

Oklahoma Agricultural Experiment Station,

BULLETIN NO. 43,

NOVEMBER, 1899.

Fruits for Oklahoma.

O. M. Morris.

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STILLWATER, OKLAHOMA.

Oklahoma Agricultural and Mechanical College, Agricultural Experiment Station.

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INTRODUCTION.

A brief statement of the condition of the fruit on the station farm was made in the last annual report. As indicated there, sufficient time had not elapsed to enable the station to say definitely what varieties would do best and what methods should be pursued in setting out and caring for an orchard.

This bulletin represents a summary of the experience of practical fruit growers and it is believed to contain, in so far as it is possible at the present time, safe information for those who are contemplating the setting out of orchards and vineyards. Its preparation and issue in this form would not have been possible except for the hearty co-operation of the following gentlemen who have had wide experience in fruit growing, both in Oklahoma and elsewhere, and who have furnished the station with detailed reports covering trials with many varieties in different sections of Oklahoma.

Name.	Post Office.	County.
J. M. Rice	Winnview	Blaine
Wren Moores	Calumet	Canadian
C. H. Weber	Calumet	Canadian
E. W. Cruzan	Calumet	Canadian
F. F. Ferguson	Union City	Canadian
H. Emerson	North Enid	Garfield
Chas. King	Enid	Garfield
J. A. Lopeman	Enid	Garfield
J. W. Preston	Kingfisher	Kingfisher
H. C. St Clair	Kingfisher	Kingfisher
Geo. Atwood	Excelsior	Kingfisher

Name.	Post Office.	County.
W. H. Campbell	Orlando	Logan
L. C. Fouquet	Clifton	Lincoln
W. H. Fallis	Fallis	Lincoln
E. B. Fairchild	Oklahoma City	Oklahoma
J. C. White	Oklahoma City	Oklahoma
R. Kleiner	Oklahoma City	Oklahoma
T. H. Montgomery	Edmond	Oklahoma
F. E. Dugan	Pawnee	Pawnee
D. C. Wright	Pawnee	Pawnee
W. O. Beach	Perkins	Payne
F. M. Albright	Perkins	Payne
W. L. Robinson	Stillwater	Payne
H. C. Morris	Stillwater	Payne
Hays Hamilton	Stillwater	Payne
James Channey	McLoud	Pottawatomie
W. E. Brown	McLoud	Pottawatomie
Grant A. Jones	McLoud	Pottawatomie
Scott Ross	McLoud	Pottawatomie
W. A. Duncan	Avoca	Pottawatomie
Henry B. Furbee	Tecumseh	Pottawatomie
J. B. Otto	Tecumseh	Pottawatomie
Matt Brown	Vilas	Woods
S. G. Rader	Forrest	Woods
T. T. Rader	Capron	Woods
J. A. Taylor	Wynnewood	Indian Ter.
F. B. Orton	Kiowa	Kansas

GENERAL CONSIDERATIONS.

It is not the purpose of this bulletin to give instructions concerning the entire subject of fruit growing. The subject is too broad and there are so many excellent books now available treating of different phases of the subject that but little will be said here. The station will be glad to give advice as to the best books to buy and study and strongly urges the purchase of a few good books on horticultural subjects before going very far into the business of fruit growing.

Every farm should have an orchard and a vineyard as one of its permanent improvements. The majority of farmers will not want to grow fruit for market but everyone enjoys the juicy apple, peach, pear, plum, cherry, and grape and should set about at once to have them of his own growing.

Reports have been received telling of success with almost every kind of soil and sort of location. The orchards and vineyards located on bottom land have made a better growth and in some cases produced better crops than orchards on upland with similar treatment. The difference in growth was mainly the result of the difference in quality and character of the soil and not of location. The orchards set on upland have usually borne the youngest. Such fruits as are frequently killed by late spring frosts suffer less when planted on upland. The upland and hillside orchards have a great advantage in location and with good manuring and cultivation yield very well. The dry hot winds do much damage to the fruit crop and anything that will lessen their effect will be of great benefit to the orchard. If it is possible to so locate the orchard that it will be protected from the south winds by timber, this should be done. If no such location is available, a grove of seedling peach or other trees such as maples, box-elders, locusts and mulberries should be planted for a wind break.

Trees may be set out at any time from December to March. The best time cannot be definitely stated as the character of the season, both as to temperature and rainfall, greatly affects the result. Little or no difficulty is experienced in getting trees to grow if ordinary good judgment is used in setting them out.

There is much discussion as to the extent to which the top and roots should be cut back when set out. It appears that in localities where there is plenty of moisture, the top and roots may be cut very close and make excellent growth. It is believed that for Oklahoma, it is better to trim the roots only where they are broken and to cut the top back about one-half of last year's growth. Individual judgment must determine the treatment of each tree and explicit directions cannot be given here.

No one should put out an orchard or vineyard if he does not expect to give it as much care as is given any crop on the farm. It may be safely said that no orchard will give profitable returns without clean cultivation, at least for a number of years after setting out. Trees require moisture and lots of it and they get this moisture from the soil. If any other crop grows in the orchard, it uses up the moisture which should go to the trees. Frequent clean cultivation for the purpose of keeping the surface soil loose is necessary for success. When the surface soil is kept loose, the water does not draw up to the surface of the ground and evaporate as it does when the soil is packed hard.

After an orchard is planted, an occasional manuring will be of great benefit. The organic matter which is thus worked into the soil improves its capacity for absorbing and holding moisture, and the effect of the plant-food will be shown in the thrifty growth of the trees.

Insects have caused considerable trouble in orchards and vineyards, the borers doing great damage to many young trees. The presence of borers is usually the sign of poor cultivation or more directly, if there are plenty of weeds and grass to furnish a hiding place for the mature insects, the borers will be there in abundance. The best preventive seems to be good cultivation. The eggs of many insects may be destroyed by washing the trunks and larger limbs of the trees with a strong solution of lye or soft soap. Fruit and foliage insects must be watched for and studied as they appear. Spraying is generally profitable and there are many simple forms of apparatus which do the work well. Information about them may be had of the station at any time.

APPLES.

Reports have been received from thirty orchards representing ten counties. These reports indicate that apples may be successfully grown in almost every section of the territory. More care and better cultivation is required in the western counties and in some sections of the territory it may be useless to attempt to grow more than will be required for home use. But with a good selection of varieties and good cultivation a home orchard will give good returns for the work. As indicated by the reports the degree of success varies quite uniformly with the amount and character of cultivation. In only one case, a failure was reported with good cultivation.

The following list, arranged in order of preference of the majority of those reporting, contains the varieties recommended for a commercial orchard:

- | | |
|------------------------|--------------------------|
| 1 Missouri Pippin | 10 Gano |
| 2 Ben Davis | 11 Red Astrachan |
| 3 Winesap | 12 Lowell |
| 4 Jonathan | 13 Rome Beauty |
| 5 Arkansas Black | 14 Janet |
| 6 Maiden Blush | 15 Oldenburg |
| 7 Mammoth Black Twig | 16 Early Harvest |
| 8 Cooper's Early White | 17 Grime's Golden Pippin |
| 9 Yellow Transparent | 18 Sweet June |

- | | |
|---------------------|------------------|
| 19 Red June | 22 York Imperial |
| 20 Wolf River | 23 Summer Queen |
| 21 Striped Red June | 24 Romanite |

The first nine are given the preference by the most growers with the first three as favorites.

The list for the home orchard contained the same varieties, ranking in the same order as for a commercial orchard. The following were also mentioned as being good for small planting.

- | | |
|----------------|------------------|
| 1 Sops of Wine | 4 Shannon Pippin |
| 2 Shockley | 5 Buckingham |
| 3 Benoni | |

PEARS.

Reports have been received from nineteen orchards representing eleven counties. The following varieties are given in the order of preference for a commercial orchard:

- | | |
|------------|-----------|
| 1 Kieffer | 4 LeConte |
| 2 Bartlett | 5 Garber |
| 3 Duchess | |

In addition to these varieties, Seckel and Sheldon are mentioned as desirable for a home orchard.

Success is reported with pears on all kinds of soil and but two failures are recorded where the soil had good cultivation. In one case, the pears did well when the cultivation was confessedly bad.

PEACHES.

Reports have been received from twenty-eight orchards representing eleven counties. In no case was an entire failure reported. The late spring frosts have frequently greatly reduced the peach crop and at present no practical, successful method of avoiding this damage is known. This loss, however, may be greatly reduced by setting the orchard on a northern or eastern slope. The orchards reported were planted on all kinds of soil and usually given from fair to good cultivation.

The following list, arranged in order of preference of the majority of those reporting, contains the varieties recommended for both home and commercial orchards, the first seven being given the preference by the largest number of growers:

- | | |
|-------------------|--------------------|
| 1 Elberta | 5 Crawford's Early |
| 2 Alexander | 6 Heath Cling |
| 3 Champion | 7 Salway |
| 4 Crawford's Late | 8 Amsden |

9	Chinese Cling	20	Picquet Late
10	Gen. Lee	21	Bell's October
11	Mamie Ross	22	Crosby
12	Sneed	23	Stump
13	Arkansas Traveler	24	Globe
14	Early Rivers	25	Wonderful
15	Triumph	26	Snow
16	Hale	27	Family Favorite
17	Oldmixon Cling	28	Foster
18	Oldmixon Free	29	Carman
19	Indian		

PLUMS.

Reports have been received from twenty-four orchards representing ten counties. These reports place plums nearly if not quite at the head of the list of fruits for Oklahoma. They have received every kind of cultivation varying from good to none and have usually given from fair to good crops.

Farmers in the western part of the territory will do well to plant principally of the first four or five in the list although others were favorably reported.

The following list, arranged in order of preference of the majority of those reporting, contains the varieties recommended for either a home or commercial orchard:

1	Wild Goose	11	Weaver
2	Abundance	12	Green Gage
3	Burbank	13	Quaker
4	Wickson	14	Wilmeth
5	Marianna	15	Satsuma
6	Damson	16	Shipper's Pride
7	Botan	17	Miner
8	Golden Beauty	18	Normand
9	Arkansas Lombard	19	Ohio Prolific
10	German Prune		

The first five are given the preference by the largest number of growers.

CHERRIES.

Reports have been received from twenty-two orchards, representing ten counties. These reports seem to indicate that cherries are more difficult to grow than any other of the common orchard fruits. Sweet cherries are grown with but little or no success in the western part of the territory. The sour cherries have borne

good crops on nearly all kinds of soil with all kinds of cultivation. In some cases they have failed to bear when in good soil and given the very best cultivation.

The following list, arranged in order of preference of the majority of those reporting, contains the varieties recommended for general planting.

- | | |
|-------------------|-------------|
| 1 Early Richmond | 5 Dyehouse |
| 2 English Morello | 6 Gov. Wood |
| 3 Montmorceny | 7 Ostheim |
| 4 Mayduke | 8 Olivet |

GRAPES.

Reports have been received from twenty-nine vineyards representing ten counties. These reports indicate that grape growing may be made a success in any part of the territory, varying with the location and individual energy. In every case, cultivation was reported as being from fair to good and not a failure was reported.

The following list, arranged in order of preference of the majority of those reporting, contains the varieties recommended for a commercial vineyard:

- | | |
|-------------------|--------------------|
| 1 Concord | 9 Campbell's Early |
| 2 Catawba | 10 Elvira |
| 3 Niagara | 11 Ives |
| 4 Moore's Early | 12 Agawam |
| 5 Worden | 13 Champion |
| 6 Moore's Diamond | 14 Brilliant |
| 7 Delaware | 15 Herbemont |
| 8 Goethe | 16 Woodruff Red |

The first eight are given the preference by the greatest number of growers.

In addition to the above, the following have been mentioned as desirable for a home vineyard:

- | | |
|----------------|-----------|
| Green Mountain | Brighton |
| Cunningham | Clinton |
| Empire State | Cynthiana |
| Laussel | Martha |
| Pearl | Lady |
| Marguerite | Champion |
| Oriole | |

The following varieties of grapes for wine are arranged in order of preference.

- | | |
|-------------|---------------------|
| 1 Catawba | 7 Moore's Diamond |
| 2 Concord | 8 Norton's Virginia |
| 3 Delaware | 9 Worden |
| 4 Cynthiana | 10 Goethe |
| 5 Ives | 11 Agawam |
| 6 Niagara | |

BLACKBERRIES.

Reports have been received from twenty-five patches representing ten counties. The reports show that this fruit must receive good cultivation if it is to be grown successfully. Some of those reporting consider blackberries the best paying crop of any of the fruits while others consider them a failure. The vines winter-killed worst in the western part of the territory. The earlier varieties seem to hold the favor of most growers.

The following list arranged in order of preference of the majority of those reporting contains the varieties recommended for general planting, the first three being given the preference by the largest number of growers.

- | | |
|-----------------|----------|
| 1 Early Harvest | 4 Lawton |
| 2 Kittatinny | 5 Dallas |
| 3 Snyder | |

The May's or Austin's Improved and Lucretia Dewberries were reported as bearing very well and making good growth.

The following varieties were reported as having been planted in different places but were not recommended by anyone.

- | | |
|---------------|-------------------|
| Erie | Minnewaska |
| Wilson Junior | Agawam |
| Eldorado | Taylor's Prolific |

Blackberries may be laid down and covered with soil or litter to prevent winter-killing. The soil should be removed to a depth of six or eight inches on one or both sides of the plant. The vine is then pushed over onto the ground, care being taken to bend the roots and not the top. The top is then covered from two to four inches deep with soil. In the spring, the covering should be removed and the plants raised before the buds start into active growth. This process requires but little time and is very effective.

APRICOTS.

No detailed reports on apricots were received. The records of the trees grown in the station orchard and observations made in

different parts of the territory seem to indicate that a full crop will be very rarely obtained. The trees make a good growth and set an abundance of fruit-buds which are usually killed in the winter or by late freezes in the spring. The blossoming period may be delayed from two to four days by keeping the branches of the trees well coated with whitewash from December until the flowers open. This method will not, however, be found very efficient. Last spring, two weeks after the flowers were open, there was enough frost to kill most of the crop under ordinary conditions. Laying down as with blackberries has been tried but it is only partially successful. The orchardist must depend on selecting such varieties as will best survive the frosts and plant them in such positions that they will be protected from the heat of the sun. The Jackson and Golden Russian seem to stand the late frosts better than any other varieties in the station orchard. Although neither of these have borne half of a crop, they have ripened a few fruits each year for the last five years. The following are the varieties which were planted by the station:

Alexander	Luizet
Budd	New Castle
Early Golden	Olberg
Gibb	Peach
Golden Russian	Shemsi
Jackson	

CURRENTS.

A few persons have grown currants with a fair degree of success. The Crandal is most favorably reported. Other varieties may do as well but have not been planted to the same extent.

RASPBERRIES.

Raspberries have not been planted to any considerable extent and seem to be unworthy of much attention. They require more moisture than is usually available here. Irrigation and cultivation would do much toward making this crop a success. The Turner and Cuthbert have grown well but have never borne a satisfactory crop. It is not advisable to set many of the common varieties of raspberries where only ordinary cultivation can be given.

SHADE TREES.

Few things can be done that will add more to the beauty and comfort of the home than the planting and cultivation of a number of shade trees about the house and yard. There are several kinds

of trees that grow along streams and in timber belts that if transplanted and cared for will make fine shade trees.

The common red and slippery elms when transplanted young and well-tended grow very well. The box-elder, while not a beautiful tree, grows rapidly and makes a dense shade. The silver and red, or soft maples grow very rapidly and make good trees. They are rather easily broken by the wind and for this reason, it is best to head them back for a few years. When well cared for, few trees will make better shade in the same length of time. The catalpa grows very rapidly and is well worth planting. The common black, or wild locust grows rapidly and is a fine tree for wind-breaks and general grove planting.

Little trouble need be had in planting and growing any of the above trees. Nursery-grown trees should be used when they can be obtained. Trees one to two years old when transplanted have given the best results. In no case have trees taken from old stumps and with poor roots given satisfaction. Shade trees respond to cultivation as quickly as any plant and will make a very poor growth unless the soil about them is kept loose and free from grass and weeds.