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The Agricultural Experiment Station.

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A PRELIMINARY REPORT

ON THE

Fruit Interests of the State.

Fort Collins, Colorado.

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The Agricultural Experiment Station.

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A PRELIMINARY REPORT

ON THE

FRUIT INTERESTS OF THE STATE.

By CHARLES S. CRANDALL.

The year just closing has been a successful one among the fruit growers of Colorado. The experiences of the year have furnished practical demonstration of the fact that extended areas in different portions of the State are especially adapted to fruits. Crops have been large, ready markets have been found within our own borders, and prices have been generally satisfactory. Growers have shown a creditable pride in the exhibition of their products at the various fairs. The exhibits have been large, and the quality and beauty of the fruits shown has made it clear to all observers that the future possibilities of fruit growing are most flattering.

The success attained in this and the three or four preceding seasons has encouraged preparations for the enlargement of existing plantations, and many men who have been in doubt as to the possibility of raising fruit are now setting their first orchards. The area of orchards planted in 1890 was large, that of 1891 still larger, and the indications are that the planting for 1892 will be the largest in the history of fruit planting in the State.

The men whose names now appear in the lists of exhibitors at fairs are the pioneers—men who are now reaping the reward of that faith which, several years ago,

induced them to plant orchards, regardless of the commonly expressed sentiment that fruit could not be grown in Colorado. This sentiment was at first general, applying to the whole State. Gradually its fallacy was shown up, by the production of excellent fruit, first in one section, then in another, until now it is held only locally. One gentleman, writing from the San Luis Valley, informs me that the "croakers," who asserted that nothing could be grown in the valley, have been forced to recede from their position by excellent agricultural crops, until they are now intrenched behind the statement that "fruit cannot be grown," and "this in the face of the fact that a few men *are* growing good fruit."

Much credit is due these pioneers in fruit growing for their persistence during the experimental stages; with no precedents to guide them, they were obliged to learn by experience all the steps in fruit growing by irrigation. Costly errors in choosing varieties or in methods of treatment were now and then made, but they were not discouraged, and now they have demonstrated that success will attend properly directed efforts in fruit growing. Those who plant now for the first time can, by taking advantage of the experiences of these pioneers, avoid their mistakes and may choose varieties and follow methods which are reasonably sure of success.

Climatic conditions vary greatly in different portions of our State, these differences being due partly to the range of latitude, which is four degrees, partly to differences in altitudes, which range from 4,000 feet above the sea level to way above the possible limits of agricultural or fruit crops, and partly to the influences of mountain ranges; so that while some portions of the State are adapted to the more tender fruits, other portions must be limited to the hardier varieties of the hardy fruits. As no planting can be surely successful without irrigation,

fruit raising must be confined to those districts which have a supply of water and the means of distributing it to the lands.

In considering the present status of fruit growing, it will serve our purpose to divide the State into three districts:

A Northern District—To include all territory lying east of the range and north of the divide.

A Southern District—To include the territory east of the range and south of the divide.

A Western District—To include the territory west of the range.

The Northern District embraces the basin of the South Platte and its tributaries—Bear Creek, Clear Creek, Boulder Creek, St. Vrain, Big Thompson, Little Thompson and the Cache la Poudre.

So far as we are informed, fruit growing within this district is confined to the counties of Arapahoe, Jefferson, Boulder, Larimer and Weld. The conditions of altitude and climate prevailing in this district are such as to preclude the possibility of success with the tender kinds of fruit. Peaches have been grown in Jefferson and Boulder counties, and Black Hamburg grapes have been ripened as far north as Fort Collins. We must, however, consider these as exceptions due to a favorable season, or to favorable local conditions of soil and exposure. Past experience reveals nothing that would warrant planting the fruits mentioned. The restrictions of climate arise, not from extreme low temperatures, but from the great range of temperature and the sudden changes which take place. Occasionally injury may result from late frosts which come after trees have been encouraged to bloom by the warmth of early spring, but this difficulty occurs less often in the Northern District than it does further south.

The apple is *the* orchard fruit of the district. Pears are planted to some extent, as are also plums and cherries, but these fruits occupy but a small area as compared with the apple. That the pear and some varieties of plums and cherries will do well in many places in the Northern District there can be no doubt, because some orchardists have succeeded with them; they have succeeded by giving that extra care which the young trees demand. The standard varieties of pears will, when once established, endure as adverse conditions of climate as most varieties of apples. It is in the first years after planting that special care and culture must be given in order to insure continuous healthy growth.

An estimate made early in the season by Dr. Shaw, Secretary of the State Bureau of Horticulture, places the area in fruit in the Northern District at 2,850 acres. From observation and extended inquiry, I am led to regard this estimate as conservative, and as nearly accurate as can be made from the data at hand.

The area in fruit in Arapahoe County is about 600 acres, confined to the extreme western part of the County, and mostly to the immediate vicinity of Denver. The oldest orchard in the county is that of Mr. L. K. Perrin, in North Denver; the largest that of Messrs. Stark Bros., near Littleton, which covers ninety-three acres, and contains about 12,000 trees, mostly apple. As further examples of successful orchards near Denver, I may mention the Col. A. C. Fisk orchard, in the southern suburbs, which contains 3,000 apple, 1,500 plum and 50 cherry trees; also the fifteen-acre orchard at Elitch's Gardens. In the neighborhood of Brighton, near the county line, north of Denver, are several small orchards, which give every promise of success. A sufficient degree of success has been attained in the county to demonstrate that where water is available, apples, pears, most varieties of plums, and the sour cherries can be profitably grown.

Jefferson County is credited with an area of 700 acres devoted to fruit, a considerable portion of this being in young orchards not yet in bearing. In this county were planted some of the first orchards in the state. The early attempts were failures, owing mostly to the condition of the trees on their arrival from the long overland journey in wagons. A few men, holding tenaciously to the idea that fruit could be grown, planted again, and now the County can boast some of the finest orchards in the northern section of the State. A number of orchards now standing were started as long ago as 1868; these received additions at various times, and now they are sources of annual profit to their owners. Prominent among the successful fruit growers of Jefferson County are David Brothers, John Tobias, William Lee and Henry Lee. Mr. Brothers' apple crop this season amounts to 1,000 barrels.

A close estimate of the land occupied by fruit in Boulder County in 1890 placed the area at 500 acres. In the spring of 1891 a large amount of planting was done, and the present area may be safely placed at 700 acres, the major portion of which lies in the valley of the St. Vrain. In the immediate vicinity of the city of Boulder there are some orchards, but mostly small ones. The attention here is mainly given to strawberries, grapes and other small fruits. Growers have attained marked success in the culture of these fruits. The plantations are numerous and extensive, and large quantities of fruit are shipped to the Denver market and to the mountain towns.

The first introduction of fruit trees along the St. Vrain dates back to 1866; but little now remains of this first planting, which was made under all the adverse circumstances with which the pioneer has to contend. Further plantations were made in 1870, and these formed the nucleus about which have grown up the now profitable orchards which dot the valley. As an index of this

County's fruit interests, I here give the statement of production for 1890, as compiled from the Assessor's returns, and furnished me by Hon. C. S. Faurot, Chairman of the Board of County Commissioners :

Acres in orchard	500
Apples, number of bushels	29,616
Peaches, " " "	168
Pears, " " "	198
Strawberries, number of quarts	53,765
Blackberries, " " "	57,150
Raspberries, " " "	54,110
Gooseberries, " " "	47,920
Currants, " " "	49,200
Cherries, " " "	5,850
Plums, " " "	3,955
Grapes, number of pounds	265,990
Wine, number of gallons	1,035
Grove and forest trees, acres	86

Mr. Faurot adds, "The increase in the acreage has been very great in the last year, also in apples and grapes. The grape crop is double that of last year."

It will be seen from the foregoing, that fruit already forms an important item in Boulder County productions. The industry is growing rapidly, and when we consider the smallness of the arable area in the County, the showing is an exceptionally good one.

Weld County, while ranking high as an agricultural County, has but a small area in fruit. This is not because fruit cannot be grown, but is due to the fact that the interest has been directed to farm crops, to the neglect of tree planting.

The early planting about Greeley consisted mainly of crabs, and most of the plantations were left to take care of themselves. In recent years these trees have suffered greatly from blight. Some crab orchards have been entirely dug out, others badly effected must soon follow.

The Siberian varieties, the Transcendant and the Whitney, are everywhere being exterminated by this disease.

Five or six years ago, some degree of interest was awakened in fruit culture, and as a result, there are now quite a number of small orchards of standard fruit just coming into bearing. The marked success of some of these small orchards is encouraging further planting. Mr. Geo. J. Spear, proprietor of the Greeley Nursery, has a large stock on hand, and he informs me that his sales of trees and small fruit plants for spring planting already amount to nearly \$3,000. Other dealers have sold over \$2,000 worth, and some stock will be shipped to individuals. It would thus appear that considerably more than \$5,000 worth of fruit plants will find their way to Weld County farms in the spring.

It is to be hoped that those who plant will give their trees that care which is essential to success. In riding through the County, I was impressed with the idea that the average farmer was too much absorbed with his potato and grain crops to be successful with fruit. Many small orchards show evident signs of neglect, and little can be hoped for from them. Fruit trees will no more take care of themselves than will potato or corn crops, but they will respond to good care as readily as any other plants. That it pays to care for fruit trees properly, the experience of those who have tried it fully demonstrates. At Eaton, six miles north of Greeley, Mr. A. J. Eaton is deriving pleasure and profit from a three-acre plantation of fruit. Besides small fruits in good variety, he has Martha and Whitney crabs, the latter much effected with blight, and soon to be discarded; the former thrifty, free from blight and bearing good crops; Oldenburg, Excelsior and a few other varieties of apples; several varieties of plums, besides a number of native wild varieties. The wild plums yield enormously and the fruit sells readily. Mr. Eaton's

surplus brought one dollar per tree this season. The three acres, after bountifully supplying his own needs, gave a money return of \$300. Among Mr. Eaton's small fruits, are a few dewberries, of which he speaks in the highest terms.

The estimated area of lands occupied by fruit in Larimer County is 600 acres. Nearly all of this area is in small farm orchards of from two to ten acres. There are but few large commercial orchards. The first fruit planting in the County was done by the early settlers in the valley of the Big Thompson, commencing in 1863. The early experiences in this valley were similar to those on the St. Vrain, and of the orchards now standing, none trace their beginning further back than 1867. Most of the trees now bearing were planted at various times from 1873 to 1880. The good and profitable crops obtained from these orchards has given encouragement to further planting, and during the last three years the additions have been large. From present indications, the planting for 1892 will exceed that of any previous year.

In the valley of the Cache la Poudre, the first planting of fruit trees in Larimer County of which I have definite information was made in 1874. It is probable that a few trees may have been planted in the neighborhood of La Porte at an earlier date, but of this I am not certain. The early planting about Fort Collins was done in direct opposition to the very generally expressed opinion that fruit planting was useless. This sentiment grew out of the early failures at Greeley, and it was several years before successful ventures in fruit growing finally overcame it. That there is now an established confidence in the success of fruit growing, may be seen in the many young orchards scattered all through the valley.

Among the pioneers in fruit growing are: Mr. A. N. Hoag, who planted his first trees in 1874, and who for

several years conducted a nursery business. Mr. Hoag now has eleven acres of orchard, containing 550 apple trees of several varieties, twenty-seven varieties of plums, six of cherries, six of pears, besides a number of seedlings of various kinds.

Mr. J. S. McClelland, of Fossil Creek, began planting in 1876. His orchard now covers forty acres and contains 4,000 trees. He has ninety-two varieties of apples, twenty of crabs, twenty-one varieties of plums and about fifty varieties of grapes. A considerable portion of Mr. McClelland's orchard has been in bearing for several years, yielding satisfactory crops.

Mr. W. F. Watrous has about six acres of bearing orchard, besides a considerable area in small fruits. His orchard contains about 500 trees, representing thirty-five varieties of apples, five of pears and twelve of plums.

Mr. J. E. Plummer makes a specialty of plums, and is very enthusiastic regarding the future of plum culture in Larimer County. He has 600 bearing trees, representing twenty-six of the leading varieties. The coming spring he will set 500 more. There are also in his orchard 300 apple trees and seventy cherry trees.

In Pleasant Valley, Mr. C. E. Pennock is developing a good nursery business. He has now eight acres occupied and will in the spring greatly enlarge this area. Mr. Pennock grows most of his stocks, does his own propagating and has as clean and thrifty trees as are to be found anywhere. There are now represented in his nursery 150 varieties of apples, thirteen of pears, twenty-one of plums, sixteen of grapes, twenty-two of strawberries, nine of red raspberries, six of black raspberries, two of yellow raspberries, four of blackberries and two of dewberries, besides many shrubs and ornamental plants.

In what we may call the Southern District, embracing the territory south of the divide and east of the range, the fruit lands are mainly in the valley of the Arkansas. There are about 3,150 acres now in fruit in this district, distributed through nine Counties. Fremont County leads, with 1,000 acres. It has been called the "banner" fruit County of the State, and deservedly, so far as apples are concerned. Here are some of the oldest and finest orchards in the State.

* "The first fruit trees were set out in Fremont County in 1867. Mr. W. C. Catlin went to Pueblo for an invoice of trees which had been ordered by himself and by Gov. Anson Rudd, Mr. W. A. Helm and Mr. Jesse Frazier. They had been brought across the plains in a wagon to Pueblo, and Mr. Catlin brought them to Canon; something over \$500 worth of trees occupying a small space in his wagon. A few of these trees, and only a few, are still living. After his first attempt, which was almost a total failure, Jesse Frazier procured several thousand root grafts and set them out in nursery rows. When they became large enough, he transplanted them into his orchard." Thus was started what is now the largest bearing apple orchard in the State. This orchard has amply repaid the care and labor bestowed upon it. It is now in its prime, and will continue to be a source of great profit to Mr. Frazier. His crop for the year 1888 was estimated at 15,000 bushels, bringing the total production for the first ten years of its bearing existence above 53,000 bushels.

President Felton, of the State Horticultural Society, gives the following as the returns from his orchard at Canon City for the year 1889:

* Judge W. B. Felton before State Horticultural Society. See Report 1887-88, page 275.

From five and one-half acres—

3,250 bushels apples marketed,	}	--- \$4,361 61
1,500 bushels apples made into		
cider and vinegar.....		

From four and one-half acres—

Pears.....	\$553 43
Grapes.....	373 64
Strawberries	460 75
Plums.....	144 46
Cherries.....	56 50
Gooseberries, Mulberries, Raspberries, Blackberries, Currants, Peaches and Quinces.....	73 50
	-----\$1,662 28

	\$6,023 89
Deduct expenses.....	2,467 00

Leaving net receipts.....	\$3,556 89

This statement speaks for itself, and needs no comment.

The success of fruit culture in Fremont County is beyond question. The area in fruit is rapidly increasing, and each year will show an increase in product as the younger orchards reach bearing age.

As a further exhibit of the importance of Fremont County's fruit interests, I may mention that there were shipped this season from two stations, by the Denver & Rio Grande Express Company, 720,817 pounds of fruit, divided as follows:

From Canon City—

	Pounds.
Apples-----	163,674
Pears-----	32,748
Grapes-----	172,840
Strawberries-----	151,800
Other berries-----	77,764
Plums-----	63,968
Peaches-----	3,018
	665,812

From Florence—

Apples-----	50,150
Berries-----	2,870
Grapes-----	1,985
	55,005
	720,817

The lower valley of the Arkansas is as well suited for fruit as is the upper, and as the facilities for irrigation are extended, we may look for a large increase in the area of orchards in those Counties adjacent to the valley.

Mr. L. M. Campbell, writing from Las Animas, Bent County, says that the fruit industry is yet in its infancy, but farmers are so well pleased with results thus far obtained that very many of them are preparing to extend their plantations. "Our County fair, last September, would lead one to believe that we had a fruit County beyond a doubt. We are trying every variety. The Early Harvest, at three years after planting, is wonderful. Missouri Pippin, Winesap and Ben Davis have all shown their colors. Plums, pears, peaches and grapes have done well, as have also the small fruits. We could not reasonably ask for better returns."

The Western District embraces the valleys of the Uncompahgre, the Gunnison, the North Fork of the Gunnison, and the Grand Rivers. In this territory three-

Counties have become prominent in the matter of fruit growing, namely: Montrose, Delta and Mesa.

The development of these Counties has been phenomenal. In the tenth year after the removal of the Ute Indians and the opening of the reservation to settlement, the fruit growers of these Counties place before the public the largest and finest exhibition of fruits ever shown in the State, and the best the writer ever saw in any State. The first planting of fruit was made in Delta County in 1882, and soon after small areas were planted in Mesa County. It was not, however, until the year 1886 that planting became general. The wonderful growth and precocity exhibited by the trees first planted on the North Fork and about Grand Junction and Fruita served to prove the adaptability of the soil and climate to the raising of fruit, and a large area was that year planted.

In Montrose County, the early settlers devoted themselves entirely to the raising of farm crops and vegetables, up to the year 1886; then fruit planting commenced, and the County now has 600 acres of growing orchards, with every indication that this area will rapidly increase. Trees seem to do equally well, whether on the adobe soil of the river bottoms, or on the red, sandy loam of the higher mesas. So universally successful is the growing of fruit, that the industry bids fair to surpass all other industries of the County.

Orchards vary in size from two or three acres, to 100 acres. The trees are thrifty, clean and unmarked by disease or the ravages of insects. As examples of Montrose County orchards, I may mention those of Mr. Wm. B. Upton, Judge John C. Bell, and Bell Brothers.

Mr. Upton's orchard, on adobe bottom, at an altitude of 5,800 feet, covers twenty-five acres. He began by setting a few trees in 1886, and has each year made additions, until now he has:

1,000 apple trees, 300 of which began bearing this season, producing 20 barrels.

600 pear trees, 40 of which bore this season.

300 plum trees, with 60 in bearing.

100 cherry trees, half of them in bearing.

100 apricots, 25 in bearing.

900 peach trees, 150 of which began bearing this season, producing 50 boxes.

Judge Bell's orchard is situated on mesa land, at an elevation of 6,700 feet. It covers sixty-five acres, was planted in 1889, and contains 3,000 apple trees, 3,000 peach trees, besides 500 pear trees, 75 cherry trees, 50 apricot, 50 plum and a few miscellaneous trees.

Bell Brothers' orchard, at the same elevation, contains forty acres set with 2,500 trees, mostly apples and peaches. In writing of this orchard, Judge Bell says: "Many four-year-old peach trees bore sixty-five pounds each of marketable peaches, which sold at an average of 7 cents a pound; apricots, 5 cents; grapes, 6 cents. All varieties have done splendidly. I have also pears, quinces, nectarines, etc. I have a tree loaded with Champion quince, now ripe, and as fine as I ever saw."

The fruit shipment by express from Montrose this season, aggregated 31,225 pounds.

The planting of fruit trees in Delta County, which was inaugurated by Messrs. Coburn, Wade and Hotchkiss, in 1882, has gone steadily on. The North Fork orchards have multiplied in number and have largely increased in size. Orchards have been planted about Delta, and the County now has an area of 600 acres in orchards.

W. S. Coburn's orchard on the North Fork, at an elevation of 5,500 feet, covers forty-five acres, and contains 3,260 trees, divided as follows:

Apple—1,600 trees, 350 in bearing; yield this season, 500 bushels.

Peach—800 trees, 400 in bearing; yield this season, 700 bushels.

Pear—300 trees, 95 in bearing; yield 10 bushels.

Apricot—100 trees; all bore this year, yielding 50 bushels.

Nectarine—10 trees, set in 1887; all bore this season, yielding 10 bushels.

Plum and prune—350 trees, 50 in bearing; yield this season, 100 bushels.

Cherry—100 trees; 10 trees bore this season 10 bushels of excellent fruit.

In addition to the above, Mr. Coburn has a vineyard containing 1,000 vines, representing sixty varieties. His grape crop this season was 5,000 pounds. In sending me the above data of his orchard, Mr. Coburn adds: "Peach trees have produced five successive full crops and are still in a healthy, thriving condition, and, with proper pruning and care give promise of a long life. Prunes and plums are among the surest and best paying crops that can be planted, and observation leads me to believe they can be very successfully grown over a large portion of the State. The pear succeeds and grows to perfection, with no symptoms of disease. Cherries are thrifty and produce heavy annual crops. Nectarines are productive. All varieties of apples bear in abundance. Grapes never fail to produce heavy annual crops."

Near Delta is the orchard of Mr. W. O. Stephens. It contains 2,400 trees—950 apple trees, 1,150 peach trees and the balance divided between pears, plums, quinces and apricots. A few of these were set in 1886, but the major portion in 1888 and 1889. Twenty-five of the apple trees bore this season, producing 25 bushels. Fifty peach trees bore 200 bushels of fruit. In 1887, Mr. Stephens set out 1,200 grape vines. These are now bear-

ing, and this season yielded 12,000 pounds of excellent fruit, which sold readily at from 3 to 5 cents per pound.

From Delta there were shipped this season, by the Denver & Rio Grande Express Company, 198,680 pounds of fruit, mostly peaches and apples.

The estimated area of Mesa County orchards is 1,500 acres. The largest orchards in the State are in this County, and, at the present rate of planting, this area will soon be doubled. A few orchards are planted on the bottom lands of the Grand River, but the mesa lands back from the river are considered the most desirable, and it is here that most of the orchards have been planted. Near Fruita is the eighty-acre peach orchard of Rose Brothers & Hughes, containing 12,000 trees, now in their prime and bearing abundantly. The shipments from this orchard this season aggregated 92,000 boxes. Adjoining is the large orchard of Mr. A. B. Johnson, one of Mesa County's most successful fruit growers. Here also is the newly planted orchard of Kiefer Brothers, covering 160 acres. A few miles up the river, above Grand Junction, is the orchard of Mr. C. W. Steele. It would be difficult to find thirty-five acres as productive and well cared for as are those occupied by this orchard. In writing of his experience, Mr. Steele says: * "I commenced planting fruit trees in the spring of 1886. All my trees were one year old from the graft. The season of 1889 I had a full crop of peaches. Some of my trees yielded 100 pounds each, and brought 10 cents per pound, wholesale, for the best varieties. The Rome Beauty, Ben Davis and Missouri Pippin apple trees commenced bearing, the Missouri Pippin proving the first early bearer. The apricot, almond and plum trees were full of fruit." Mr. Steele has now marketed three crops, each larger than

* *Colorado Farmer*, January 20, 1891.

the preceding, and the orchard has not yet reached its most productive age.

When the writer visited this orchard, late in September, early varieties had been harvested. Late peaches and apples were still on the trees, and served as an index to the general productiveness. The branches were bending to the ground, loaded to their utmost capacity with large, highly-colored fruits. Both fruits and trees were entirely free from the marks of disease or of insects, and in general, the orchard exhibited that thriftiness and cleanness of trunk and branch which is characteristic of well cared for orchards in Colorado.

At Whitewater, on the Gunnison, eight miles above Grand Junction, are a number of fine orchards; among them those of Mr. J. S. Coffman, Mr. J. S. Penniston and Mr. R. W. Shropshire.

Mr. Shropshire began planting in 1883. In 1885 he made some additions, bringing the number of trees up to 1,335, divided as follows:

Apples, 1,250; pears, 35; cherries, 50; these are all now in bearing.

In 1890 he enlarged his orchard to sixty acres, and planted 2,040 apple trees, assorting the varieties as follows:

Ben Davis, 1,040; Northern Spy, 500; Mann, 500. In the earlier planting were 250 each of Rhode Island Greening, King, Scott's Winter and Missouri Pippin, and thirty each of Wolf River, Utter's Red, Ben Davis, Wine-sap, Haas, Bellflower and Oldenburg.

When asked regarding productiveness, Mr. Shropshire gave me an example, taken from his orchard in 1890. Of several Ben Davis trees equally well loaded with fruit, he selected one, carefully picked all the fruit, measured and weighed it, and found the yield to be sixteen bushels.

The tree was set in 1883, and was, therefore, in its seventh year from planting in the orchard.

Additional evidence of the large proportions already attained by the fruit industry of Mesa County is seen in their express shipments. The Denver & Rio Grande Express Company handled this season :

From Grand Junction -----	217,767	pounds.
From Fruita -----	131,282	"
From Whitewater -----	85,100	"

A total from the County of 434,149 pounds.

As an example of the more recent fruit ventures, I may mention the Gov. Crawford orchard, on Rapid Creek, above Grand Junction. This covers sixty acres. It was set by and is in charge of Mr. D. C. Hawthorne, an experienced fruit grower. The orchard contains 6,000 trees and 8,000 grape vines, set in 1890, and 2,000 trees set in 1891. All the leading varieties of apples, pears, peaches, plums, cherries and nectarines are represented. Of the grapes, 6,000 vines are of the European varieties, including Emperor, Musatel, Gordo Blanco, Muscat of Alexandria, Flame Tokay, Sultana and others; 2,000 vines are of American varieties, mostly Concord, Worden and Niagara.

Sixty miles above Grand Junction, extending along the banks of Grand River, in Garfield County, is Grass Valley, said to be admirably adapted to fruit culture; already 250 acres are occupied by fruit trees, and ground is being prepared for further planting in the spring. The experience thus far points to a successful future for fruit growing in this valley.

Of the extreme southern and southwestern portions of the State, we can at present say but little. We have not been able to visit this region, and information obtained has been meager. In the estimate of fruit area for the State, Huerfano County is credited with 100 acres, Las

Animas with 200 acres and La Plata with 300 acres, and I am advised that in all of these Counties the area is being extended.

In the San Luis Valley the small fruits are successfully cultivated, and in some places the hardier varieties of apples are doing well; but, owing to the altitude, which is 7,500 feet, and to the short seasons, late spring frosts and cold nights, it is doubtful if any extended culture of tree fruits will be possible. In the valleys of La Plata County, fruit culture is attracting much attention. The climate admits the culture of the more tender fruits, and those who have planted orchards are meeting with success. The express shipments from Durango for this season aggregate 80,374 pounds, a sufficient indication that the fruit industry is becoming an important one. Mr. S. W. Carpenter writes, regarding Montezuma County, that "the first planting was done in 1887. The present area in fruit is about seventy-five acres in all. All the fruits grown anywhere in Colorado seem to do well here, so far as I can judge."

From the observations and collected facts embodied in the foregoing, it would appear that the fruit industry of our State is already an important one; that it has been developed within a comparatively short time, and that it is each year assuming greater proportions. It must not be understood, however, that our fruit growers meet with no discouragements, but I may safely say that the difficulties encountered are no greater than in other fruit growing regions. Here, as elsewhere, the measure of success is in most cases in direct proportion to the care and attention bestowed upon the trees. Some men succeed, others fail, and most failures can be traced to a lack of care or to errors in judgment. In all localities east of the mountains there is yet entire freedom from fungus diseases, with the exception of the occasional appearance of plum

pockets (produced by *Taphrina pruni*) on native wild varieties. The bacterial disease, variously known as "pear blight," "apple tree blight," "twig blight," is prevalent, and in some sections has done great damage. Our insect enemies are numerous, and their attacks must be met by persistent warfare on the part of the fruit grower. The best line of attack against most of these pests is well understood, but remedies for some of the newer ones are yet matters for experiment.

In the Western District, diseases and insect troubles are at present unknown, but it can hardly be hoped that the immunity now enjoyed will continue. Growers in that district should prepare themselves to profit by the experience gained elsewhere and meet the first attacks with determined efforts at extermination.

The rapid advancement of the fruit industry has already called forth the prediction of over-production. There is nothing, however, to cause apprehension of this. As yet, the home market is not nearly supplied, as is shown by the fact that in 1890 very nearly all of the 654 car-loads of green fruits shipped into Denver by freight came from other States. We have a rapidly increasing population, which will insure increased home demand for fruit. When production exceeds the home demand, there is no reason why the Colorado product cannot enter the larger markets of the country in competition with other fruit producing regions. California growers market with profit in the Eastern cities; our growers are enough nearer these great markets to make competition easy. The markets of the South also offer an excellent and easily accessible outlet for much of the fruit that can be raised here; but I apprehend that with all our increase of production, it will yet be some years before markets need be sought abroad. There is a possible danger in sight—it is the danger of overstocking the market with inferior fruit. As fruit be-

comes more abundant, buyers become more critical, and look closer at quality. Our growers must, therefore, learn to give careful attention to quality and to attractive packing, in order that their product may successfully pass critical inspection.

Observation leads to the conclusion, that as yet, this matter is not receiving the attention it should. The fact that appearance largely influences sales, is not fully appreciated.

A word regarding the purchase of trees may not be out of place here. Buy only of nurserymen of known reliability, and give preference, so far as possible, to home enterprise and home-grown trees. In this remark, I but reiterate the advice that has been frequently given. It is, however, good advice. To order a dozen varieties of grapes, care for them, and on fruiting, find them all Concord, or to buy a dozen varieties of apples, which after several years of waiting, prove to be all Ben Davis, may not be a total loss to the buyer, but the transaction is not altogether satisfactory; yet these, and even worse, experiences have been related. Mistakes cannot always be avoided, but we believe following the advice above given will greatly lessen the liability of their occurrence. Your home nurseryman may charge a little more for trees than they can be bought for elsewhere, but, if you can depend upon his integrity, it is better to take his guarantee of trueness to name and pay the advanced price, than to meet disappointment and possible loss when your trees reach bearing age.

This report is preliminary. It is the intention to follow, during the coming year, with one aiming at a more complete presentation of the fruit interests of the entire State, and to embody therein such details of orchard management, tests of varieties and other information as may be deemed useful to fruit growers. We desire to

make the statistical information as full and complete as possible, and to secure this, we ask the co-operation of fruit growers and others interested.

I wish here to express my obligation to Mr. G. W. Kramer, Manager of the Denver & Rio Grande Express Company ; to Dr. Alexander Shaw, Secretary of the State Bureau of Horticulture, and to Secretary Olney Newell, of the Denver Chamber of Commerce, for statistical information furnished from their respective offices.

PRELIMINARY LIST OF FRUITS

GROWN IN THE

STATE OF COLORADO.

The following list of fruits is only preliminary; it does not pretend to be complete. It contains such varieties as I have found mentioned as growing within the State, and using the division of the State into districts, as noted on page 5, I have indicated where the varieties are grown. In attempting to give the origin of the different varieties, we may be in error in some cases.

We ask the aid of the fruit growers of the State in correcting and completing this list, with the view of publishing a complete descriptive catalogue of our fruits during the coming year:

APPLES.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern	Southern	Western
Alexander.....	Russian			
Anis.....	"	"		
Anisovka.....	"	"		
Anisim.....	"	"		
Antonovka.....	"	"	Southern	Western
Aport.....	"	"		
Aport Orient.....	"	"		
Arabka.....	"	"		
Arcad.....	"	"		
Arnold Russett.....		"		
August Sweet.....	American	"		
Autumn Strawberry.....	New York	"	Southern	Western
Babuschins.....	Russian	"		
Bailey's Sweet.....	American	"	Southern	Western
Baldwin.....	Massachusetts	"	"	
Barkoff.....	Russian	"		
Barloff.....	"	"		
Ben Davis.....	American	"	Southern	Western
Benoni.....	Massachusetts		"	"
Biel.....	Russian	Northern		
Blessed Calville.....	"	"		
Blue Pearmain.....		"		
Bogdanoff.....	Russian	"		
Borovinca.....	"	"		Western
Borsdorf.....	"	"	Southern	"
Breskovka.....	"	"		
Broadwell Sweet.....	Ohio		Southern	
Buckingham.....	American	Northern		
Canada Black.....		"		
California Red.....		"		
Carmine.....			Southern	
Carolina June.....		Northern		
Carter's Blue.....	Alabama		Southern	
Charlamoff.....	Russian	Northern		

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern		
Charlottenthaler.....	Russian	Northern		
Chenango Strawberry.....	New York	"		
Clark's Orange.....		"		
Clayton.....	Indiana	"		
Cluster.....	American	"		
Coat's Sweet.....	"	"		
Cole's Quince.....	Maine	"	Southern	
Colorado Favorite.....	Colorado	"		
Colorado Orange.....	"		Southern	
Colorado Red.....	"		"	
Colorado Seedling.....	"		"	
Congress.....	Massachusetts			Western
Cooper.....			Southern	
Cooper's Early.....	American		"	
Cooper's Early White.....	"		"	
Cooper's Market.....	"		"	
Cross.....	Russian	Northern		
Delaware Sweet.....		"		
Delaware Winter.....		"		Western
Domine.....			Southern	
Dyer.....	France			Western
Early Cinnamon.....	Russian	Northern		
Early Champaign.....	"	"		
Early Harvest.....	American	"	Southern	
Early Pennock.....	"	"	"	
Early Red.....		"		
Early Sweet.....	Ohio	"		
Early Strawberry.....	New York	"		
English Golden Russet.....	England	"		
Enormous.....	Russian			Western
Empress.....	"			"
Excelsior.....	Minnesota	Northern	Southern	
Fallawater.....	Pennsylvania		"	
Fall Orange.....	Massachusetts	Northern	"	

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern	Southern	Western
Fall Pippin.....	American	Northern	Southern	
Fall Queen.....	"		"	
Fall River.....			"	
Fall Spitzenburg.....	Vermont	Northern	"	
Fall Stripe.....		"		
Fall Wine.....	American	"		
Fameuse.....	French	"	Southern	Western
Family.....	Georgia		"	
Fink.....	Ohio	Northern		Western
Flora.....	American		Southern	
Flushing.....	New York	Northern		
Fonaric.....	Russian	"		
Fourth of July.....	German	"		
Fuller.....			Southern	
Fulton.....	Illinois	Northern	"	
German Calville.....	Russian	"		
George Webster.....	Colorado	"		
Gideon.....	Minnesota	"	Southern	
Gilpin.....	Virginia		"	
Gipsy.....	Russian	Northern		
Golden Pippin.....	England	"		
Golden Russet.....	American	"	Southern	
Golden White.....	Russian	"		
Golden Sweet.....	Connecticut	"		
Good Peasant.....	Russian	"		
Goss' Beauty.....	Colorado	"		
Greasy Pippin.....		"		
Green New Town Pippin.....	New York	"		
Green Sweet.....	Russian	"		
Grimes' Golden.....	Virginia	"	Southern	Western
Grindstone.....		"		"
Haas.....		"	Southern	"
Hare Pipka.....	Russian	"		
Harvest Queen.....		"		

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
Hibernal	Russian	Northern	.....	Western
Home .....		"	.....	
Howard	Russian	"	.....	
Huntsman's Favorite.....		"	Southern	.....
Hubbardston.....	Massachusetts	.....	.....	Western
Hygiene.....	Colorado	Northern	.....	
Imperial	Russian	.....	Southern	.....
Iowa Blush.....	Iowa	.....	.....	Western
Isham Sweet.....		Northern	Southern	"
Jarminite	Ohio	"	.....	
Jefferis.....	Pennsylvania	.....	Southern	.....
Jeniton.....	Virginia	Northern	.....	
Jennetting	England	"	Southern	Western
Jersey Sweeting.....		"	.....	
Jonathan.....	New York	"	Southern	Western
Kalkidon.....	Russian	"	.....	
Kentucky Red Streak.....	American	.....	Southern	.....
Keswick Codlin.....	England	Northern	"	Western
Kluevskoe.....	Russian	"	.....	
King.....	American	.....	Southern	.....
Kruder	Russian	Northern	.....	
Krusk Reinette.....	"	"	.....	
Lady.....	French	"	Southern	.....
Lady Finger.....		.....	"	.....
Lady's Sweet.....		Northern	.....	
Landon.....	American	.....	.....	Western
Large Romanite	Pennsylvania	.....	Southern	.....
Lawyer.....	American	Northern	"	Western
Lead.....	Russian	"	.....	
Ledenets .....	"	"	.....	
Lijanka.....	"	"	.....	
Limber Twig.....	American	"	Southern	Western
Lipin.....	Russian	"	.....	
Livland Raspberry.....	"	"	.....	

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
Long Arcad.....	Russian	Northern		
Longfield	"	"		
Longmont	Colorado	"		
Lou.....		"		
Lowell			Southern	
Maiden's Blush.....		Northern	"	Western
Mammoth Black Twig	Russian	"		
Mann.....	New York	"		Western
Maverack's Sweet.....	South Carolina		Southern	
McIntosh Red.....	American	Northern		
McMahon's White.....		"		Western
Melonen.....	Russian		Southern	
Milam.....	American		"	Western
Missouri Pippin	"	Northern	"	"
Moscow Pear.....	Russian	"		"
Mountain Sweet.....	Pennsylvania		Southern	
Muscat Reinette	German	Northern		
Newtown Pippin.....	New York	"		
Newtown Spitzenburg.....	American	"		
New York Greening.....	"	"		
New York Pippin	"	"		
Nickajack.....	"		Southern	
Nonesuch	England			Western
Northern Spy.....	New York	Northern	Southern	"
Northern Sweet.....	Vermont		Southern	
Northwestern Greening.....		Northern		
Oconee Greening.....	Georgia		Southern	
Oldenburg.....	Russian	Northern	"	Western
Peach		"		
Pearmain.....	England		Southern	
Peck's Pleasant	American	Northern		
Pennock.....	Pennsylvania	"	Southern	
Perry Russet	American	"	"	
Pewaukee	Wisconsin	"	"	Western

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
Pineapple	England	Northern	.....	.....
Plumb's Cider.....	American	"	Southern	Western
Polish Cinnamon	Russian	"	.....	.....
Porter	American	.....	Southern	.....
Pound	Russian	.....	"	.....
Princess Royal.....	"	Northern	.....	.....
Primate	American	"	.....	Western
Prolific Sweet.....	Connecticut	"	.....	.....
Pryor's Red .....	.....	"	.....	.....
Pumpkin Sweet	American	.....	.....	Western
Quince	"	Northern	.....	.....
Rambo	Delaware	"	Southern	Western
Rambour Reinette.....	Russian	"	.....	.....
Raspberry.....	"	"	.....	.....
Rawle's Genet.....	Virginia	"	Southern	Western
Rebecca.....	Delaware	"	.....	.....
Red Anis.....	Russian	"	.....	.....
Red Astrachan.....	"	"	Southern	Western
Red Beitigheimer .....	"	"	.....	.....
Red Canada .....	.....	"	.....	.....
Red June.....	American	"	Southern	Western
Red Pearmain	New Jersey	.....	"	.....
Red Repka.....	Russian	Northern	.....	.....
Red Titka.....	"	"	.....	.....
Red Streak.....	England	.....	Southern	.....
Red Wine.....	.....	.....	"	Western
Red Winter Pearmain .....	.....	.....	"	.....
Repka Malenka	Russian	Northern	.....	.....
Repolovka.....	"	"	.....	.....
Rhode Island Greening.....	American	"	Southern	Western
Richard's Graft.....	New York	"	.....	.....
Romanite	American	"	Southern	.....
Roman Stem	New Jersey	"	"	.....
Rome Beauty	Ohio	"	"	Western

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
Rosy Aport.....	Russian	Northern		
Royal Table.....	"	"		
Roxbury Russet.....	Massachusetts	"	Southern	Western
Rubets	Russian	"		
Russian Gravenstein.....	"	"		
Russian Transparent.....		"		
Salome	Illinois	"		
Sandy Glass.....	Russian	"		
Scott's Winter.....	American	"		
September.....	Minnesota			Western
Shackelford			Southern	
Shaker Pippin.....	New Ham'shire	Northern		
Sheriff.....		"		
Smith's Cider	Pennsylvania	"	Southern	Western
Smokehouse	"		"	"
Sops of Wine.....		Northern	"	"
Spice Sweet.....			"	
Stark	American	Northern		Western
St. Lawrence.....		"		
St. Peter's.....	Russian			Western
Stump	American		Southern	
St. Vrain.....	Colorado	Northern		
Sutton Beauty.....	Massachusetts			Western
Swarr.....	New York	Northern		
Sweet Bough.....	American			Western
Sweet Cross.....	Russian		Southern	
Sweet June.....	American	Northern	"	
Sweet Pear.....	Russian	"	"	
Sweet Pipka.....	"	"		
Sweet Romanite.....			Southern	
Sweet Russet.....			"	
Sweet Vandevere.....	American	Northern		
Switzer	Russian	"		Western
Talman Sweet.....	Rhode Island	"	Southern	"

APPLES—Continued.

VARIETY.	Origin.	STATE DISTRICT.		
Tetofsky	Russian	Northern	Southern	Western
Tiesenhausen .....	"	"	.....	"
Titus .....	"	.....	.....	"
Twenty Ounce	Connecticut	Northern	Southern	.....
Ukraine	Russian	"	.....	.....
Utter .....	.....	.....	.....	Western
Vandevere	Delaware	.....	Southern	.....
Vandevere Pippin.....	.....	Northern	"	.....
Vargul	Russian	"	.....	.....
Virginia Greening.....	.....	.....	Southern	Western
Voronesh.....	Russian	Northern	.....	.....
Wagener	New York	"	Southern	Western
Walbridge .....	.....	"	"	"
Watermelon.....	Russian	"	.....	.....
Water	Pennsylvania	"	.....	.....
Wealthy.....	Minnesota	"	Southern	Western
Webster's Beauty.....	Colorado	"	.....	.....
Westfield Seek-no further.....	Connecticut	"	Southern	.....
White Astrachan.....	Russian	"	.....	.....
White Bellflower.....	.....	"	.....	.....
White Borodovka.....	Russian	"	.....	.....
White Pigeon.....	"	"	.....	.....
White Pippin.....	.....	"	.....	Western
White Winter.....	Pennsylvania	.....	Southern	.....
White Winter Pearmain.....	.....	Northern	"	Western
Whitewater Sweet.....	Ohio	.....	"	.....
Willow Twig	Virginia	Northern	"	Western
Wino	Delaware	"	"	.....
Winesap.....	New Jersey	"	"	Western
Winter Glass.....	Russian	"	.....	.....
Winter Pearmain.....	.....	.....	Southern	.....
Winter Queen.....	.....	Northern	.....	.....
Wolf River	Wisconsin	"	Southern	Western
Yellow Anis.....	Russian	"	.....	.....

APPLES—Continued.

VARIETY,	Origin.	STATE DISTRICT.		
			Southern	Western
Yellow Bellefleur.....	New Jersey	.....		
Yellow Ingestrie.....		Northern	.....	.....
Yellow Sweet.....	Russian	"	.....	.....
Yellow Transparent.....	"	"	Southern	Western
Zolotareff.....	"	"	.....	.....

APPLES—CRABS.

VARIETY,	Origin.	STATE DISTRICT.		
			Southern	Western
Briar Sweet.....	Wisconsin	Northern		
Sheriff.....	French	"	.....	.....
Florence	Minnesota	"	Southern	.....
General Grant.....	American	"	.....	.....
Hyslop	"	"	Southern	Western
January	Minnesota	"	.....	.....
Lake Winter	American	"	.....	.....
Martha	Minnesota	"	Southern	Western
Montreal Beauty	American	.....	"	.....
Orange .....	"	.....	.....	Western
Orion.....	England	.....	Southern	.....
Hall's Imperial.....		Northern	.....	.....
September	Minnesota	"	.....	.....
Red Siberian.....	Foreign	"	Southern	Western
Soulard.....	Missouri	.....	.....	"
Telfer Sweet.....		.....	Southern	.....
Transcendent	American	Northern	"	Western
Whitney.....	Illinois	"	"	"
Yellow Siberian.....	Foreign	.....	.....	"

APRICOTS.

		Northern	Southern	Western
Alexander.....	Russian			
Alexis.....	"	"	"	"
Budd.....	"	"	"	"
Catharine	"	"	"	"
Gibb.....	"	"	"	"
Nicholas.....	"	"	"	"

BLACKBERRIES.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern	Southern	Western
Ancient Briton.....	Arkansas	"	"	"
Early Harvest.....	Illinois	"	"	"
Kittatinny.....	New Jersey	"	"	"
Lawton.....	New York	"	"	"
Snyder	Indiana	"	Southern	Western
Stone.....	Wisconsin	"	"	"
Taylor.....	American	"	Southern	Western
Wilson	New Jersey	"	"	"
Wilson's Early	"	"	"	"
Wilson, Jr.....	"	"	"	"

CURRENTS.

VARIETY.	Origin.	Northern	Southern	Western
Cherry	European	"	"	"
Fay's	New York	"	"	"
Red Dutch	European	"	"	"
Versaillaise.....	French	"	"	"
Victoria	England	"	"	"
White Dutch.....	European	"	"	"
White Grape.....	"	"	"	"

CHERRIES.

VARIETY.	Class.	Origin.	STATE DISTRICT.		
			Northern	Southern	Western
Bigarreau	Bigarreau	European	"	"	Western
Black Eagle.....	Heart	England	"	"	"
Early Richmond.....	Morello	European	"	Southern	Western
Empress Eugene.....	Duke	French	"	"	"
Governor Wood.....	Heart	Ohio	"	"	Western
Late Richmond	Morello	European	"	"	"
May Duke.....	Duke	"	"	"	"
Montmorency	Morello	"	"	"	"
Morello.....	"	"	"	Southern	Western
Napoleon.....	Bigarreau	"	"	"	"
Olivet	Duke	"	Northern	"	"
Ostheim.....	Russian	Russian	"	"	"
Reine Hortense.....	Duke	French	"	"	"

GOOSEBERRIES.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern	Southern	Western
Crown Bob	England	Northern	Southern	.....
Downing	New York	"	"	Western
Houghton	Massachusetts	"	"	"
Industry.....	European	"	"	"
Lancaster Red	England	.....	"	.....
Whitesmith	French	Northern	"	"

GRAPES.

VARIETY.	Color.	Species.	Origin.	STATE DISTRICT.		
				Northe'n	Southern	Western
Agawam, Rogers' No. 15	Red	Lab.-Vin.	Mass.	Northe'n	Southern	Western
Bacchus.....	Black	Lab.-Rip.	N. Y.	"	.....	.....
Black Eagle.....	"	Lab.-Vin.	"	"	.....	.....
Black Hamburg.....	"	Vinifera	Europe	.....	Southern	Western
Bland.....	Red	Labrusca	Va.	Northe'n	.....	.....
Blood's Black	Black	"	.....	"	.....	.....
Brighton	Red	Lab.-Vin.	N. Y.	"	Southern	Western
Catawba	"	"	N. C.	.....	"	"
Champion	Black	Labrusca	Am.	Northe'n	"	.....
Chasselas.....	White	Vinifera	Europe	.....	"	Western
Clinton	Black	Riparia	N. Y.	Northe'n	.....	"
Concord	"	Labrusca	Mass.	"	Southern	"
Creveling.....	"	Lab.-Aest.	Penn.	"	.....	.....
Delaware.....	Red	Lab.-Vin.	N. J.	"	Southern	Western
Diamond	White	Labrusca	N. Y.	"	.....	.....
Diana.....	Red	Lab.-Cin.	Mass.	"	.....	.....
Downing	Black	.....	N. Y.	"	.....	.....
Dracut Amber.....	Red	Labrusca	Mass.	"	.....	Western
Duchess	White	Lab.-Vin.	N. Y.	.....	Southern	.....
Early Victor.....	Black	Labrusca	Kansas	Northe'n	.....	Western
Eaton.....	"	"	Mass	"	.....	.....
Elvira	White	Rip.-Lab.	Mo.	.....	Southern	Western
Emperor	Red	Vinifera	Europe	.....	.....	"
Empire State.....	White	Lab.-Rip.	N. Y.	Northe'n	.....	"

GRAPES—Continued.

VARIETY.	Color.	Species.	Origin.	STATE DISTRICT.		
				Northe'n	Southern	Western
Etta	White	Rip.-Lab.	.....	Northe'n	.....	.....
Eumelan	Black	Labrusca	N. Y.	"	Southern	.....
Flame Tokay	Red	Vinifera	Europe	.....	"	Western
Goethe	"	Lab.-Vin.	Mass.	Northe'n	"	"
Golden Chasselas	White	Vinifera	Europe	.....	"	.....
Grein's Golden .....	"	.....	.....	Northe'n	.....	.....
Gordo Blanco	"	Vinifera	Europe	"	Southern	Western
Hartford	Black	Labrusca	Conn.	"	"	"
Hayes	White	.....	Mass.	"	.....	.....
Iona	Red	Labrusca	N. Y.	"	.....	.....
Isabella	Black	"	S. C.	"	Southern	.....
Ives	"	"	Ohio	.....	.....	Western
Janesville	"	"	Am.	Northe'n	Southern	"
Jefferson	Red	Lab.-Vin.	N. Y.	.....	.....	Western
Jessica	White	.....	Canada	Northe'n	.....	.....
Jewell	Black	Aest.-Lab.	Kan.	"	.....	.....
Lady	White	Vin.-Lab.	Ohio	"	Southern	.....
Lady Washington	"	Lab.-Vin.	N. Y.	.....	.....	Western
Lindley, Rogers' No. 9.	Red	"	Mass.	Northe'n	.....	Western
Martha	White	Labrusca	Penn.	"	Southern	"
Massasoit, Rogers' No. 3.	Red	Lab.-Vin.	Mass.	"	.....	.....
Mission	Black	Vinifera	.....	"	Southern	Western
Missouri Riesling	White	Lab.-Rip.	Mo.	.....	.....	"
Moore's Early	Black	Labrusca	Mass.	Northe'n	Southern	"
Muscat of Alexandria	White	Vinifera	Europe	.....	"	"
Niagara	"	Labrusca	N. Y.	Northe'n	"	"
Noah	"	Rip.-Lab.	Illinois	"	.....	.....
Perkins	Red	Lab.-Aest.	Mass.	"	Southern	.....
Poughkeepsie	"	Lab.-Vin.	.....	"	.....	.....
Pocklington	White	Labrusca	N. Y.	"	Southern	Western
Prentiss .....	"	"	"	"	"	.....
Rose of Peru	Black	Vinifera	Europe	.....	.....	Western
Salem, Rogers' No. 53.	Red	Lab.-Vin.	Mass.	Northe'n	Southern	"
Sultana	White	Vinifera	Europe	.....	"	.....

GRAPES—Continued.

VARIETY.	Color.	Species.	Origin.	STATE DISTRICT.		
				Northe'n	Southern	Western
Sweetwater.....	White	Vin.	Europe			
Taylor's Bullet.....	"		Ky.	"		"
Telegraph.....	Black	Labrusca	Penn.	"		"
Triumph.....	White	Lab.-Vin.	Ohio	"		
Ulster.....	Red	Labrusca	N. Y.	"		
Vergennes.....	"	"	Vt.	"		
Woodruff Red.....	"		Mich	"		
Worden.....	Black	Labrusca	N. Y.	"	Southern	
Wyoming Red.....	Red					Western
Zinfandel.....	Black	Vinifera	Europe		Southern	

PEACHES.

VARIETY.	Origin.	STATE DISTRICT.		
Amsden.....	Missouri			Western
Chinese Cling.....				"
Crawford's Early.....	New Jersey		Southern	"
Crawford's Late.....	"			"
Elberta.....				"
George Fourth.....	New York			"
Governor Garland.....				"
Heath Cling.....	Maryland			"
Henrietta.....	Dist. Columbia			"
Keyport.....	American	Northern		
Oldmixon Cling.....	"	"		Western
Salway.....	England			"
Smock.....	New Jersey			"
Snow.....	American			"
Stump.....	New Jersey			"

PEARS.

VARIETY.	Origin.	STATE DISTRICT.		
		Northern	Southern	Western
Angouleme.....	French	Northern	Southern	Western
Anjou	"	"	"	"
Bartlett	England	"	"	"
Belle Lucrative.	Belgium	"		
Buerre Bosc.....	"		Southern	
Buffum.....	Rhode Island		"	
Clapp's Favorite.....	Massachusetts	Northern	"	
Edmonds.....	New York			Western
Flemish Beauty.....	Belgium	Northern	Southern	"
Howell	Connecticut		"	
Indian Queen.....		Northern	"	Western
Kieffer.....	American	"	"	"
Lawrence	New York	"	"	
Lawson (Comet)....	"		"	
LeConte.....	American			Western
Louise bonne de Jersey	French	Northern	Southern	
Madeleine.....	"	"		
Monarch.....	England		Southern	
Mount Vernon	Massachusetts		"	
Orange	American		"	
Osband's Summer.....	New York	Northern	"	
Rosteizer	European		"	
Seckel	Pennsylvania	Northern	"	Western
Sheldon	New York	"	"	
Souvenir du Congres	French		"	Western
Sugar.....	American	Northern	"	
Tyson.....	Pennsylvania	"		
Urbaniste	Belgium		Southern	
Vicar of Winkfield....	French	Northern	"	

PRUNES.

Burgundy.....	European	Northern		
German Prune.....	"	"	Southern	Western
Hungarian (Syn-Pond) '.....	England	"		

PLUMS.

VARIETY.	Origin.	STATE DISTRICT.		
Botan	Japan	Northern	.....	.....
Bradshaw	American	"	.....	.....
Claude de Bavay	French	.....	Southern	Western
Coe's Golden Drop.....	England	Northern	.....	.....
Damson	American	.....	Southern	Western
De Soto	American	Northern	Southern	Western
Duane's Purple.....	New York	.....	"	.....
Forest Garden.....	American	Northern	"	Western
Forest Rose	"	"	"	"
Green Gage.....	European	"	"	"
Imperial Gage.....	New York	"	"	.....
Kelsey.....	Japan	.....	.....	Western
Lombard	New York	.....	Southern	"
Mariana.....	Texas	Northern	.....	.....
Miner	Pennsylvania	"	.....	Western
Monroe.....	New York	.....	Southern	.....
Moore's Arctic	American	Northern	"	Western
Peach.....	European	"	.....	.....
Pond	England	.....	Southern	Western
Prince Albert	"	Northern	.....	.....
Prince Engelbert.....	Belgium	"	.....	.....
Purple Egg... ..	European	.....	Southern	.....
Prince's Yellow Gage	New York	.....	"	.....
Rollingstone	American	Northern	"	Western
Shippers' Pride.....	"	"	.....	.....
Shropshire Damson.....	England	"	.....	.....
Smith's Orleans.....	New York	.....	Southern	.....
Washington.....	"	Northern	.....	.....
Weaver.....	American	"	Southern	Western
Wild Goose	"	"		"
Yellow Egg.....		"	Southern	"

QUINCE.

Orange.....		Northern	Southern	Western
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RASPBERRIES.

VARIETY.	Color.	Origin.	STATE DISTRICT.		
Caroline.....	Yellow	New York		Southern	
Clark.....	Red	Connecticut	Northern	.....	.....
Crimson Beauty.....	"	Kansas	.....	.....	Western
Cuthbert.....	"	New York	Northern	Southern	"
Davidson's Thornless.	Black	"	"	.....	"
Golden Queen.....	Yellow	New Jersey	.....	.....	"
Gregg.....	Black	Indiana	Northern	Southern	"
Hansel.....	Red	New Jersey	"	.....	"
Mammoth Cluster....	Black	New York	"	Southern	"
Marlboro.....	Red	"	"	.....	.....
Rancocas.....	"	.....	"	.....	.....
Reliance.....	"	New York	"	Southern	.....
Shaffer.....	Purple	"	"	"	Western
Souhegan.....	Black	New Ham'shire	"	"	"
Turner.....	Red	Illinois	"	"	"

STRAWBERRIES.

VARIETY.	Sex.	Place of Origin.	When Originated.	STATE DISTRICT.		
Atlantic.....	Bisexual	N. J.	.....	Northern	Southern	Western
Belmont.....	"	Mass.	1880	"	"	.....
Bidwell.....	"	Mich.	1872	.....	"	.....
Bubach.....	Pistillate	Illinois	1885	Northern	"	.....
Captain Jack.....	Bisexual	Mo.	1874	"	"	.....
Champion.....	Pistillate	Penn.	1872	"	.....	.....
Charles Downing....	Bisexual	Ky.	1860	"	.....	.....
Cloud.....	Pistillate	La.	1887	"	.....	.....
Cornelia.....	Bisexual	Ohio	1882	"	Southern	.....
Cowing.....	"	Ind.	.....	"	.....	.....
Crawford.....	"	Ohio.	1887	"	.....	.....
Crescent.....	Pistillate	Conn.	1870	"	Southern	Western
Cumberland.....	Bisexual	Penn.	1874	"	"	.....
Gandy.....	"	N. J.	1885	"	.....	.....
Gold.....	Pistillate	Conn.	1884	"	.....	.....
Haverland.....	"	Ohio	1884	"	.....	.....

STRAWBERRIES—Continued.

VARIETY.	Sex.	Place of Origin.	When Orig- i- nated	STATE DISTRICT.		
Henderson	Bisexual	N. J.	1880	Northern	Southern	.....
Jersey Queen.....	Pistillate	"	.....	"	"	Western
Jessie	Bisexual	Wis.	1885	"	.....	.....
Jewell.....	Pistillate	Conn.	1882	"	.....	.....
Jucunda.....	Bisexual	Belg.	1855	"	Southern	Western
Lady Rusk	Pistillate	Illinois	1887	"	.....	.....
Lida.....	"	N. J.	1883	"	Southern	.....
Manchester.....	"	"	1876	"	"	.....
May King	Bisexual	"	.....	"	"	.....
Miner .....	"	"	.....	.....	"	.....
Parker Earle	"	Texas	1886	Northern	.....	.....
Parry.....	"	N. J.	1880	"	Southern	.....
Sharpless.....	"	Penn.	1874	"	"	Western
Warfield.....	Pistillate	Illinois	1883	"	.....	.....
Wilson	Bisexual	N. Y.	1860	"	Southern	Western