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VARIETY TESTS WITH BLACKBERRIES, DEWBERRIES AND RASPBERRIES.

WENDELL PADDOCK.

GENEVA, N. Y.

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VARIETY TESTS WITH BLACKBERRIES, DEWBERRIES AND RASPBERRIES.

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Summary.

Ancient Briton, Stone Hardy, Early Harvest and Agawam were the most productive blackberries on the Station grounds in 1896. Snyder is valuable for its hardiness. Mersereau is promising.

Lucretia is the only dewberry of commercial importance. Austin's Improved gives promise of being a valuable acquisition.

Of the early blackraspberries Eureka and Hopkins were the most satisfactory. Mohler, Hilborn, Babcock No. 5 and Pioneer were the most productive mid-season varieties, while Mills, Ohio and Onondaga were the most productive late varieties.

Cardinal, Columbian and Shaffer were the most satisfactory of the purple berries.

For early red berries Cline and Pomona are both worthy of a trial. Of the mid-season, Clark and Pride of Kent were the most productive, but they are valuable for home use or local market only. Royal Church and Cuthbert are both productive late varieties, but the former crumbles badly and Cuthbert does not stand shipping well. Olathe and Loudon are quite firm and have an attractive color which should make them valuable market varieties.

The yellow berries are desirable for home use, and of these Caroline was the most productive of all the raspberries fruited on the Station grounds.

INTRODUCTION.

The results of the variety tests with Blackberries, Dewberries and Raspberries are given in the following pages. Most of the varieties came through the winter in good condition and set a full crop, which, because of abundant rains, they were able to bring to full maturity. The dewberries alone received winter protection. The soil is a rather heavy clay loam, fertilized with stable manure and well tile drained.

The yields, season and ages of the different varieties are given in the tables. Brief notes follow which supplement the data given in the tables.

BLACKBERRIES.

Table 1. Yield of Blackberries in 1896.

Rank as to Yield.	Name.	When set.	Yield of five hills, ounces.	In marketable condition.	Per cent of canes winter killed.
1	Ancient Briton.....	1889	800½	July 15 to Aug. 18.	10
2	Stone Hardy.....	1888	522	July 17 to Aug. 13.	10
3	Early Harvest.....	1889	421½	July 14 to Aug. 10.	5
4	Agawam.....	1888	406	July 14 to Aug. 10.	10
5	Success.....	1892	278½	July 17 to Aug. 21.	10
6	Snyder.....	1888	261½	July 15 to July 31.	0
7	Mersereau.....	1893	250½	July 15 to July 21.	0
8	Taylor.....	1888	245	July 17 to Aug. 10.	5
9	<i>Ford No. 1</i>	1892	234	July 17 to Aug. 18.	10
10	Minnewaski.....	1889	226	July 15 to Aug. 10.	40
11	Wilson, Jr.....	1893	173½	July 21 to Aug. 13.	25
12	Eldorado.....	1890	165½	July 14 to Aug. 10.	5
13	Luther.....	1891	147½	July 17 to Aug. 15.	15
14	Kittatinny.....	1888	117½	July 17 to Aug. 15.	5
15	Lincoln.....	1888	115	July 17 to Aug. 13.	0
16	Dorchester.....	1889	108½	July 13 to July 31.	40
17	Sanford.....	1894	107	July 21 to Aug. 13.	0
18	Early Mammoth....	1892	103	July 15 to Aug. 13.	75
19	Erie.....	1893	96½	July 15 to Aug. 10.	10
20	Barnard.....	1888	80	July 17 to Aug. 3.	10
21	Wachusett.....	1889	68½	July 14 to Aug. 10.	3
22	Woodland.....	1892	62½	July 21 to Aug. 13.	50
23	Early King.....	1892	47½	July 7 to July 21.	10
24	Lovett.....	1892	34	July 27 to Aug. 10.	50
25	Carlo.....	1890	30	July 17 to Aug. 3.	10
26	Western Triumph...	1894	11	July 17 to July 29.	10
27	Black Chief.....	1893	9	July 24 to Aug. 10.	5

NOTES ON VARIETIES.

The following brief notes will supplement the data given in the tables. More complete descriptions of the older varieties may be found in former bulletins and reports of this Station.

Agawam has been fruited here several seasons, and has proven to be quite satisfactory. The canes are medium size but vigorous; fruit medium size, good quality.

Ancient Briton is a standard variety in many localities. It has always done well on our grounds, and this season it was by far the most productive of all. The fruit is only of medium size.

Barnard is not worth propagating in this locality.

Black Chief, received from J. H. Haynes, Delphi, Ind., 1893. Canes rather small but vigorous, green, with numerous small prickles. Berries medium size, roundish, grains medium, core small, sweet, good quality. Last season all varieties were so badly winter killed that the crop was a failure so this season we obtained the first record of yield that we have of this variety. It ranks twenty-seventh in productiveness, yielding nine ounces.

Carlo is evidently not suited to this locality. It ranks twenty-fifth in productiveness.

Dorchester is one of the old varieties. It took first rank as to yield in 1893, but this season it proved to be less hardy than many other kinds.

Early Harvest has been quite satisfactory on our grounds, being but little injured by the winter, and producing satisfactory crops. The berries are rather small for marketing.

Early King ripened its first fruit a week earlier than did any other variety, but as is usual with early varieties it is unproductive, while the fruit is medium or below in size.

Early Mammoth is too tender to be grown in this locality without protection. It very much resembles Wilson Jr. Many of the berries are imperfect, and vary from small to largest size.

Eldorado was injured but little by the winter, and was only moderately productive. The fruit is medium size.

Erie has been only moderately productive on our soil. The fruit varies from medium to large.

Ford No 1. From F. Ford & Son, Ravenna, O. We have not fruited this variety long enough to decide as to its merits, but it is considered worthy of further testing. It was moderately productive this season, and was injured but comparatively little by the winter. The fruit is from medium to large and of good quality.

Fruitland. From W. N. Scarf, New Carlisle, O. The canes were injured twenty-five per cent. by the winter, and it stands twenty-eighth in productiveness. Evidently it is not suited to this locality.

Kittatinny has been as hardy as most varieties on our soil, but is only moderately productive.

Lincoln is not as good as other varieties for this locality.

Lovett was injured fifty per cent. by the winter. It is unproductive here.

Luther is no improvement on better known varieties.

Mersereau is a new variety, said to be a seedling of *Snyder*. The canes were uninjured by the winter, and it stands seventh in productiveness this season. The berries are large, long and rather irregular, with medium grains, quality good, mildly sweet, sprightly; canes medium size, with medium prickles, vigorous and hardy. A promising variety.

Minnewaski is not hardy here. It ranks tenth in productiveness, although the canes were injured fifty per cent. by the winter.

Sanford. Received from C. W. Graham, Afton, N. Y. Has not been sufficiently tested to determine its merits, but it is not a promising variety.

Snyder is one of the hardiest of blackberries. The canes are of the largest size, vigorous and productive. Much of the fruit averages small in size, and many of the berries turn to a dull brownish-red color when ripe, which makes them unattractive.

Stone Hardy was injured but little by the winter, and takes second rank as to productiveness this season. The fruit is of medium size and good in quality.

Success is considered to be worthy of further testing on account of its hardiness, productiveness and good-sized fruit.

Taylor is not as good for this locality as are some of the other well-known varieties. It is moderately productive of small to medium sized fruit.

Wachusett is unproductive here.

Wilson Jr. has a low habit of growth and its canes need protection in winter. The berries vary from medium to very large, some of them being imperfect.

Woodland was injured fifty per cent. by the winter. The berries are medium size.

DEWBERRIES.

The value of dewberries for commercial purposes lies in the fact that their fruiting season is earlier than the blackberries. Ripening as they do before the blackberries, their large size and attractive appearance usually command for them a ready sale. As a class the cultivated dewberries are less productive than the blackberries, and bear larger fruit of poorer quality. In this locality they require winter protection which is easily given them by throwing a few shovelfuls of earth on the prostrate vines.

The only variety that has as yet attained any commercial importance is the Lucretia.

Austin Improved, from J. W. Austin, Pilot Point, Texas, is a new candidate for public favor. It produced a few fruits this season which were of the largest size and good in quality. This is a promising variety.

Table II. Yield of Dewberries in 1896.

Rank as to yield.	Name.	Yield of row 20 feet long, ounces.	In marketable condition.
1	Lucretia.....	214	July 2 to August 3.
2	Mammoth.....	90½	June 30 to July 24.
3	Bartel.....	82	June 30 to July 25.
—	Austin Improved.....	—	—

BLACK RASPBERRIES.

Table III. List of Black Raspberries Fruited in 1896, with a comparative statement of the per cent. of early and late yield of each variety.

Rank as to yield.	Name.	When set.	Yield of row 25 feet long.	Per cent of crop picked before June 30.	Per cent of crop picked after July 15.	Per cent of canes winter killed.
1	Mohler.....	1893	393½	7	1	5
2	Hilborn.....	1893	388	5	5	5
3	<i>Babcock No. 5</i>	1893	323	6	4	5
4	Pioneer.....	1894	291½	13	1	5
5	Kansas.....	1893	267	3	3	5
6	Ohio.....	1893	244	0	20	10
7	<i>Poscharsky No. 15</i>	1894	249	10	2	0
8	<i>Poscharsky No. 9</i>	1894	221½	29	0	5
9	Arctic.....	1893	217	2	7	5
10	Mills.....	1893	204	0	24	5
11	Hopkins.....	1894	193	20	6	5
12	<i>Babcock No. 3</i>	1893	177	0	6	10
13	Eureka.....	1894	163	24	0	5
14	Onondaga.....	1893	159	0	26	5
15	<i>Poscharsky No. 3</i>	1894	147	29	0	0
16	<i>Townsend No. 2</i>	1894	142	4	0	2
17	<i>Haynes Seedling</i>	1893	139	0	13	25
18	Palmer.....	1894	136	9	4	0
19	Older.....	1893	97½	0	5	0
20	Lovett.....	1893	93½	6	3	5
21	<i>Smith No. 2</i>	1893	83	17	0	0
22	<i>Babcock No. 9</i>	1893	73½	0	13	5
23	American Everbearing.....	1893	65	35	0	5
24	Lotta.....	1893	57	0	21	10
25	Carman.....	1893	52	2	5	5
26	Spry Early.....	1893	44½	39	0	0
27	<i>Manwaring No. 1</i>	1893	33	0	0	15

EARLY BLACK RASPBERRIES.

The majority of the black raspberries ripened a large proportion of their crop between the dates of June 30th and July 16th. Those varieties that ripened a fifth or more of their crop before June 30th may be called early for this season.

Table IV. Early Black Raspberries arranged according to their yield before June 30th.

Name.	Date of first picking.	Yield before June 30, ounces.	Total yield, ounces.	Rank as to total yield.
<i>Poscharsky No. 9</i>	June 23	65	221½	7
<i>Poscharsky No. 3</i>	June 23	42	147	14
Eureka.....	June 24	41	163	12
Hopkins.....	June 25	39	193	10
American Everbearing.....	June 23	22	65	22
Spry Early.....	June 24	17	44½	25

Of the above varieties *Poscharsky No. 3*, *Poscharsky No. 9*, American Everbearing and Spry Early are not as good for this locality as are other well known sorts.

Eureka is an early berry of large size, firm and of good color and quality. As is usual with very early varieties it is only moderately productive.

Hopkins is also of large size, moderately firm and of good quality. Both of these varieties received favorable notice in our report for 1895.

LATE BLACK RASPBERRIES.

Again referring to table III. we find four varieties that ripened a fifth or more of their crop after July 15th. These may be called late for this season.

Table V. Late Black Raspberries arranged according to their yield after July 15th.

Name.	Date of last picking.	Yield after July 15, ounces.	Total yield, ounces.	Rank as to total yield.
Mills.....	July 27	59	204	9
Ohio.....	July 23	49½	244	5
Onondaga.....	July 27	41	159	13
Lotta.....	July 23	12	57	23

Mills has received favorable notice in former reports of this Station. Its fruit is somewhat larger than that of the Ohio, of good quality, firm and somewhat seedy. It is worthy of a trial as an evaporating berry.

Ohio is one of the standard varieties, and is much used for evaporating. It does not thrive in many localities.

Onondaga has also received favorable notice in former reports. The berries are large and attractive and of good quality.

Lotta is only moderately productive of medium size fruit.

Arctic is moderately productive of medium to large size fruit.

Babcock No. 3 is an attractive berry of large size, good quality and somewhat seedy. It was moderately productive this season.

Babcock No. 5 received favorable notice in last year's report. This season it takes third rank as to productiveness; the fruit is medium to large in size, good quality and attractive in appearance.

Carman has received favorable notice in former reports of this Station as an early berry. The plants now in fruiting for some reason have not done well, so that this year's record cannot be regarded as showing what the variety is really worth.

Haynes Sleeding as grown here has shown no points of superiority over well known kinds.

Hilborn has been fruited here since 1890, and has been very satisfactory as a mid-season berry. The fruit is large, attractive and of good quality.

Kansas ranks fourth in productiveness this season. It has become quite popular in many sections as a productive market berry.

Lovett produces large, attractive fruit, but it has not been productive enough here to warrant its being recommended for extensive planting.

Manwaring No. 1 though planted in the fall of 1893, the plants have not yet become established. Much of the fruit dried up on the bushes this season.

Mohler is said by many to be identical with Eureka. This season Eureka ripened its first fruit fully a week earlier, and was much less productive than Mohler. The fact that the Eureka plants are younger, and that the two varieties occupy

different locations in the plat may have influenced both the season of ripening and the yield.

Older produced its first full crop this year, and ranks eighteenth in productiveness. It should be further tested before deciding as to its merits.

Palmer also bore its first full crop this season, and stands seventeenth in productiveness. It holds a high rank in many places.

Pioneer produced its first full crop this year. The berries are medium size, good black color, moderately firm, fair flavor and quality. The canes are moderately vigorous.

Smith No. 2 has as yet shown no points of excellence. It takes twentieth rank as to productiveness this season.

Townsend No. 2 was unproductive this season, but it should be tested longer before being rejected.

PURPLE RASPBERRIES.

Table VI. List of Purple Raspberries fruited in 1896, with a comparative statement of the per cent. of early and late yield of each variety.

Rank as to yield.	Name.	When set.	Yield of row 25 feet long. Ounces.	Per cent. of crop picked before July 4.	Per cent. of crop picked after July 21.	Per cent. of canes winter killed.
1	Cardinal.....	1893	590	4	14	5
2	Addison.....	1893	382½	24	0	25
3	Columbian.....	1894	382	0	25	55
4	Shaffer.....	1893	239	0	11	45
5	<i>Beckwith Seedling</i> ..	1894	188	0	40	3
6	Smith Purple.....	1895	171½	23	2	0
7	Redfield.....	1895	106½	0	10	0

Addison is not as valuable as are some of the other varieties. While it has been productive, much of the fruit is small and imperfect.

Beckwith Seedling is very late, but unless it proves to be much more productive than this season's test would indicate, it will not compare favorably with other varieties for this locality.

Cardinal was by far the most productive of the purple berries. The fruit is large, soft and juicy, and not so dark colored as Shaffer.

Columbian was winter killed fifty-five per cent., but still it ranks third in productiveness among the purple varieties. It produced its first crop last year and ranked second in productiveness among all the raspberries.

Redfield is said to be a very vigorous grower in some localities, but it makes only a moderate growth here. The fruit is medium size, dull purple, soft, sub-acid, and fair quality. Thus far it shows no points of superiority over better known sorts.

Shaffer has long been the standard purple berry. The canes are quite susceptible to attacks of anthracnose in some localities.

Smith Purple was received from B. F. Smith, Lawrence, Kas., 1891, but it has since been transplanted so that the plants have never become established. It shows no indication of being any improvement on better known varieties for this locality.

RED RASPBERRIES.

Table VII. List of Red Raspberries fruited in 1896, with a comparative statement of the per cent. of early and late yield of each variety.

Rank as to yield.	Name.	When set.	Yield of matted row 25 feet long, ounces.	Per cent. of crop picked before July 1.	Per cent. of crop picked after July 22.	Per cent. of canes winter killed.
1	Pride of Kent.....	1893	555	0.6	16	0
2	Cuthbert.....	1892	535	0	21	5
3	Royal Church.....	1892	452	0	34	25
4	Talbot.....	1894	421½	1	17	0
5	Loudon.....	1894	412	1	24	0
6	Pomona.....	1892	405	23	2	0
7	Clarke.....	1894	380	3	15	0
8	Superb.....	1892	378½	1	22	5
9	Olathe.....	1893	354	0	39	0
10	Turner.....	1892	338½	4	7	0
11	Cline.....	1893	336½	42	0	0
12	King.....	1894	302	0	14	5
13	Harris.....	1893	292½	3	22	0
14	Brandywine.....	1892	281	0	32	0
15	Reliance.....	1893	267½	4	6	0
16	Reder.....	1893	255½	0	25	0
17	Miller Woodland.....	1892	239½	0	19	10
18	I. X. L.....	1894	246	1	13	0
19	Thompson.....	1892	205	1	13	25
20	Pride.....	1893	176	19	1	0
21	Naomi.....	1993	155	0	40	40
22	Crimson Beauty.....	1893	93	0	15	2
23	Superlative.....	1894	45½	0	22	60

EARLY RED RASPBERRIES.

The larger part of the crop of red raspberries was picked between the dates of July 6 and July 23. Those varieties that produced a considerable portion of their fruit before July 6 may be called early. Table VII shows three varieties that may be classed in this list. These are given below in table VIII.

Table VIII. Early varieties ranked according to their yield before July 6.

Name.	Date of first picking.	Yield before July 6th. Ounces.	Total yield. Ounces.	Rank as to total yield.
Cline	June 23.	143	336½	11
Pomona	June 23.	94	405	6
Pride.....	June 23.	55	176	21

Cline was very satisfactory this season as an extra early berry; the fruit is of medium size and good quality.

Pomona is valuable as a home or local market berry. It is always productive, of good color and quality, but too soft to ship long distances.

Pride has been moderately productive in former years, but this season it ranks twenty-first in productiveness. Not as good as others for this locality

LATE RED RASPBERRIES.

Observing July 23d as the end of mid-season we may class those varieties that yielded a fifth or more of their crop after this date among the late berries.

Table IX. Late varieties ranked according to their yield after July 22.

Name.	Date of last picking.	Yield after July 22. Ounces.	Total yield. Ounces.	Rank as to total yield.
Royal Church.....	Aug. 10.	153	452	3
Olathe.....	Aug. 10.	139	354	9
Cuthbert.....	Aug. 3.	111	535	2
Loudon.....	Aug. 6.	99	412	5
Superb.....	Aug. 6.	85	378½	8
Brandywine.....	Aug. 6.	74	281	15
Reder.....	Aug. 6.	65	255½	17
Harris.....	July 31.	64	292½	13
Naomi.....	Aug. 10.	52	155	22
Superlative.....	Aug. 6.	10	45½	24

Brandywine is one of the standard old varieties, but it has never been productive on our grounds.

Cuthbert is one of the most satisfactory of the red berries

for home and local market. It is always productive; the berries are of large size and of very good quality.

Harris has received favorable notice in former reports of this Station. The plants now in bearing have not become fully established so that this year's yield is below the average.

Loudon produced its first full crop this season and ranks fifth in productiveness among the red berries many of which have been longer established. The fruit is large, of bright red color and will evidently stand shipping well. It was uninjured by the winter.

Naomi is of no particular value for this locality.

Olathe ranks second in yield among the late berries this season and ninth among all the red berries. It has been satisfactory as a late berry in former years.

Royal Church is valuable only for home use.

Superlative is not yet established but it produced a small amount of fruit. The berries are of the largest size, light red color, juicy and moderately firm. It has the peculiar flavor of the English berries which is much esteemed by some, but is not relished by those persons who regard the Cuthbert as the standard of quality.

MID-SEASON VARIETIES.

Clarke is one of the most productive of the old varieties. It is valuable for home use only.

Crimson Beauty is of no value in this locality.

I. X. L. shows no points of superiority.

King produced its first crop of fruit this season. If it proves to be productive it will no doubt be valuable for a mid-season market berry on account of the size and color of the fruit.

Miller Woodland is unproductive here.

Pride of Kent was the most productive of the red raspberries this season, and the canes were uninjured by the winter. The berries are too soft to bear shipping.

Reliance is of but little worth as tested here.

Talbot ranks fourth in productiveness this season. It is valuable for local market or the home garden.

Thompson is not productive here.

Turner is noted for its hardness. It is moderately productive here; the fruit is medium in size and of good quality.

YELLOW RASPBERRIES.

Table X. List of Yellow Raspberries fruited in 1896, with a comparative statement of the early and late yield of each variety.

Rank as to yield.	Name.	When set.	Yield of matted row 25 feet long, ounces.	Per cent. of crop picked before July 3.	Per cent. of crop picked after July 21.	Per cent. of canes winter killed.
1	Caroline	1892	651	2	25	0
2	Golden Queen.....	1892	338½	0	17	0
3	Crystal	1893	231	10	8	15
4	Golden Thornless...	1893	153	22	10	2
5	Vermont.....	1893	122½	13	16	15
6	Champlain	1893	86.	3	11	20

The yellow raspberries are valuable only for the home garden or local market. Caroline, Golden Queen and Crystal have been the most satisfactory, and for several seasons Caroline has been the most productive raspberry on our grounds.