New York Agricultural Experiment Station

GENEVA, N. Y.

NEW OR NOTEWORTHY FRUITS. III.

U. P. HEDRICK.

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.
BOARD OF CONTROL.

GOVERNOR CHARLES S. WHITMAN, Albany.
COMMISSIONER CHARLES S. WILSON, Albany.
BURT E. SMALLY, Interlaken.
HENRY C. HARPENDING, Dundee.
C. WILLARD RICE, Geneva.
C. GREEN BRAINARD, Waterville, N. Y.
THOMAS NEWBOLD, Poughkeepsie, N. Y.
WILLIAM H. MANNING, Saratoga Springs, N. Y.
PARKER CORNING, Albany, N. Y.

OFFICERS OF THE BOARD.

BURT E. SMALLY, 
President.

WILLIAM O‘HANLON, 
Secretary and Treasurer.

STATION STAFF.

WHITMAN H. JORDAN, Sc.D., LL.D., Director.

GEORGE W. CHURCHILL,
Agriculturist and Superintendent of Labor.

JOSEPH F. BARKER, M.S., Agronomist.

REGINALD C. COLLISON, M.S.,
Associate Chemist (Soils).

RICHARD P. KEELER, A.B.,
Assistant Chemist (Soils).

EVERETT P. REED, B.S.A.,
Assistant Agronomist.

WILLIAM P. WHEELER,
First Assistant (Animal Industry).

ROBERT S. BREED, Ph.D., Bacteriologist.

HAROLD J. CONN, Ph.D.,
Associate Bacteriologist.

GODFREY L. A. RUEHLE, M.S.,
Assistant Bacteriologists.

WILLIAM D. DOTTERER, B.S.,
Student Assistant.

FRED C. STEWART, M.S.,
Botanist.

WALTER O. GLOYER, A.M.,
**Forest M. BLEDGETT, Ph.D.,
Associate Botanists.

MANCEL T. MUNN, B.S.,
Assistant Botanist.

LUCIUS L. VAN SYLKE, Ph.D., Chemist.

ALFRED W. BOSWORTH, A.M.,
*RUDOLPH J. ANDERSON, B.S.,
ARTHUR W. CLARK, B.S.,
Associate Chemists.

MORGAN P. SWEENEY, A.M.,
ÖTTO McCREEARY, B.S.,
FREDERICK N. CRAWFORD, B.S.,
WILLIAM F. WALSH, B.S.,
ARTHUR J. FLUME, B.S.,
Assistant Chemists.

GEORGE A. SMITH,
Dairy Expert.

FRANK H. HALL, B.S.,
Vice-Director; Editor and Librarian.

PERCIVAL J. PARROTT, M.A.,
Entomologist.

HUGH GLASGOW, Ph.D.,
§FRED Z. HARTZELL, M.A. (Fredonia),
Associate Entomologists.

HAROLD E. HODGKISS, B.S.,
BENTLEY B. FULTON, B.A.,
Assistant Entomologists.

ULYSSES P. HEDRICK, Sc.D.,
Horticulturist.

ROY D. ANTHONY, M.S.A.,
§FRED E. GLADWIN, B.S. (Fredonia),
Associate Horticulturists.

GEORGE H. HOWE, B.S.A.,
CHARLES B. TUBERGEN, B.S.,
JOSEPH W. WELLINGTON, B.S.,
Assistant Horticulturists.

CARL C. CARSTENS, B.S.,
WILLIAM F. FRIEDMAN, B.S.,
Student Assistants.

ORRIN M. TAYLOR,
Foreman in Horticulture.

F. ATWOOD SHRINE, M.S., (Riverhead),
Special Agent.

JESSIE A. SPERRY, Director's Secretary.

FRANK E. NEWTON,
WILLARD F. PATCHIN,
LENA G. CURTIS,
AGNES E. RYAN,
LILLIAN J. FREEMAN,
Clerks and Stenographers.

ADIN H. HORTON,
Computer and Mailing Clerk

Address all correspondence, not to individual members of the staff, but to the New York Agricultural Experiment Station, Geneva, N. Y.

The Bulletins published by the Station will be sent free to any farmer applying for them.

*On leave of absence. §Connected with Grape Culture Investigations. **Connected with Hop Culture Investigations.
BULLETIN No. 403.

NEW OR NOTEWORTHY FRUITS. III.

U. P. HEDRICK.

INTRODUCTION.

This is the third report on new or noteworthy fruits from the New York Agricultural Experiment Station. The objects of these reports are, in a word, to describe the best recent fruit introductions and to call attention to noteworthy sorts, which, though old, have not received the attention they deserve. The statement was made and discussed at greater or less length in the first two reports, that without new varieties fruit growing would be at a standstill since old varieties have not been, and probably can not be, improved. This fact might well be further emphasized but it seems more important in this third discussion of new varieties to set forth, in the introductory remarks, the relative value of new and standard varieties of fruits for commercial planting. For, it is to be feared, from the correspondence that has followed, that the varieties described in the first two bulletins on new fruits have not been viewed in the right perspective by some readers.

The tendency on the part of many commercial fruit growers is to plant at once largely of the sorts recommended as promising in this series of bulletins. It would seem from this that the description and illustration of a new variety of fruit in a Station publication sometimes invests it with a value that does not belong to it. Seemingly, for some, such a publication puts a premium on uniqueness, rarity and scarcity. Beginners, especially, in fruit growing, regard uniqueness and rarity as elements of intrinsic worth in a variety. They are prone to believe that that which is common is not desirable. In particular, men from the city, accustomed to the fancy fruits of the delicatessen stores, who go into commercial orcharding, feel that commonness is a reproach to a variety and set out to grow aristocratic fruits. With such men enthusiasm receives a setback when standard sorts are recommended.

Now, just the converse is true, in commercial orchards at least. The demand in the market is for common and well-known fruits
and no matter what the merit of a new fruit may be, it is often
difficult to market it advantageously. Consumers want common
commodities and not rarities. Keeping in mind, of course, that
the different varieties have different values in accordance with
the use to which they are put, it is safe to generalize and say that
the standard sorts of all fruits have the highest value for both home
and market plantations.

A new variety must be looked upon as a speculation, an experiment,
a "flyer in futures." A commercial fruit grower should let new
varieties stand the test of time, demonstrate their value — in other
words become "standard"— before planting them extensively.
Whatever the fruit, it is a truism to which there are but few
exceptions that standard varieties should form the basis of every
good commercial plantation. Here, commonness is no reproach.
A few plants of a few new varieties will do no harm. It is good
business and perhaps a duty of every progressive fruit grower to
try some new sorts; but an orchard made up wholly of new varieties
is an unsatisfactory lot of incongruities, as the fruit plantation
at every experiment station bears witness.

What has been said must not be taken as a condemnation of
new varieties. Such an attitude would be unjust — would be
setting oneself against progress. The purpose of these introductory
remarks must not be mistaken. We aim only to protest against
the idea, now quite too common, that new varieties in large num-
bers should be set in commercial orchards with the hope that their
rarity and possibly some new and wonderful characters that they
possess will make them more profitable than the standard sorts.
Despite the many new fruits, Baldwin, Bartlett, Elberta, Mont-
morency, Napoleon and Bradshaw are still the most valuable varie-
ties of tree fruits for commercial planting in New York; and, similarly,
speaking generally, the most profitable small fruits are those that
have a reputation as money-makers.

It is quite another thing for connoisseurs and amateur fruit growers
to plant new varieties. They grow fruit for the love of the work.
To them the orchard often exists for the new and rare things that
they can put in it. Such fruit growing is a pleasant diversion and,
in a broad way, a profitable one, through the knowledge obtained
of varieties, for all planters of fruit. It is readily comprehensible
that connoisseurs and amateurs want all of the promising new varie-
ties. We care not how much the discussion of new fruits may kindle the admiration and awaken the passion for collecting in the connoisseur. The appeal in this case is to the palate and to the aesthetic senses and not to the pocketbook.

The publication of these reports on new fruits is bringing up another matter for discussion. Many fruit growers want to plant new varieties in greater or less numbers but object to the high price asked by nurserymen for novelties. This is unjust to the nurserymen. It costs much to buy or breed a new variety, propagate it and get it on the market. In particular, it is expensive to advertise the merits of a new horticultural product in these days when descriptions are pitched in the high key which nurserymen use in singing the praises of their wares. It should be expected, too, that varieties which are new and scarce will cost more than those long and commonly propagated. This is but obedience to the law of supply and demand. For these reasons a nurseryman has a right to levy toll on the fruit grower through a higher price for recent introductions.

With the mild caution to fruit growers, then, to make haste slowly in planting commercially the promising new fruits of these bulletins, we pass to the task of describing several of the most worthy fruits now on probation at this Station. Before doing this, however, it may be well to state the number of fruits competing in the test with those here described. In its effort to try every fruit offered by American nurserymen suited to New York, this Station was growing, in 1914, varieties in number as follows: Apples, 412; pears, 276; quinces, 18; peaches, 394; nectarines, 34; apricots, 47; plums, 296; cherries, 99; grapes, 404; currants, 33; raspberries, 70; blackberries, 41; gooseberries, 63; strawberries, 114; total number of named varieties, 2,301.

PEACH.

Niagara is a variant of a peach which all growers lament as being less and less grown, the Crawford. The Crawford group, though a dominant type, is a little too capricious as to soil and climate to suit the needs of commercial peach growers, failing to bear regularly or abundantly in any but choicely good peach soils. For this reason the once very popular Early and Late Crawfords are now seldom grown. All who have known these varieties and others of their
group regret that a sort of their type, without their failings, has not yet come to light. In New York the best of the comparatively new Crawford-like peaches is the Niagara, said to be a seedling of one of the Crawfords. It ripens a little later than Early Crawford, averages rather larger, is borne more abundantly and holds its size better to the end of the season; but its great point of merit, as compared with other Crawfords, is that it is more dependable in all tree-characters, being especially less capricious as to soil and climate. Niagara, as the color plate shows it, is a beautiful fruit, yellow, with a handsome over-color of red. The flesh, too, is very attractive — yellow, thick and firm, with a rich, sweet flavor which makes it one of the most palatable peaches of its season. It is, as are most of its type, a freestone. Niagara is liable to fail in productiveness in some localities, having in this respect the fault of all its tribe; but it should have a welcome place in any home collection and, where it proves productive, is one of the best for general market.

Niagara probably came originally from Maryland to Julius Harris of Ridgeway, New York. Later, it was sold to a grower near Lockport, New York, who disposed of it to a Mr. Corwin of Newfane, Niagara County, New York, who called it Corwin’s Crawford. It then came into possession of the Rogers Nurseries, Dansville, New York, from whom this Station received its trees under the name of Niagara.

Tree large, upright, productive; branches stocky, reddish-brown mingled with ash-gray; leaves six and three-fourths inches long, one and three-fourths inches wide, broad-oval to obovate, dull, dark green, rugose; flower buds large, long, conical; flowers one inch across, pale pink. Fruit matures early in September; a little smaller than Elberta, roundish-cordate, somewhat compressed, halves nearly equal; cavity deep, wide; suture shallow; apex pointed or rounded; color greenish-yellow becoming orange-yellow with stripes and splashes, often becoming dark, dull red over a speckled ground of lighter red forming a deep, dull blush; pubescence short, thick; skin thick, tough, adherent to the pulp; flesh yellowish, tinged with red at the pit, juicy, tender, sweet and rich; good in quality; stone free.

GRAPE.

Muscat Hamburg is a European grape well known in some parts of America in greenhouse graperies since it is the best of its kind for forcing. All horticulturists had come to believe that it is impossible to grow varieties of the exotic Vitis vinifera out of doors in eastern America but experiments at this Station during the last six years with over a hundred varieties of this foreign fruit
show that, when grafted on roots resistant to phylloxera, sprayed for fungi and given some protection in the winter, many European grapes can be well grown in New York. Among the best of these is the Muscat Hamburg. All who know the beautiful fruits of this variety grown in the forcing houses will want to test this variety out of doors, where they have done, at this Station, scarcely less well than indoors, many clusters attaining the weight of a pound and a half to two pounds. The accompanying color plate, the fruit much less than half the natural size, shows what a splendid grape Muscat Hamburg is in our vineyards. One is struck with wondering admiration at a vine laden with these grapes growing alongside Concord, Niagara or Delaware. The quality is most delectable—the quintessence of the flavors and aromas which make the grape a favorite fruit. The grapes keep long and retain their form, size, color and rich, delicate flavor almost to the end. This variety should prove a treasure to the amateur; and the professional who wants another grape for local market should try grafting over a few vines of some native to this European sort. This having been done, he must keep down fungi by spraying and protect the vines in the fall by bending them over and covering lightly with earth. With this simple treatment almost anyone who can grow vines may enjoy the luxury of greenhouse grapes grown out of doors.

The variety is an old one, long known in Europe and one of the most highly esteemed for growing under glass. It has many synonyms but is well known by growers of European grapes under the name of this discussion.

Vine vigorous, tender, needs protection during the winter, productive; canes long, numerous, slender to medium, light brown, darker at the nodes which are enlarged and flattened; leaves medium to large, intermediate in thickness; upper surface light green, dull; lower surface pale green, faintly pubescent, densely hairy. Fruit ripens in early October, ships and keeps well; clusters very large, long, broad, tapering, single or double-shouldered. Berries large, firm, oval, very dark purplish-red, covered with lilac bloom, very persistent; skin thick, adheres strongly to the pulp; flesh pale green, translucent, meaty, very juicy, tender, vinous, musky, sweet, rich, very good to best; seeds separating easily from the pulp, large.

CHERRY.

Lambert originated in Oregon and is now a standard variety in its native State but is still on probation in eastern America. It is a Bigarreau, a seedling of Napoleon by Black Heart, and a
worthy rival of its parents in most respects and superior in some. In appearance Lambert is more like Black Heart than Napoleon, having much the same shape and color as the first named, but is larger, more rotund, smoother and brighter — one of the handsomest of the dark-colored Sweet Cherries. The flesh and flavor leave little to be desired. The flesh is purple-red, marbled with lighter red, firm, meaty and juicy, with a sweet but pleasantly acidulous, rich flavor that at first taste one marks as good. It is, too, very good in cookery. The tree is strong, vigorous, healthy, and usually fruitful and regular in bearing. The fruit hangs in great, loose clusters, often a dozen or more cherries to a fruit-spur. The leaves are remarkably large and dark green, the foliage betokening the vigor of the variety. Tree and fruit elicit praise from all admirers of orchard products. Lambert is well worth testing for either home or market, wherever Sweet Cherries can be grown. It is to be hoped that it finds a congenial soil and climate in many parts of New York.

Lambert originated as a seedling under a Napoleon tree which was planted by the late Henderson Lewelling about 1848 in the orchard of J. H. Lambert, Milwaukee, Oregon. A Black Heart tree stood near the Napoleon and is supposed to be the other parent of the Lambert. The seedling was grafted to May Duke and later transplanted. About 1880 the top died and a sprout from the seedling stock formed a new top. This sprout was the origin of the Lambert.

Tree medium to large, upright-spreading, very productive; branches smooth, dull reddish-brown, with numerous lenticels; leaves large, oval to obovate, thin; blooming season short, intermediate in time; flowers large, one and one-fourth inches across, borne usually in twos. Fruit matures in mid-season; one inch in diameter, roundish-cordate, compressed; cavity rather deep; color very dark red changing to reddish-black; stem tinged with red, slender, long, adherent to the pulp; flesh dark red, with scant, dark red juice, meaty, firm, pleasant flavored, sweet; very good in quality; stone clinging, large, wide, ovate.

**PLUM.**

The *Late Muscatelle* plum was imported from Germany in 1900 by the United States Department of Agriculture and was soon after obtained by the Geneva Station for testing. It has been fruiting for ten years on our grounds and has come to be regarded as one of the best late plums out of the 500 or more that have been
fruited with it. The plums are large, roundish and somewhat truncate, giving the fruits a pleasingly rotund shape. In color the plums are a beautiful purple-brown, slightly splashed and mottled with russet. The skin is thicker and tougher than one wishes in a first-class dessert plum but on the other hand these qualities are valuable assets in shipping. The flesh is tender, meaty, firm, juicy, sweet and delicious, characters that give the variety high rank in quality among all plums. Another pleasing characteristic is that the flesh is about the freest from the stone of all plums. As a culinary fruit it can hardly be surpassed. Late Muscatelle is one of the latest to ripen and keeps well, but if kept too long the fruit shrivels somewhat. The trees are hardy and relatively free from insects and diseases, but on the grounds of the Station are not quite as vigorous as one could wish. For home use and local market trade, Late Muscatelle is certain to prove a valuable variety and it may have a place for the general market.

Of the history of this plum we can say little beyond that it is an old European sort having several synonyms in the pomologies of continental Europe. In Germany, in particular, it seems to be highly esteemed and widely distributed.

Tree medium in size and vigor, upright-spreading, dense-topped, hardy, productive; branches numerous; leaves of medium size, thickness and color, slightly pubescent; flowers appearing after the leaves, blooming in mid-season, one inch across, usually in pairs. Fruit matures the latter part of September; medium to large in size, roundish, slightly truncate, halves nearly equal; color purplish-brown, speckled and splashed about the base with russet; stem of medium thickness and length, adhering strongly to the fruit; skin rather tough, separating readily from the pulp; flesh greenish-yellow, juicy slightly stringy, firm, pleasant flavored, aromatic, sweet; good to very good; stone small, free, reddish.

**GOOSEBERRY.**

**Industry** is an old and noteworthy English gooseberry which receives notice in this bulletin because it is the most popular in this country of all the English kinds. It is in demand for home use, by canneries, and in the open market. The bushes are strong, stocky, vigorous growers and are among the most productive in America of all the English gooseberries. The habit of the bush character of foliage and shoots and appearance of the fruit are distinctly European. The greatest fault with this, as with all English varieties, is the tendency to mildew, but for the past eight
years both plants and fruit have been remarkably free from disease on the grounds of this Station. The berries are of large size, roundish-oblong, slightly hairy and when mature are a rather attractive dark red, the fully ripe berries ranking high in quality. The fruit, when grown for the cannery, is usually harvested before the red tinge makes its appearance. In seasons of intense sunshine the berries may scald on the bushes. It is surprising that gooseberry growers have not more generally planted this variety.

Industry was first grown by Robert Wyndham in northern England early in the Nineteenth Century. It was disseminated in this country by Ellwanger & Barry, Rochester, New York, about 1885 and at the present time is listed by nearly all nurserymen.

Bushes large with age, vigorous, stocky, upright, hardy, productive; canes and branches thick, compact, dark brownish-red nearly entirely covered with grayish scarf-skin, the younger wood lighter in color; spines long, numerous. Leaves cordate to obovate, thick, dark, glossy green, with broadly crenate margins. Flowers large, in ones and twos. Fruit matures early in July; large, roundish-oblong, attractive, dark but rather dull wine red, slightly hairy, with thin, tough skin; flesh juicy, firm, sweet and pleasantly flavored at full maturity; very good in quality.

**RASPBERRIES.**

**Black Pearl** is the most promising of the new varieties of black raspberries fruiting on the Station ground in 1914. It has not been tested long enough to recommend it unqualifiedly for commercial plantations; but if it should maintain in other localities the high mark of excellence attained at this Station, the variety will soon stand at the front among black raspberries. It is especially remarkable for its hardiness. During the past two years there has been almost no winter injury with the thermometer twice at 14 degrees below zero. The bushes are all that could be desired in vigor and productiveness while the foliage, though small, is healthy, as indicated by its luxuriant, dark green color. Up to the present, the canes have been but slightly attacked by anthracnose. The berries are large although somewhat variable in size, a deep, glossy black, ship well, are pleasantly sprightly and rank good in quality. The season is early, the berries maturing a week or more before Gregg. All indications are that the variety has come to stay as a commercial sort. Certainly it is worth growing in a home collection.
Black Pearl is a chance seedling found in a planting of Kansas in 1905 by Herman Krumrei, St. Joseph, Missouri, and was introduced by Holsinger Bros., Rosedale, Kansas, in 1907. In the west it is said to be more resistant to drought than other varieties.

Plants vigorous, upright, very productive, hardy; canes stocky, numerous, dull brownish-red, often with heavy bloom; spines slender. Leaves small, dark green, rugose, heavily pubescent beneath. Flowers bloom early, in short, compact clusters; petals small, oval, tapering to rather long, narrow claws. Fruit matures early; large, regular in shape, with drupes of medium size, not inclined to crumble, attractive black, with slight pubescence, juicy, somewhat seedy; flavor sprightly; good in quality.

Marldon, a most promising new red raspberry, was described in Bulletin No. 298 as a Station seedling of merit. Plants were distributed during the spring of 1908. Since that time the variety has continued to make good on the grounds of this Station and reports received from growers in other parts of the State indicate that it may fill most acceptably a place for commercial purposes in the season between June and Cuthbert. The bushes of Marldon are of Marlboro type though more vigorous and stockier. Plants develop rapidly from numerous suckers and on this account care should be taken as to distance of planting and in pruning or the plants will soon become crowded and the size and quantity of the fruit thereby be diminished. The berries are large, retain their size well as the season advances and most of the fruit matures during a short period — one of the reasons why it fits so well between June and Cuthbert. The color is a handsome dark red and, while the berries are not as sweet nor as high-flavored as the best standard varieties, the quality ranks above the average. Because of the hardiness, vigor, and productiveness of the bushes and the large size and handsome color of the fruit, Marldon is worthy of a trial as a commercial sort in all parts of New York.

Marldon is one of the four promising seedlings retained out of 1191 plants the breeding of which was begun by this Station in 1897. The parents of Marldon were Marlboro X Loudon. As already stated, the variety was disseminated in the spring of 1908 among about 200 commercial growers of raspberries. Very promising reports have been received from many of these growers and in some localities it is already rated as a valuable variety for commercial purposes. Plants of this variety are no longer available from this Station. A number of nurserymen are growing the Marl-
don and stock should soon be available from them or from the growers who first received stock from this Station.

Plants vigorous, upright, hardy, productive, healthy; canes more vigorous and stockier than either Marlboro or Loudon, light brownish-gray; prickles slender, weak, few in number. Leaves oblong-oval, thick, dark green, rugose. Flowers large; petals small, oval, tapering to short, broad claws. Fruit matures in mid-season, about one week earlier than Cuthbert; large, uniform in size, with rather large, numerous, coherent drupes, handsome dark red, juicy, firm, pleasantly sprightly; fair to good.

STRAWBERRY.

Amanda has been under observation at this Station for several years, having first fruited in 1908. Every year the fruit has attracted attention because of its desirable qualities. We now have no hesitation in recommending Amanda for trial, both for home use and for commercial purposes. Sufficient room must be given both for rows and plants as the runners are produced in great numbers. The plants, although vigorous and ranking among the most productive of over one hundred varieties, are somewhat susceptible to leaf spot under unfavorable conditions. The blossoms are perfect and open in mid-season or later, usually after danger from late spring frost is past. The great asset of Amanda is the fruit. The berries ripen in mid-season, are large and hold up remarkably well throughout the ripening season. The color varies from light to dark scarlet depending on the stage of maturity and is always glossy and attractive. In shape, the berries are usually a distinct blunted-wedge although roundish-conic forms may be found among them. The flesh is firm enough to stand the wear and tear of distant shipments and its color is good to the very center. There is enough acidity of flavor to give sprightliness which, combined with other characters, makes the variety rank high in quality. Amanda is well worthy of trial for home but more particularly so for market.

This variety was originated by Z. T. Mumma of Blufftown, Ohio, in 1904, by crossing Sample with pollen from Maximus. It was introduced by Mr. J. Whitt, Vermillion, Ohio, in 1910, and is already catalogued by a number of nurseriesmen.

Plants very numerous, vigorous, somewhat susceptible to leaf spot, very productive; leaves of average size and color; leaf-stalks long, medium to slender; flowers perfect, blooming in mid-season or later. Fruit-stems long, thick, branched, erect; calyx of medium size, sometimes somewhat discolored, sunken or flattened; fruit matures in mid-season; large, retains its size well to the close of the ripening period, wedge-shaped to roundish-conic, glossy, light to dark scarlet; seeds strongly depressed; flesh well colored to the center, very firm, pleasantly acid, agreeably flavored; good in quality.