

New York Agricultural Experiment Station

GENEVA, N. Y.

NEW OR NOTEWORTHY FRUITS. VI U. P. HEDRICK



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 them.

†Members of the faculty of the New York State College of Agriculture affiliated with this Station.



CORTLAND

BULLETIN No. 497

NEW OR NOTEWORTHY FRUITS. VI

U. P. HEDRICK

INTRODUCTION

This Station makes an effort to test every new fruit offered by American nurserymen which seems suited to the soil and climate of New York. It is also attempting to breed new varieties of all hardy fruits. From time to time these new fruits are described in special bulletins such as the one in hand, the sixth of these publications.

It must be said at once, to prevent futile inquiry, that plants, cuttings, or cions of new fruits cannot be obtained from this Station. All varieties originating on these grounds are being distributed at about the cost of production by the New York State Fruit Testing Cooperative Association, Incorporated, the Secretary of which, Richard Wellington, should be addressed at this Station. Of necessity the stock of some is limited, and fruit growers must be content to wait should the supply of any variety be exhausted when application is made for it. Plants of the Golden Delicious apple and Wilma peach should be purchased from the introducers, whose names are given in the discussions of these varieties.

APPLES

Cortland.—No new variety is now receiving more attention than Cortland, the most promising of the tree-fruits that have originated at this Station. The variety is a cross between Ben Davis and McIntosh made in 1898, but the seedling did not fruit until 1906 and was not generally introduced until 1915. Cortland is of the type of McIntosh and promises to take the place of that well-known variety for all purposes. The fruits of the two varieties are so similar that there is certain to be confusion if the differences are not carefully noted. The fruits of Cortland are more oblate and flatter across the base than those of McIntosh; they average larger and are possibly a little more uniform in size; they have more color and the red is lighter and brighter and the stripings and splashes are laid on differently; the bloom is much the same or a little heavier; the taste can hardly be distinguished from that of McIntosh, but is even richer if that be possible; there is a little less aroma; the flesh is firmer but

just as juicy; the season is from one to three weeks later; the apples do not drop so readily. The trees of the two varieties are much the same, differing chiefly in more slender and willowy branches in Cortland. From this comparison it will be seen that Cortland is an improved McIntosh.

Cortland is one of several varieties of the McIntosh type which have originated on the grounds of this Station. Fruit growers will be interested in two other similar varieties which will probably be introduced next year. One is an early McIntosh which ripens in August; the other is a late McIntosh which keeps from one to two months later in common storage. The beauty and high quality of apples of the McIntosh type; and the vigor, productiveness, regularity in bearing, and great hardiness in tree of all of these apples commend them as about the best varieties for New York. The fruits of McIntosh and Cortland cannot be surpassed by apples grown anywhere else in the world, and apple growers in New York have an opportunity to specialize in distinctive fruits that will bring greater renown and profits to the apple industry of the State.

Tree large, vigorous, upright-spreading, hardy, productive, healthy; trunk stocky, smooth. Flowers bloom in midseason. Fruit a little later than that of McIntosh, extending the season two or three weeks; large, round-oblate, slightly ribbed; stem variable in length, usually slender; cavity obtuse, broad, considerably russeted; calyx small, partly open; lobes separated, broad at the base, acute to acuminate; basin medium in depth and width, obtuse; skin tough, smooth, with much bloom; color greenish-yellow overlaid with bright red, blushed with darker red, splashed and striped with carmine; dots few, small, numerous around the basin end; flesh white, often with a pinkish tinge, fine, crisp, tender, juicy, subacid, aromatic; quality very good. Core of medium size, partly open, with clasping core-lines; calyx-tube long, conical; carpels obovate, not tufted; seeds of medium size, wide, plump, obtuse to acute, numerous.

Tioga.—New York apple growers have no good yellow apple that can be grown profitably. Green Newtown is at home in but few localities in the State. Grimes Golden is not profitable in any part of New York. Fall Pippin, a much neglected variety, seems not to win the favor it deserves. To give growers a good yellow apple this Station introduced Tioga in 1915. The new variety is a cross between Sutton and Northern Spy, the fruits of which, curiously enough, much resemble those of Green Newtown. Possibly the greatest asset of the variety is its late season. It keeps to the end of the apple season in common storage, maintaining its firm flesh and handsome

yellow color to the very end. The flesh is firm, fine, juicy, richly flavored, aromatic, sprightly subacid. The quality is very good for those who like a tart apple—a little too tart for a good dessert fruit. For all culinary purposes, the apples are hardly excelled. The tree is the type of that of Northern Spy, and here, perhaps, is a fault that will condemn the new variety. Like Northern Spy, the trees are very late in coming in bearing, a fault that could not be foreseen when Tioga was introduced. But, at least, the new variety is worthy a trial for home orchards, and those who grow fruit for local markets will probably find it a profitable sort for late winter and spring sales.

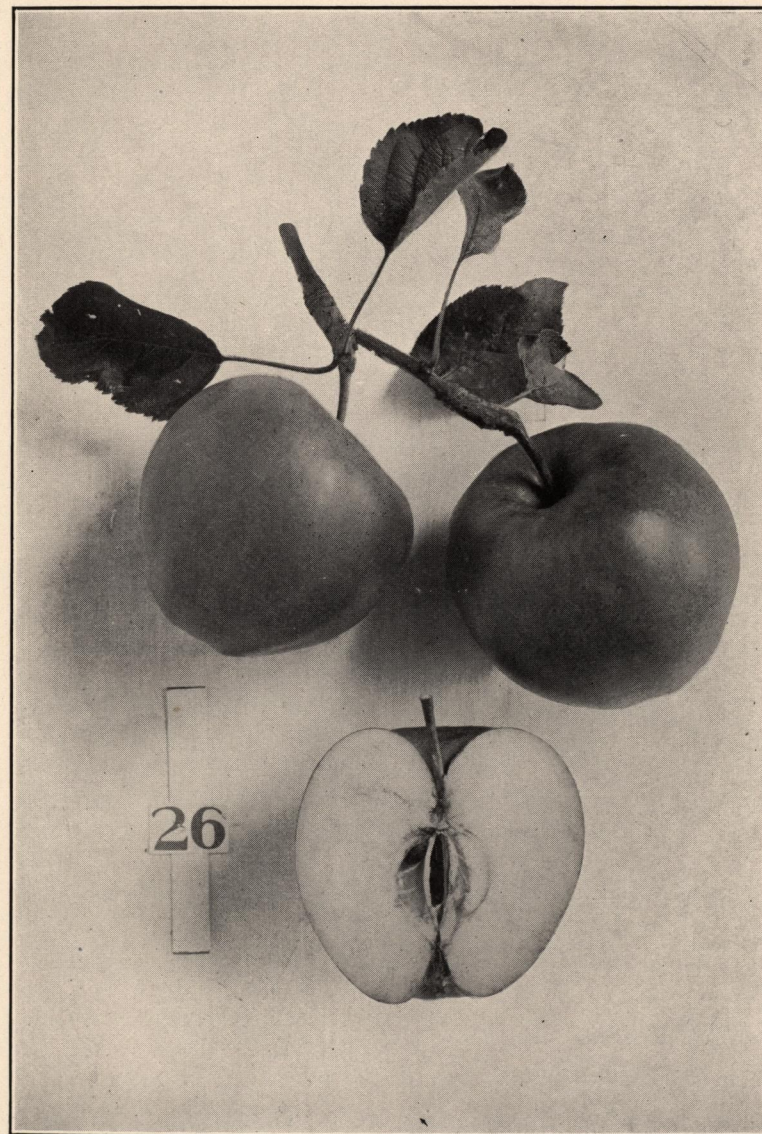
Tree large, vigorous, upright-spreading, Spy-like, hardy, healthy; trunk stocky, smooth; branches thick, smooth. Flowers late midseason. Fruit late; large, fairly uniform, round-oblate, ribbed, with unequal sides; stem short to medium, thick, with thickened tip; cavity acute, deep, very broad, russeted, furrowed; calyx nearly closed, of medium size; lobes long, broad, acute; basin deep, medium in width, abrupt, furrowed, symmetrical; skin tough, smooth, dull; color pale yellow, sometimes with a mottled, pink blush on the sunny side; dots numerous, small, conspicuous, russet, areolar; flesh yellow, firm, crisp, tender, juicy, brisk subacid, aromatic, sprightly; quality good. Core large, partly open, with meeting core-lines; calyx-tube long, wide, conical; carpels roundish-oval, emarginate; seeds of medium size, wide, plump, acute.

Red Spy.—In the spring of 1910 cions of a remarkable sport of Northern Spy were received at this Station from C. E. Green, Victor, New York. These were bench-grafted and set in nursery rows, from which they were moved to the orchard in 1912. The trees did not fruit until 1920, when it was found that all that the discoverer of the sport had said was true. The apples are typical Spies excepting in color. The color is a solid bright red without either stripes or splashes. All who have seen them declare these to be the handsomest Spies they have ever seen. There is no need of further description as every apple grower knows Northern Spy, and "Red Spy," the name given this sport, sets forth the only difference between this sporting offspring and its parent. Whoever grows Northern Spy, either for profit or pleasure, should try Red Spy. It is true that the new variety has the serious fault of the parent, that of coming in bearing late, but there are many good characters to offset this fault. Thus, there are delectable quality and great beauty in the fruits, and in the tree hardiness, healthfulness, productiveness, and reliability in bearing to commend these two varieties. Nor should it be forgotten that the trees are long-lived, nearly perfect orchard plants, and that they bloom very late thereby often

escaping late spring frosts which ruin the crops of other varieties. Northern Spy is still one of the best apples for New York, and Red Spy, with its beautiful fruits, will give new life to this old sort.

Golden Delicious.—One of the reasons why yellow apples are less popular in America than red ones is that there are very few good varieties with yellow fruits that can be profitably grown in this country. The half dozen good yellow sorts now being planted succeed only in a few restricted localities. A good yellow dessert apple that can be grown as widely as Baldwin in the North or Stayman in the South would be a great boon to the apple industry of the country. Golden Delicious is being introduced to fill this place. Those who know the variety best, expect that it will soon take rank with the best red varieties. Altho it has fruited several years on the Station grounds, we cannot yet speak with confidence of the desirability of the new variety for large plantings in New York. The variety has not been tried sufficiently long in the varied soils and climates of this State to ascertain its range of adaptations. But it is well worth trying in any commercial planting of apples, and all who set apples for home use should plant it. On the grounds of this Station the trees are hardy, healthy, productive, bear early, and have no marked faults. Most of the fruit characters are splendid. The apples are golden yellow with firm, juicy, richly flavored flesh. No yellow apple is handsomer or better flavored. Moreover, it keeps and ships well quite to the end of the apple season. Under conditions at all adverse, the apples are not as large as one could wish, and there is a tendency to shrivel in warm or dry storage rooms where most other sorts withstand these conditions. Golden Delicious originated as a chance seedling in West Virginia in the orchard of A. H. Mullins more than thirty years ago. It was introduced by Stark Brothers, Louisiana, Missouri, in 1916.

Tree upright-spreading, hardy, productive, healthy; trunk thick and smooth; branches slender, smooth. Flowers open late, large, $1\frac{1}{2}$ inches across, white, delicately tinted with pale pink along the edges, well distributed. Fruit late; large, oblong-conic, with a broad base, distinctly ribbed, symmetrical; stem $1\frac{3}{4}$ inches long, slender, curved; cavity acuminate, very deep, broad, smooth or gently furrowed; calyx large, closed; lobes long, broad, pubescent; basin of medium depth, narrow, abrupt, furrowed; skin tender, smooth, dull; color clear golden yellow; dots numerous, small, russet, submerged around the apex; flesh yellow, firm, crisp, tender, juicy, mildly subacid, pleasantly aromatic; quality very good. Core unusually large, with distinct, yellow, clasping core-lines; calyx-tube long, wide, funnel-shaped; carpels round-oval, tufted; seeds numerous, large, wide, plump.



GOLDEN DELICIOUS



WILMA—REDUCED

PEAR

Cayuga.—The chief end sought in breeding pears at this Station is to obtain a variety less susceptible to blight than any of the standard commercial sorts now grown. Seckel, being fairly free from blight, and with splendid tree and fruit characters, except size of fruit, is the parent that has been most commonly used. Eight Seckel seedlings are now being propagated as in some measure meeting the requirements set for a variety of sufficient merit to be introduced. It will be a surprise to fruit growers to know the number of seedlings discarded from the plantings which have given eight kinds worth a second trial—more than 2,000 seedlings have been rejected, or about 250 discards to 1 saved. Of these eight promising kinds, one has been named Cayuga and is being distributed. The tree characters of this new sort on the Station grounds seem to be about all that could be desired. The young trees are vigorous, healthy, and free from blight. This does not mean that the variety is blight proof; it will take years and plantings under many conditions to make sure of the relations of Cayuga to blight. The fruits of the new variety are quite as remarkable as the trees. The pears average as large as those of Bartlett but in shape are similar to Seckel and in color to Clairgeau. The flesh is firm and fine in texture quite to the center, with the rich, delectable flavor of Seckel, altho not quite so spicy as Seckel. It is not too much to say that the quality is better than in any other standard sort excepting Seckel. Of all fruits, it is most difficult to predict whether a new pear will make its way in commercial culture. About all that should be said of any new pear is, "it is worth trying," and this is all that is here said of Cayuga.

Tree large, vigorous, upright-pyramidal, hardy, productive, healthy; trunk of medium thickness, smooth; branches slender, smooth. Flowers midseason or late. Fruit September to November; large, obtuse-pyriform, greenish-yellow, with a mottled, dull red, sometimes pinkish blush; texture granular at the center, firm but tender, very juicy, sweet, aromatic, pleasant; quality good.

PEACH

Wilma.—Fruit growers very much want a yellow-fleshed peach a little later in season than Elberta. Many sorts have been advertised to fill this particular niche in peach growing. On our grounds, Frances fills this place very well, and for some years we have been recommending it to follow Elberta. But Frances does not receive general approval from fruit growers and we have been on the lookout

for another variety to take its place. Wilma seems to be the peach we have been trying to find. The trees are vigorous, productive, and hardy enough to withstand the coldest winter recorded in the last half century—the winter of 1917-18. The peaches are as large as those of Elberta, about the same color, a little rounder, are better in quality, and ripen a week later. While the peaches are handsomer and of better quality than those of Elberta, the chief right of the variety for a place in the pomology of New York is in its being later than Elberta. If it turns out that Wilma has in any great degree the wonderful adaptability of Elberta to all soils and climates suited for peach growing, the new variety will be a great addition to the peach industry of New York. Wilma was grown from a pit of Elberta by W. C. Rofkar, Port Clinton, Ohio. The first budding was done in 1911.

Tree large, vigorous, upright-spreading, rapid growing, hardy, productive, bears annual crops; trunk medium to stocky, smooth; branches thick, smooth. Leaves medium to large, lanceolate, dark green; margins glandular, serrate; petiole short, reddish; glands 3, alternate, small, globose, at the base of the leaf. Flowers medium to late, large, pale pink, fertile, well distributed. Fruit mid-season; very large, round-oval, with unequal halves; cavity deep, irregular, abrupt; suture shallow, the greatest bulge near the apex which is in a small depression variable in depth; color yellow, mottled and blushed with bright, dark red; pubescence short, thick; skin adherent to the pulp; flesh yellow, juicy, tender, ripens unevenly, pleasantly sprightly; quality good. Stone free, large, long-oval.

CHERRY

Chase.—English Morello is the standard late sour cherry in North America. Both trees and fruits, however, have marked faults. The trees are very small, quite subject to several diseases, and somewhat capricious to soils, while the fruits run small and are too sour and astringent to be agreeable in the uncooked state, altho very good in whatever way cooked. Chase is a cherry of the English Morello type with fewer faults. The trees are larger, healthier, more spreading, drooping not at all as do the branches of English Morello, with larger leaves and fruit better distributed. The fruits are larger, of the same dark color, stem shorter, of the same shape but with a deeper cavity, ripen a little earlier in season, but are markedly milder in flavor and therefore pleasanter to eat out of hand. Chase is an improved English Morello and should be planted in place of that well-known variety. The history of the Chase is a little obscure. It seems to have been found in Riga, Monroe County, New



HUNTER
(Reduced in size)

York, about 1890 by Lewis Chase of Chase Brothers Company, Rochester, New York. The new cherry was named Riga and under this name was offered for many years by Chase Brothers. There is, however, an older Riga, a Russian cherry much grown in the Middle West, and on the suggestion of this Station the name was changed from Riga to Chase.

Tree of medium size, vigorous, spreading, drooping slightly, hardy, productive, healthy; trunk stocky, shaggy. Leaves large, $4\frac{1}{2}$ inches long, $2\frac{1}{4}$ inches wide, obovate, with an abrupt base, thick, dull dark green; margins crenate; petiole short, thick; glands 1 to 4, large, reniform, usually at the base of the leaf. Flowers late, $1\frac{1}{8}$ inches across, well distributed. Fruit late, large, round-cordate, compressed; cavity deep, abrupt; suture distinct; apex roundish; stem very short; color very dark red; skin thin, tender, separates from the pulp; flesh dark red, with dark red juice, tender, very sprightly, astringent becoming slightly milder at full maturity; quality good. Stone semi-cling, of medium size, ovate, blunt-pointed, with smooth surfaces.

NECTARINE

Hunter.—Nectarines are little grown in New York chiefly because the curculio finds the smooth-skinned fruits quite to its taste and usually plays havoc with the crop. But the curculio is easily controlled by spraying, and, now that spraying is a common practice, this pest is not nearly so common as it once was. The nectarine, as all know, is a smooth-skinned peach, and there are no reasons why, with well-developed varieties, this little-known fruit should not be grown wherever peaches are planted. Americans prefer peaches, but Europeans, who know nectarines better than Americans, prefer them. The smooth skin is in no way objectionable as is the fuzzy epidermis of the peach; the flesh is usually sweeter and richer; and, canned or dried, the nectarine makes a handsomer product. Certainly nectarines would add variety to the list of fruits for New York if there were suitable varieties. Not more than a dozen nectarines are available for New York planters—there are probably 200 peaches—and but four nectarines, Boston, Elruge, Newton, and Victoria are worth trying. It seems desirable, almost imperative, that this Station set out to breed better nectarines and this we are doing. Hunter is the first sort to be offered. The tree is large, vigorous, hardy, healthy, and productive. The fruits are large, handsomely colored, as shown in the color-plate, and very good in quality. Only one other nectarine in the Station orchard equals Hunter in tree or fruit, and that, the Victoria, is late while Hunter is

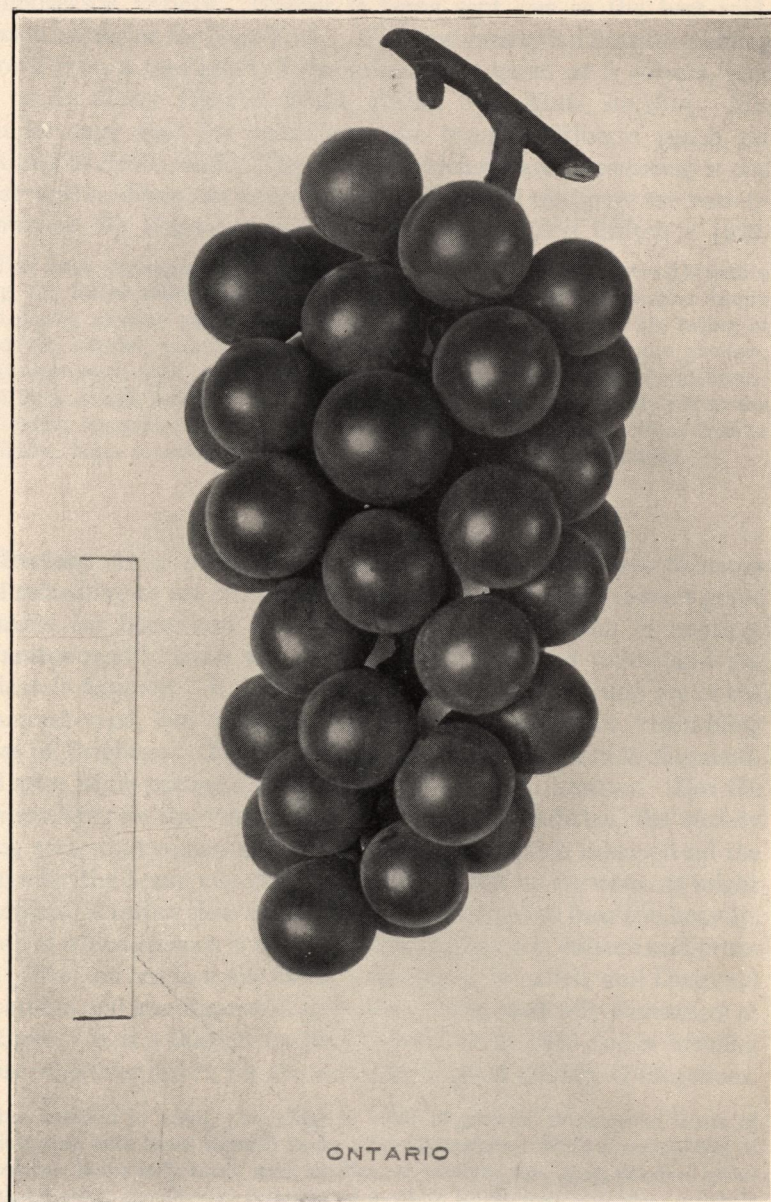
a midseason variety. Hunter is being sent out as the best mid-season nectarine for New York. The new variety is a Station seedling grown from a seed sport, if the information given us is correct, sent to us by Harry Hunter, White Plains, New York, in 1914. Mr. Hunter says that his nectarine came from an Elberta peach pit planted in April, 1916. The Hunter which we are introducing is one of several seedlings, an improvement in fruit and tree, over the variety grown by Mr. Hunter from the Elberta pit. It first fruited in 1920.

Tree large, vigorous, upright-spreading, hardy, productive. Leaves $6\frac{1}{4}$ inches long, $1\frac{1}{2}$ inches wide, lanceolate, with acute apex, dark green; margins deeply and doubly serrate; petiole very short. Fruit midseason; large, $2\frac{1}{4}$ inches in diameter, regular, roundish, with equal halves; cavity deep; suture shallow; apex depressed; color reddish-yellow, mottled and heavily blushed, glabrous; skin thick, tough, semi-adherent to the pulp; flesh yellowish, slightly red at the pit, juicy, fine-grained, tender, sweet, sprightly; quality good. Stone free to semi-free, large, roundish-oval, plump at the apex, with pitted surfaces.

GRAPES

Brocton.—It is impossible to name a native grape more delicious and refreshing to eat out of hand than Brocton, a green dessert grape suitable for home use and local markets. The flesh is melting, separates readily from the seeds and is sweet, and richly and yet delicately flavored. In berry, season, and flavor, the fruits are of the Diamond type, but the bunches are larger and looser, resembling those of Brighton. The berries are too tender for distant shipment, and after being packed a week or ten days begin to shatter. But the clusters hang on the vines a long time in good condition, the variety being somewhat remarkable for this character which makes it all the better for the home vineyard. The vine is not so vigorous as might be wished, is rather slow in growth, and is inclined to bear too heavily, for all of which reasons it should have special care in culture and pruning. Brocton has in it the blood of Brighton, Winchell, and Diamond as parents and grandparents, and carries most markedly characters of all three. It is a Station seedling introduced in 1919 and is winning praise wherever grown for the exceedingly good quality of its grapes.

Vine medium in vigor, straggling in habit of growth, productive; trunk of medium size, with loose, shreddy bark; stamens upright. Fruit ripens the last of September, keeps only fairly well; clusters of medium size, long, slender, cylindrical, tapering, shouldered; peduncle of medium length and thickness; pedicels slender, covered with warts; brush pale green, very adherent to the pedicel. Berries variable in size and shape, oval, light green, touched with pale amber



ONTARIO

where exposed to the sun, with thin bloom; skin thin, separates readily from the pulp; flesh soft, tender, with an abundance of thin, uncolored juice, aromatic, sweet, mild, refreshing; quality very good to best. Seeds separate readily from the pulp, average 2 in number.

Dunkirk.—Asked to name the grape of grapes for market and home, nearly all would say Delaware. But the vines are small, slow of growth, susceptible to mildew, capricious as to soils, and bunches and berries are small. One of the aims in grape-breeding at this Station is to produce varieties similar to Delaware without the faults that have just been named. Dunkirk is the first sort to be sent out to fill this place. Bunches and berries of Dunkirk are similar to those of Delaware, but both are larger, and the crop ripens later and keeps longer. The skin is thin like that of Delaware, but is tough enough to make the grapes good shippers. The clusters are unusually uniform in shape and size, compact and well filled by the berries. The vine is vigorous, hardy, healthy and in the Station vineyard very productive. Exceptionally short internodes constitute a marked characteristic of the vine. The variety is self-fertile, in fact, produces so much pollen as to suggest that it is a good pollinator. Dunkirk is an offspring of Brighton crossed with Jefferson and was introduced by this Station, in the vineyards of which it originated, in 1920.

Vine vigorous, hardy, productive, healthy; trunk medium in size, with loose, shreddy bark. Flowers bloom early midseason, fertile; stamens upright. Fruit ripening soon after Delaware; clusters of medium size, cylindrical, tapering, usually not shouldered, compact; peduncle short, slender. Brush yellowish-green, with brown tinge. Berries medium in size, round-oval, red; skin separates readily from the pulp; flesh juicy, tender, melting, aromatic, sweet, mild, refreshing; quality good to very good. Seeds separate readily from the pulp, 3 in number, medium in size, length, and width.

Ontario.—There is no dearth of early green grapes of the very best quality—high quality more often goes with green in grapes than with any other color—but the vine characters are usually poor. Thus, Winchell, Diamond, Colerain, Jessica, and Lady, earlier grapes than Niagara, a midseason sort, are all sweet, rich, refreshing, rated high in quality, but fail in vines. To take the place of these poor-growing sorts the Station is sending out two seedlings, Ontario and Portland, both bearing fruits of higher quality and both having good habits in vine. Ontario is a cross between Winchell and Diamond which comes in season a little before Winchell, hitherto the best early green grape. Bunches and berries are larger and more attrac-

tive in appearance than those of either of the parents, the bunches are not quite so compact, and unlike those of either parent are usually single-shouldered. The vines are more vigorous and more productive than those of Winchell or Diamond. The grapes hang on the vines long after ripening, but have the fault after having been harvested of shelling somewhat prematurely. Ontario was introduced in 1908 and is giving satisfaction wherever grown.

Vine vigorous, hardy, drooping, productive; trunk of medium size, with loose, shreddy bark which separates into broad, irregular strips. Flowers open about the middle of June, fertile; stamens upright, long. Fruit early, the last of August; clusters medium to large, cylindrical, single-shouldered, loose; peduncle brittle, usually long and thick; pedicels covered with warts; brush greenish-white, enlarged at the point of attachment to the pedicel. Berries of medium size, uniform, roundish, light green, tinged with amber in sunny exposures, with thin bloom; skin separates readily from the pulp; flesh with thick, uncolored juice, firm, juicy, tender, aromatic, vinous, sweet, refreshing; quality very good. Seeds separate readily from the pulp, average 1 or 2, of medium size and length.

Portland.—Ontario, described above, takes first rank as an early green grape for home use, and Portland, ripening at about the same time, holds first place among the grapes grown by this Station in its three experimental vineyards at Geneva, Fredonia, and Urbana, as an early green variety for the market. The vine in this variety is particularly satisfactory, as it is very vigorous, hardy, productive, and healthy. The variety is remarkable for its luxuriant and persistent foliage. The vines seem to grow best, and to be most productive when trained by the high-renewal method. The grapes of Portland are scarcely less remarkable than the vines. Bunches and berries are larger than those of any other early green grape and quite equal in size to the bunches and berries of Niagara. The quality is better than that of any other native green grape excepting Ontario which it does not equal. When dead ripe, the grapes develop a little more foxiness in flavor than the best grapes have, altho many grape lovers like this foxy or musky taste. The grapes pack, ship, and keep well when picked before full maturity, but when dead ripe the berries shatter. Curiously enough this rather remarkable green grape is an offspring of a black grape, Champion, and a red one, Lutie, both of which it resembles in vine and somewhat in fruit except in color and quality. It was introduced in 1912 and is now becoming well known to grape growers.

Vine vigorous, hardy, productive, healthy; trunk of medium size, with loose, shreddy bark which separates into broad irregular strips. Flowers open about



PORTLAND

the middle of June, fertile; stamens upright. Fruit very early; clusters medium to large, variable in length and width, tapering, often with a shoulder which varies in size, usually loose but occasionally with a few compact bunches; peduncle long; pedicels covered with warts; brush yellowish-green, much enlarged at the point of attachment to the pedicel. Berries uniform in size and shape, large, round, green, amber where exposed to the sun, with thin bloom; skin tough, separates readily from the pulp; flesh firm, with an abundance of uncolored juice, tender, aromatic, sweet, mild; quality very good. Seeds separate readily from the pulp, 3 to 4, of medium size, length, and width.

Ripley.—Ripening with Niagara, a season when there are many good grapes, it can hardly be said that Ripley surpasses all other varieties of its season and type as can be said of Ontario and Portland. But the fruits are among the best and have so distinct an individuality that the variety is worthy a trial by all who grow more than the three or four strictly commercial grapes. Its most remarkable character is the sweet, rich, delectable flavor which the flesh holds from skin to seeds, whereas in most grapes the quality is much better at the periphery than at the center. The flesh separates readily from the seeds. The bunches are rather small but compact and heavy; the berries are of but medium size. The grapes pack, keep, and ship exceptionally well and shrivel, raisin-like, long before they shatter from the shrivelled pedicel. The vines are exceptionally good in all essential characters, as they must be to compete with other grapes of this season, the most notable vine character being great productiveness. Hardly less notable is that of regularity in bearing, the variety on the Station grounds having borne eleven full crops in succession. Ripley is a cross between Winchell and Diamond and was introduced by this Station in 1912, and has therefore a history of ten years under cultivation to substantiate what is here said of it.

Vine vigorous, hardy, very productive; trunk medium, with loose or slightly adherent, shreddy bark which separates in short, narrow, irregular strips. Flowers bloom the third or fourth week in June, fertile; stamens upright. Fruit mid-season, keeps and ships well; clusters medium in size, tapering, often ovate, single-shouldered, rarely loose; peduncle of medium length, thick; pedicels short, thick; brush greenish-yellow, adheres strongly to the pedicel and much enlarged at the point of attachment. Berries variable in size, round or slightly oval, green tinged with amber where exposed to the sun, glossy, with thin bloom; skin thin, separates readily from the pulp; flesh firm, juicy, with thin, uncolored juice, tender, aromatic, vinous, sweet, mild, pleasantly flavored; quality very good. Seeds separate readily from the pulp, small, 3 or 4 in number.

Sheridan.—Of the seven Station seedling grapes discussed in this bulletin, Sheridan is newest and therefore least well tried. It was

named in 1920 and introduced by the New York State Fruit Testing Cooperative Association in 1921. This seeming haste is due to a desire to have Sheridan tried by grape growers without loss of more seasons since it seems to those who know it to surpass all other native grapes, even Concord with which it would compete. It is not too much to say that it is by far the most promising grape for the market that has originated at Geneva. It is the only black grape which so far has been thought could compete with the many good black market grapes. Grape growers will want to know at once how Sheridan compares with Concord. The vines at Geneva and Fredonia are just as vigorous, healthy, hardy, even more productive, and seemingly bear as regularly. Whether or not they will thrive in as great a diversity of soils remains to be seen—if so, Sheridan is a better commercial grape than Concord. The variety is self-fertile and a good pollinator. The bunches are larger and more compact; the berries are of the same size as those of Concord; the skin is firmer and probably will not crack; the grapes do not shatter readily; the flavor is sweeter and richer and all who have tried the fruits at the same time prefer Sheridan to Concord; the season is a week later; the grapes keep longer. Sheridan is being put out with the hope that it is a better market grape than Concord, but it must be tested more widely and more commonly to make assurance doubly sure before it can be said to be "the grape for the millions" as Concord now is. Unfortunately the fruits cannot be illustrated in this bulletin. Sheridan is a seedling of Herbert crossed with Worden.

Vine vigorous, healthy, hardy, very productive. Flowers bloom with Concord; stamens upright. Fruit matures soon after Concord; clusters large, cylindrical, or slightly tapering, with a small shoulder, very compact; peduncle short. Berries large, round, adhere strongly to the pedicels, black, covered with thick bloom; skin thick; flesh firm, juicy, sweet, slightly tart at the center, aromatic; quality good to very good. Seeds 3, medium in size, long, narrow, pointed.

Urbana.—We have in Urbana a grape which comes nearer being a European on an American vine than any other seedling so far named from the Station crosses. It promises well for both home and market where it matures. Unfortunately it requires a long season and cannot be grown with certainty where Catawba does not ripen as it is a few days later than that variety. The vines are vigorous, healthy, and productive but not as hardy as might be wished, altho they will withstand as much cold as Catawba or Delaware. Bunch and

berry are large and both are very attractive. The bunches are sometimes a little loose but well grown are compact enough. The berries are large, round, light red, with rather thick skins which cling to the pulp like that of a *Vinifera*, and the flesh separates readily from the two or three rather small crackling seeds. The flesh is firm but tender, juicy, aromatic, and has a rich, sweet, vinous, spicy, refreshing flavor, a combination that appeals to all the senses that minister to taste. One puts the quality down at once as good as the best European grapes. The grapes keep in common storage without shrivelling, shelling, or decaying until March, and this, possibly, is the character that should commend Urbana most highly to grape growers. Urbana is a cross between Ross and Mills, two little-known grapes which have given about the most interesting seedlings of any of the crosses grown on the Station grounds. It was named and introduced in 1912.

Vine variable in vigor, not always hardy, productive; trunk of medium size, with loose, shaggy bark which separates in irregular strips. Flowers bloom in midseason; stamens upright. Fruit very late, keeping quality excellent; clusters medium to large, long, broad, cylindrical, irregular, single-shouldered, compact; peduncle long; pedicels long, covered with warts; brush light green. Berries large, vary somewhat in size and shape, round-oval, light red, cling to pedicels; skin thick, tough, clings to the pulp like a *Vinifera*; flesh firm, with uncolored juice, tender, aromatic, vinous, sweet, spicy and refreshing; quality very good to best. Seeds separate readily from the pulp, 2 or 3, medium in size, length, and width.

RASPBERRIES

Cayuga.—Cuthbert is the most widely and commonly grown red raspberry in North America. Its popularity is due to vigorous plants and handsome, firm, well-flavored berries. The variety falls short in productiveness and is too late in season for many northern markets. The Station is introducing two new red raspberries, Cayuga and Seneca, to supplement Cuthbert in New York markets and gardens. The plants of Cayuga are quite as vigorous as those of Cuthbert and much more productive, great productiveness being the most remarkable attribute of this new raspberry. The suckers are numerous and the plants can be propagated rapidly. Cayuga is a cross between June and Cuthbert and the crop ripens midway between that of the parent sorts. The berries are much like those of Cuthbert in size, color, and flavor and therefore about the best. In shape they are intermediate between the berries of the two parents.

or a little less conic than the well-known fruits of Cuthbert. The drupelets are larger than those of Cuthbert—hence not so seedy. The quality is better than that of June and similar and about equal to that of Cuthbert. Cayuga may be planted with assurance that it is a splendid variety to precede Cuthbert.

Plants very tall, vigorous, hardy, healthy, very productive; suckers numerous; canes of medium thickness, dull; prickles of medium thickness and strength, numerous toward the base of the canes. Flowers bloom early in June. Fruit matures the first week in July, earlier than Cuthbert; berries large, uniform, broad-conic; styles adherent; cavity large; cavity-scars white, conspicuous; drupelets numerous, medium in size, with strong coherence; color medium red, glossy; pulp with abundant juice, firm but tender, sprightly becoming sweet, highly flavored; quality very good.

Owasco.—The fruits of Owasco are the largest and handsomest borne by any red raspberry grown on the Station grounds. Taste does not belie appearance and the berries are quite as good as they look to be. If product alone were to be considered, one might say that Owasco is the nearest approach to perfection in a red raspberry. Unfortunately it fails in some of its plant characters. Thus, it is a poor plant-maker and therefore hard to propagate; again, it is variable in habit of growth; lastly, it is not as hardy as some of the standard sorts, altho it is sufficiently hardy for the great berry regions of New York. The variety may do better in growth habits elsewhere than at Geneva, in which case it is a most promising new commercial variety; meanwhile, it should be planted in gardens and for a fancy fruit as the largest and best red raspberry. Owasco is a cross between June and Cuthbert, and may be distinguished from its sister kinds described in this bulletin by its larger, handsomer, and better fruits and larger leaves which are lighter green in color.

Plants variable in height and vigor, hardy, healthy, productive; suckers medium in number; canes stocky, brownish, glossy, glaucous; prickles slender, weak, straight, irregularly distributed. Flowers bloom with Cayuga. Fruit mid-season; berries very large, conic, the surface covered with fine pubescence and with adherent styles; drupelets numerous, medium in size, coherent; color medium red, somewhat glossy; pulp juicy, firm but tender, sprightly becoming sweet, highly flavored, aromatic; quality very good.

Seneca.—Seneca, a sister seedling to Cayuga, is so similar that the two might almost be put out as one variety. The description of Cayuga answers for that of Seneca if the following exceptions be noted. The plants of Seneca are not so tall, are usually markedly stockier in cane; and have fewer and smaller prickles. The flowers



OWASCO

bloom early in June, a few days later than those of Cayuga. The fruit is a little later than that of Cayuga and a little earlier than that of Cuthbert. The berries in appearance and quality can hardly be distinguished from those of Cayuga, altho upon close inspection it is seen that the drupelets of Seneca are larger, and the shape is a little more conical. The quality of the two fruits is much the same, the only difference being more sprightliness in Seneca. Seneca is recommended to precede and to take the place of Cuthbert. Fruit growers will want to know how these three new berries compare with Cuthbert in susceptibility to mosaic, the disease which now threatens to destroy commercial berry growing in America. No differences can be noted in the four varieties in this respect.

STRAWBERRIES

Beacon.—Beacon is being sent out as one of the best early strawberries. The crop ripens with that of Dunlap, long a standard early kind, and, packed for market, it is about the handsomest early strawberry grown on the Station grounds. The berries hold up well thruout their season in spite of drought or other adverse conditions. The quality is excellent for an early strawberry. The plants are numerous, healthy, and productive, very large and vigorous, and are characterized by long pedicels which make picking easy. The flowers are perfect. Beacon is a cross between President and Marshall the seed of which was borne in 1910. For five out of the last six years, the fruits of this new sort were the handsomest of their season fruiting on the Station grounds, so that we now feel warranted in naming the seedling and sending it out.

Plants numerous, vigorous, healthy, productive. Leaves large, thick, dark green. Flowers perfect, early midseason, 1 inch across; receptacle large; fruit-stems long, thick, semi-erect to prostrate; pedicels long and slender, making it easy to pick the fruit; calyx flat or slightly raised, of medium size, well colored, adheres to the fruit. Fruit early; large, blunt-wedge to blunt-conic, the larger berries faintly furrowed, very slightly necked, with obtuse apex; color dark red, glossy, attractive; flesh red to the center, juicy, firm, subacid, pleasantly flavored; quality good. Seeds numerous, variable in position, but mostly raised.

Bliss.—Bliss is recommended to those who want a late midseason strawberry for home or market. The fruits are very handsome and are exceedingly good in quality. The berries are large, handsome, bright red, glossy, uniform in size and shape, and color evenly. The flesh is well colored to the center and is a pleasant commingling

of sweetness, richness, and sprightliness, which make it among the best in flavor and at the same time it is refreshing and to so remarkable a degree that the appetite is whetted anew when this late strawberry comes in season. The plants stand as high in essential characters as any of the commercial varieties of the same season, and in one respect surpasses most of its garden associates—the variety withstands droughts well and there are few small berries when the soil is parched and heated with dry, hot weather. Bliss is a cross between Chesapeake and Atkins Continuity from seed borne in 1911. It has been thoroly tested and now has the approval of the Station and of the New York State Fruit Testing Cooperative Association. The flowers are perfect.

Plants medium to numerous, vigorous, productive, healthy. Leaves of medium size, thick, variable in color. Flowers perfect, late midseason, $1\frac{1}{4}$ inches across, large; receptacle of medium size, round-conic; fruit-stems medium to long, thick, semi-erect; calyx medium in size, flat, well colored. Fruit late midseason; large, plump, blunt-conic to blunt-wedge, with pointed apex; color bright red, very glossy, colors evenly; flesh well colored to the center, very juicy, firm, mild, sweet or pleasantly sprightly, highly flavored; good to very good. Seeds variable in position.

Boquet.—Boquet ripens about midway between Beacon, an early berry, and Bliss, a late sort. These three new berries almost cover the strawberry season in New York. The berries of Boquet are characterized by their large size, blunt-conical shape, and by the compact clusters at the ends of the fruit-stems. The berries are uniformly colored a light red, and the flesh is well colored to the center. The berries are rich and sweet, refreshing, and all in all, are good but not as good as those of Bliss, altho much above mediocre. The fruits ship excellently and keep well, in these respects averaging far above the common run of commercial strawberries. The plants are vigorous, productive, and healthy, withstand drought well, and produce an unusually large number of big and handsome berries. They do not develop as many runners as might be wished for the sake of rapid propagation. The flowers are perfect. Boquet is a cross between Chesapeake and Pan American from seed borne in 1911. It has been thoroly well tried on the Station grounds and is recommended as a midseason, main crop, market strawberry.

Plants variable in number, vigorous, productive, healthy. Leaves large, thick, dark green. Flowers perfect, late midseason; receptacle large, conic; fruit-stems short, thick, semi-erect, branching but little and bearing fruit in dense

Boquet



clusters; calyx small, variable in position, well colored, adheres to the fruit. Fruit early midseason; very large, chunky, blunt-wedge to blunt-conic, the surface smooth or but faintly furrowed, with very blunt, obtuse apex; color medium to light red, glossy, colors evenly; flesh well colored to the center, juicy, very firm, subacid, pleasantly flavored; quality good. Seeds numerous, raised.