired selection may be made of those ripening in succession. For market, it is better to plant only a few varieties which ripen at different dates and which uniformly command the best price. The Elberta is the most noted market variety. Some growers plant hundreds of acres in Elberta alone.

PLUMS.

The following varieties of improved Chickasaw plums have been fruited—some of them three years in succession.

The Hattie and Marianna grow readily from cuttings and are being used as stocks for peaches. They seem to be less subject to attack by the peach borer than either the peach or other varieties of plums.

The Missouri and Cumberland, on account of late flowering, escaped frost in 1887 and 1888 when the fruit on all other varieties was killed.

NOTES ON VARIETIES.

Brill.—In flower March 9th to 21st. Fruit small, round, very dark red when fully ripe, has a sweet cherry flavor, Texture soft. Ripe June 1st to 22d. Free, a thrifty compact grower.

Cumberland.—In flower March 26th to April 6th. Fruit large, oblong, yellow, firm, good. Not of as good quality as some others, but valuable on account of ripening after others are gone. Ripe July 31st to August 26th.

Hattie.—In flower March 15th to 25th. Fruit, large, red, roundish, firm, best. Ripe June 15th to July 8th. Tree vigorous and compact grower. Comparatively exempt from attack of peach borer.

Hendricks.—In flower March 17th to 22d. Fruit medium, round, yellow with blush of red, tender, very good. Ripe June 6th to 22d. Tree vigorous, symmetrical grower.

Hughes.—In flower March 19th to 26th. Fruit medium, round, light, red, tender, good. Ripe July 8th to August 22d. Tree low and spreading in its habit. Disposed to overcrop itself.

Indian Chief.—In flower March 20th to 26th. Fruit medium, red, oblong, firm, good. Ripe June 25th to July 15th.

Marianna.—In flower March 9th to 20th. Fruit large, roundish, purplish red, firm, good. Ripe June 17th to July 8th. Tree vigorous, compact grower, comparatively free from attack of peach borer. Grows well from cuttings. Is used as stock for peaches.

Missouri.—In flower March 25th to April 6th. Fruit medium, oblong, glossy red, firm and good. Ripe July 8th to August 20th. Desirable on account of late flowering and late ripening.

Newman.—In flower March 18th to 24th. Fruit medium, oblong, bright red, firm, good. Ripe July 8th to Aug. 25th. Tree low, spreading. Tendency to overbear.

Southern Golden.—In flower March 20th to 28th. Fruit medium, oblong, yellow, tender, best. Ripe June 25th to July 8th. Rather a feeble grower.

Weaver.—In flower March 16th to 22d. Fruit small, oblong, red, firm, good. Ripe June 25th to July 20th.

Wild Goose.—In flower March 21st to 26th. Fruit large, oblong, bright red with specks of white, very firm, very good. Ripe June 8th to July 5th. Tree open, straggling grower. All of these varieties, except Brill and Hendricks, should be picked when they commence coloring, and ripened in the house if for family consumption, or packed, if for market, as soon as gathered. They ripen en route, acquiring a brilliant color and better flavor than when ripened on the tree. The plum is one of the most profitable fruits for shipping to northern markets. The Wild Goose has brought from \$6.00 to \$10.00 per bushel in the New York market for the last ten years.

