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Bulletin No. 25 - Fruits and Forest, Shade adn Ornamental Trees

E. S. Richman

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THE UTAH
AGRICULTURAL COLLEGE
EXPERIMENT STATION.

BULLETIN No. 25.

Fruits and Forest, Shade and Ornamental Trees

OCTOBER, 1893.

PRESS OF THE SALT LAKE LITHOGRAPHING CO.
OFFICERS OF THE EXPERIMENT STATION:

The Board of Trustees of the Agricultural College of Utah.

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POST OFFICE, LOGAN, UTAH.

The Bulletins will be sent free to those requesting them.
BULLETIN No. 25.

Fruits and Forest, Shade and Ornamental Trees.

BY E. S. RICHMAN.

REPORT ON STRAWBERRIES.

After three years' trial on the experimental grounds we are ready to acknowledge the conditions unfavorable to the growth of strawberries; the high and dry location of the land, coupled with its sterility, make it unsuitable to the growth of strawberries. The first plants were necessarily, on account of lack of time, planted before the soil was fertilized. Manure was applied freely the second and third seasons, as a top dressing, but the ground, being compacted by frequent irrigation, never has been in the proper condition for strawberries, either as regards fertility or mechanical condition. A new bed has been started where for three years manure has been freely applied, and, although it is not yet as fertile as a strawberry bed should be, we look for better results. Only a few varieties have proven themselves profitable under present conditions. The matted row system of culture has been followed, principally because new plants were desired in order to extend the bed. Some of the old and well-known varieties that have done very poorly here have done well in this section on properly prepared and enriched ground; therefore, this report will only apply to the varieties named when grown under similar conditions; that is to say, the cause of failure of some varieties, at least, was in the soil and not in the climatic conditions.
All varieties marked (P) are pistilate or imperfect flowering varieties, and need every third or fourth row planted to some perfect flowering variety. Varieties marked (B) are bisexual or perfect flowering and need not be planted with any other variety, as they are self-fertilizing or pollenating.

_Accomack_ (B)—Has not done as well the second year as it did the first; plants do not look as well and very few berries were produced.

_Alabama_ (B)—Plants continue as they began last year, very healthy and vigorous, but are lacking in productiveness.

_Auburn_ (B)—Only a few plants—the product of a single hill left from last year—alive. Berries were produced but sparingly.

_Bederwood_ (B)—Plants continue to look fairly well, but are not productive. The berry is large and of good quality.

_Belle_—Comparatively a weak grower with us. Produces a long berry, of good size, but rather inferior quality.

_Bessie_ (P)—Plants look well and have made a good, strong growth, but have produced very few berries.

_Beverly_ (B)—Is not a strong growing variety and has produced but few berries.

_Boynton_ (B)—Berries are of good size, and firm, but quite irregular in shape; quality good.

_Bubach No. 5_ (P)—This berry has acted very peculiarly here. The first year we had fine, large berries, produced in moderate abundance. The second and third years, although new plants were set, very few berries were produced. The plant grows vigorously.

_Captain Jack_ (B)—Plant very strong and healthy; produces fairly well here; fair quality.

_Charles Downing_ (B)—A good berry and produces well, but with us it has produced small berries.

_Cloud’s Seedling_ (P)—Has had three years’ trial, but is not worth much under the conditions it has been grown. This year a few nice berries were produced. The plant is a rank grower.

_Crescent Seedling_ (P)—As grown here has always been small and rather inferior in quality. Is moderately productive.
Edgar Queen (P)—This has done well. Berries are of a good size; quality good, but the berries are not quite firm enough for shipping.

Enhance (B)—Berries are of good size and quality; yield fair.

Eureka (P)—Is a late berry, of some promise for home market. It is medium in size and inclined to be somewhat irregular in shape.

Excelsior (B)—Produced a fair crop of berries, but they were below medium in size.

Gandy (B)—This is a fine berry, but rather a shy bearer here.

Gov. Hoard (B)—Has not done well; berries are few in number and inferior in quality.

Greenville (P)—This is a fine berry; firm, of good shape, good quality, and productive; plant healthy and robust. Best of the newer varieties.

Gypsy (P)—Berries were small and the yield moderate. Results have been very unsatisfactory.

Haverland (P)—This plant has not been a good grower with us, berries have been of good size and fair quality.

Hoffman (B)—Has given no more satisfactory results this year than last.

James Vick (B)—A fairly productive variety, of uniformly good shape, but rather below medium size here; berries are of good quality.

Jessie (B)—A healthy and strong grower, producing large berries of good quality in moderate abundance, but has the fault of not coloring its fruit evenly; while the berry is to all appearances ripe, one side of it is white.

Jewell (B)—Does not make a very vigorous growth, but produced a few fine berries.

Kentucky (B)—The plant does not make a healthy growth here; has produced but few inferior berries.

Lovett's Early (B)—A rank growing plant; produces well of medium-sized berries; early.

Martha (B)—Rather a promising berry; is of good size, good quality and firm.
Michel's Early (B)—A very vigorous grower, but produces practically no berries; very early.

Middlefield (B)—Berries are of good quality, but is a scant producer.

Mrs. Cleveland (P)—But few berries produced; not promising here.

Parker Earle (B)—A robust plant, but does not produce many runners here; is the most productive on the list; berries are of uniformly good size at first, but get rather small toward the end of the season; quality good.

Princess (P)—Berries are large, of good quality and firm; yield only moderate.

Racster (P)—This berry still holds its own; fruit very even and smooth and of good size, though never large.

Sharpless (B)—Apparently requires a more fertile soil than ours, as it does well in this valley, though the berries here are quite small.

Thompson's No. 7 (B)—This variety has now fruited here three years and is quite promising; berry is very smooth and of medium size; quality good.

Thompson's No. 9 (B)—Not as promising as No. 7.

Tippecanoe (B)—Not productive here. Berry is large, but most too soft.

Truitt—Has not made much of a showing; berries small.

Van Deman (B)—Has not made a good growth here and produced but few berries.

Warfield No. 2 (B)—Has produced some fine berries, but the plant has not made a good growth.

Wilson (B)—An old standard berry and one that is largely grown in this section, but on the soil of the Experiment Station it has proven a complete failure. We have grown it here for three years and though the plants are vigorous growers we have been unable to get them to fruit satisfactorily.

Yale (B)—Berries of fair size and good quality; produces well and is worthy of further trial.
RASPBERRIES.

The soil of the Experiment Station grounds is too dry and sandy to give very encouraging results in raspberry culture. A portion of the patch is on gravelly soil, which makes it impossible to draw any definite conclusions, even when compared with other varieties planted at the same time. This is only the second year that fruit has been borne in appreciable quantities, consequently we speak from two years' experience only. Further trial may make a change in some varieties, especially in regard to the size of the berry.

*Brandywine*—A late red raspberry of medium size; very sweet and fine for table use, but a little soft for market purposes.

*Cuthbert*—A large red raspberry, quite sour. Has been grown on gravelly ground and the yield has been rather light.

*Rancus*—This is a very large and sweet berry and firm enough for market purposes.

*Reliance*—A fine, large berry; sweet; season of ripening medium; prolific and quite promising.

*Shaffer's Colossal*—Late in ripening, very large, somewhat sour and a little soft for market purposes.

*Thompson's Early Prolific*—A very desirable early red berry; is of good size, sweet, prolific, but a little soft.

*Thwack*—Prolific, berry large and sweet; season medium.

*Turner*—Berries are small, but probably due to its location on dry, gravelly soil.

*Gregg*—A black-cap variety; seems to be well adapted to the soil and conditions here; is prolific and berries are of good size. A variety that is grown but little in Utah, but deserves more attention.

BLACKBERRIES.

We are not yet prepared to recommend any variety for hardiness this far north in Utah. The upper portion of the plants have killed badly, destroying most of the available bearing wood. Some fine berries have been produced, but not in sufficient quantities to encourage their growth in Logan and vicinity.

Dewberries, or creeping blackberries, are more promising here, owing to the ease with which they may be covered for winter pro-
Gooseberries grow well here and have not yet been attacked by mildew. The old varieties do well and the Industry, a very large berry, has been successfully grown for two years. If it sustains its past record it is an acquisition.

GRAPES.

As the vineyard grows older it becomes more evident that there are certain varieties of grapes that will succeed in the extreme north of Utah; owing, however, to late springs and cool nights, no variety requiring a long season in which to mature will be likely to be much grown. All varieties ripening before or with the Concord will have sufficient time in which to mature.

A description of the experimental vineyard and the varieties grown will be found in the annual report of the Experiment Station for 1892, pages 142 to 146. In this report only new information will be given, coupled with the item of yield as given last year.

All the varieties so far tried belong to one of three species, viz.: labrusca, riparia or aestivalis. The initial letters will be used to designate to which species the different variety belongs, or if it is a hybrid it will be so designated.

Agawam (Hyb.)—This variety did much better this year than last; ripe about September 20. The yield for last year and this is as follows: Heaviest yield of any vine for 1892, 2 pounds; average of the six vines, 15½ oz. This year the heaviest yield from any one vine was 7 pounds and the average 4½ pounds.

Catawba (L)—A good, strong growing vine, but most too late to ripen well here. Heaviest yield of any one vine in 1892, 5 pounds, and an average yield of 4 pounds 2 oz. Heaviest yield of any vine this year, 10 pounds, and an average yield of 7 pounds. Ripens here in October.

Concord (L)—Ripens about September 20th. In general appearance and quality this variety seems to find more favor with the public than any other. Most grapes on any one vine last year, 6½ pounds; average of six vines, 2 pounds 3½ oz. Most grapes
on any one vine this year, 13 pounds; average of six vines, 5 3/4 pounds.

*Cunningham (Æ)*—Entirely too late a grape for this section; has been slightly injured by winter-killing.

*Cynthiana (Æ)*—Is not quite as late as the above variety, but is of little or no value here, as it will not thoroughly ripen. Used mostly as a wine grape.

*Delaware (Hyb.)*—This variety has succeeded well here, so far, and is worthy of extensive cultivation as a table grape. Heaviest yield for any one vine last year, 4 1/2 pounds; average of six vines, one vine producing nothing, 1 pound 15 1/2 oz. Heaviest yield for any one vine this year, 9 pounds; average yield, 4 5-6 pounds.

*Dracut Amber (L)*—A good, strong growing vine. Heaviest yield of any one vine last year, 12 oz.; average, 10 1/4 oz. Heaviest yield this year, 5 1/2 pounds; average, 3 1/2 pounds. Ripe about September 18th.

*Early Victor (L)*—Ripens a few days later than Moore's Early; berries are smaller and the bunch is more compact. Yield last year was not determined. Yield this year averaged 5 1-10 pounds, one vine yielding 8 1/4 pounds.

*Eaton (L)*—A very large, showy berry, but the cluster is rather loose. Quality much the same as Concord, but has not quite as fine a flavor. Does not yield as well as Concord, at least while the vines are young. Heaviest yield of any one vine last year was 1 pound; average 6 oz. Heaviest yield this year, 5 1/2 pounds; average, 2 3/4 pounds. Ripe with or before Concord.

*Elvira (R)*—A very heavy bearer, but rather late for this section. Vines held the foliage better this year than last. Heaviest yield of any vine last year, 7 pounds; average, 4 pounds 11 2/3 oz. Heaviest yield this year, 16 pounds; average, 12 1/3 pounds.

*Empire State (R)*—A fine-looking grape, very sweet, but lacking somewhat in flavor. Fruited sparingly last year. Heaviest yield of any one vine this year, 12 1/2 pounds; average yield, 9 1/4 pounds. Ripe about September 20th.

*Etta (R)*—A very strong growing vine; most too sour for a table grape. Heaviest yield of any one vine last year, 1 1/2 pounds;
average yield, 1 pound. Heaviest yield of any vine this year, 8 pounds; average yield, 3⅔ pounds. Ripe the last of September.

**Goethe** (Hyb.)—Hardy, but not a heavy producing grape; quality excellent. This grape received under the above name is probably not true to name, as it colors very dark here.

**Herbemont** (Æ)—Is not hardy at Logan, but would probably do well further south.

**Martha** (L)—A very slow growing variety and has produced a few grapes this year for the first time. Quality of fruit good. Heaviest yield of any one vine, 2¾ pounds; average yield 4½ of a pound. Ripe about September 21.

**Mason’s Seedling** (L)—This is also a slow growing variety; vine hardy, but a light bearer; quality of fruit first class; berry of medium size, but bunch is rather small and loose. Heaviest yield of any one vine, 3⅔ pounds; average, 1 pound 13 oz. Ripe about September 22.

**Massasoit** (Hyb.)—Hardy, and has made a strong growth; did very well last year, but this year the product was less than last, some vines not bearing any grapes.

**Moore’s Diamond** (L)—A grape of good flavor and fine appearance, but this year the product was very light.

**Moore’s Early** (L)—This is the earliest grape that has been tried here; vine a very slow grower, but seems perfectly hardy; has given a few grapes for the last two years, but is a very light producer so far.

**Moyer** (L)—Rather a slow grower and has produced no fruit yet.

**Niagara** (L)—A very strong growing vine and fairly productive of good grapes; the quality is not best, but the grapes are nice looking and will command a good price. Heaviest yield of any vine last year, 2 pounds; average, 1 pound 2⅔ oz. Heaviest yield this year, 6¾ pounds; average, 4⅓ pounds.

**Northern Muscadine** (L)—Has made an unsatisfactory growth this year; bunch is rather loose and the berry below medium; is rather a pleasant flavored grape, but has some “foxy” taste about it. Only a few grapes produced; ripe about September 19th.
Perkins (L)—A purple berry of oval outline, bunch below medium and rather loose. The fruit has a very decided "foxy" flavor about it which is liked by some and greatly disliked by others. Heaviest yield on any vine last year, 4½ pounds; average, 2 pounds 13 oz. Heaviest yield this year, 8½ pounds; average, 4½ pounds. Ripe about September 10.

Peter Wylie (Hyb.)—Has made a moderate growth; bunch and berry below medium; quality good. Ripe about September 20th.

Pocklington (L)—This variety has made no show of fruiting yet; only one out of the six original vines now alive, the others winter-killed.

Prentiss (L)—This is one of the most promising of the white grapes. Heaviest yield on any one vine last year, 1 pound; average, 10 ounces. Heaviest yield this year, 8 pounds; average, 4 pounds. Ripe about September 15.

Triumph (Hyb.)—Rather a late grape, bunch very large, most too sour for a table grape as grown here. Heaviest yield of any one vine last year, 3¾ pounds; average yield, 1 pound 6 oz. Heaviest yield this year, 16 pounds; average, 8½ pounds. Ripe about October 1. The fruit cracks badly here and is, therefore, objectionable on that account.

Wilder (Hyb.)—A slow-growing variety, bunch and berry of medium size. But little fruit was produced last year. Heaviest yield of any one vine this year, 2½ pounds; average yield, 1½ pounds. Ripe about September 20.

Worden (L)—A desirable grape, ripens a little before Concord and a little smaller. Heaviest yield of any one vine last year, 1½ pounds; average, 15 ounces. Heaviest yield of any one vine this year, 5 pounds.

PEACHES.

Last winter, 1892–93, was very hard on our peach trees. Water was withheld from them after the 25th of August, in order to check the growth and ripen the wood, and the fall turned out to be very dry, so the ground became too dry before winter set in. The result was the trees were in a poor condition when cold weather came upon them, and those on the driest ground suffered
most; the trees that were in the lowest places and had received the most water were only killed back a few inches by the cold, while those on high, dry ground were killed back, some of them, over two years' growth. This year water was withheld the same as last, for the purpose of ripening the wood, but if the rains are not sufficient to thoroughly wet the ground, they will be irrigated before winter sets in. Those trees that were killed back most did not produce any fruit. Those that were but slightly injured produced a fair crop. Some varieties that fruited last year and seemed promising did not fruit this year on account of so much of the top being killed. Of those that did fruit Troth's Early seems to be the most promising; the fruit ripened about the 1st of September. The Prize ripened about the same time as Troth's Early, but the quality was not quite as good. Both are freestones. The Christiana peach ripened about October 10th; it is a yellow freestone, but not a juicy peach. All very late peaches will have to be discarded at Logan, as the season is not long enough for them to ripen properly.

APRICOTS.

The apricot trees seem to be a little more hardy than the peach trees. The varieties we have fruited are all Russian apricots, and though small are of good quality. The Gibb apricot has given the best returns so far; the Budd and Alexander have each borne a few, and the Catherine none.

CHERRIES.

Several varieties of cherries have fruited this year, but only two—Early Richmond and Mt. Large—bore more than a few specimens. They are both early cherries and quite sour; they have made a fine growth and are apparently well adapted to the location. The Mt. Large produced double the amount of fruit the Early Richmond did.

PLUMS.

A few varieties of plums have fruited, among which are Desoto, a red plum of American origin and first-class quality; Lombard, a large purple plum of the European class; Damson, a
late blue plum of excellent quality; and Wolf, a plum of medium size and quality rather below Desoto. Simonii also produced a few plums, but they were taken from the tree before ripening; the tree seems to be hardy here.

ORNAMENTAL, FOREST AND SHADE TREES.

Any one wishing a full description of each variety grown here will find it in Bulletin No. 18. In this report is given such additional information as we have been able to glean as the result of one more year's trial. Some of the trees are so large that no measurements of growth of branches can be taken, so that measurements of girth of trunk must be taken as the standard of comparison. In regard to growth, we note the following points of interest: Poplar trees made a more rapid growth than any others. The Carolina poplar (Populus monolifera) made a greater increase of girth than any other, the increase being from 11½ inches last spring to 17¼ inches this fall; just 50 per cent increase. Populus argentea increased its girth 60 per cent, but being a smaller tree the total increase was not so much as Carolina poplar, being from 7½ inches to 12¼ inches. The Lombardy poplar and Boleana poplar have both done well and, like the two named above, are adapted to positions requiring rapid growth. The trees named above are sold as being free from cotton; the facts of the case are that poplar trees are dioecious—one tree bearing the staminate and the other the pistillate flower—and they will remain free from cotton just as long as they are propagated from cuttings from one kind of tree only, that is the one bearing either the staminate or pistillate flower, but not from both. The Carolina poplar, as grown in Utah, is free from cotton and will remain free just as long as nurserymen are careful in their propagation; it is a fine tree and deserves to be extensively planted. Be careful about buying Carolina poplars grown from seeds; they are not what you want unless you want the cotton. Willows are all doing well; a great deal of foliage is produced, but the increase in height or girth is not so great as in the poplar.

American Plane Tree, Buttonwood or Sycamore (Platanus occidentalis)—Is a very slow grower when compared with poplars
and willows. Good for ornament and shade where time is no great object. Seems inclined to winter-kill some here.

Linden (*Tilia Europea*)—Is hardy and of fine shape for ornamental purposes, but has grown very slowly here.

European Alder (*Alnus incana*)—Does not sustain its former reputation for hardiness; nearly every tree was more or less injured last winter. Some seedling alder trees now growing seem to be more hardy, however, than those imported from the Eastern States.

American or White Elm (*Ulmus Americana*)—This tree does well, is hardy and makes a fair growth.

Maples—Both the Silver maple and Sugar maple are growing here, but the Silver maple is too easily torn to pieces by the wind, and the hard or Sugar maple is a too slow-growing tree for this place, having done little more than keep alive.

Box Elder (*Negundo aceroides*)—This tree does well here, being a rapid-growing and hardy tree.

Black Locust (*Robinia pseudacacia*)—A rapid-growing tree, good for forestry purposes. Seedlings raised here seem perfectly hardy, but trees shipped here from the East are inclined to winter kill.

Walnuts—The Black walnut (*Juglans nigra*) and the White walnut (*J. cinera*) are growing here. They are much the same habit of growth, but the White walnut is the more rapid grower. Both are hardy.

*Catalpa Speciosa*—Does not seem well adapted to this section. It is more or less affected by the severe winters and the growth is not very rapid.

Ash—The European ash (*Fraxinus excelsior*) has made a good, strong growth, but the Blue ash (*Fraxinus viridis*) is a very slow grower here.

Mountain Ash—Seems well adapted to this location. It makes a very shapely ornamental tree.

Canoe Birch (*Betula papyracea*)—A shapely ornamental and shade tree; desirable.

Tree of Heaven (*Ailanthus glandulosa*)—This tree continues promising; ours are grown from seed.
Swamp White Oak (*Quercus bicolor*)—One tree of this species is growing by the side of an irrigating ditch, and is doing well.

White Pine (*Pinus strobus*)—Is a failure, apparently, on our dry bench land.

Scotch Pine (*P. sylvestris*)—This pine seems better adapted to this location than the White pine.

Spruce (*Picea pungens*)—A very desirable ornamental evergreen. Of the five trees we have, no two are of exactly the same shade of green.

Norway Spruce (*Picea excelsa*)—Not as desirable a tree here as *P. pungens*.

White Spruce (*P. alba*)—Quite unsatisfactory.

Arbor Vitæ (*Thuja occidentalis*)—A promising ornamental evergreen.
SUMMARY.

1. Parker Earle has given better satisfaction than any other strawberry, so far. Greenville is most promising of any of the varieties which fruited this year for the first time.

2. Thompson's Early Prolific raspberry is very promising for this locality.

3. Grapes do well here, if we except such varieties as ripen later than Concord. A good list to select from for the extreme northern part of Utah is: Early Victor, Worden, Concord, Delaware, Niagara, Prentiss and Empire State.

4. Late peaches must be excluded from our list of possibilities for Logan.

5. The Russian apricots promise to be very valuable here, particularly the Gibb and Budd.

6. For rapid-growing trees the poplars are in the lead, with the Carolina poplar and *Populus argentea* most promising.