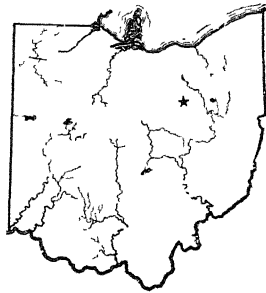


BLOOMING PERIOD AND YIELD OF APPLES
A 15-YEAR AVERAGE

OHIO
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A row of Jonathan in full bloom

BULLETIN
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NUMBER 385

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**BLOOMING PERIOD AND YIELD OF APPLES—
A 15-YEAR AVERAGE**

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INTRODUCTION

Continuous records of the time of blossoming, the dates of harvesting and ripening, and yields of fruit varieties serve a useful purpose. Such information will be helpful in selecting varieties for purposes of pollination and in arranging them for convenience in spraying.

It is of commercial importance as well as of value to the amateur grower to know the relative time of ripening of the several varieties. The order of ripening is not always consistent, yet it is approximately so, varying occasionally with the season.

Blooming dates of varieties here at Wooster are not applicable to the southern part of the State nor to the extreme northern part. The difference between date of bloom in southern Ohio and at Wooster varies from one to two weeks, depending upon the season. In some sections of northern Ohio the same varieties bloom at least a week later than they do at Wooster.

While 109 varieties are included in this list of apples for a period of 15 years, many others have been under observation for a shorter time.

The records also throw some light on the regularity of bearing. The causes of fruitfulness or the lack of it are still being investigated; however, the grower is interested more directly in the likelihood of regular cropping as indicated by such records as herein reported.

PERIOD COVERED

The data given in this bulletin were taken from the records for the period 1910 to 1924, inclusive. Individual blooming and yield records were kept during the entire period.

During this period there was no general crop failure in any year. A few varieties in some seasons suffered from frost injury but, despite these occasional visitations, frosts have not been a serious factor in this orchard. Inclement weather, other than actual low temperatures, has probably been more directly responsible for any lack of fruit setting.

Twice in the spring during the period, orchard heaters were used to maintain a temperature above the danger point, but in each case most of the varieties outside the heated areas bore as heavily as those within these areas.

CARE GIVEN THE ORCHARDS

During the entire period covered by this report all of the trees were under the grass-mulch system and on comparatively uniform soil. The orchards were mowed at least twice each year. The grass from the first mowing was used for mulching the trees. Additional material sufficient to maintain a good mulch was provided.

Prior to 1923 no commercial fertilizers were used, but the foliage was of a dark green color and gave the appearance of vigor. Beginning with 1923 a moderate amount of nitrogenous fertilizers was applied annually thruout the orchards.

The pruning consisted of a light annual dormant thinning out and a moderate amount of heading back. The spraying program varied somewhat but followed very closely that of commercial orchardists. When necessary the fruit was thinned.

Bees were kept in or near the orchards thruout the period. In a few years there were indications that the number of bees was not sufficient to provide proper pollination, and in later years several colonies of bees were added to provide at least one colony for each acre of orchard.

PERIOD OF BLOOM

Records of the date of the first blossoms each year and that of full bloom were kept. By date of "full bloom" is meant the date on which the maximum number of blossoms are open, and just before any appreciable number of petals have fallen.

The accompanying chart shows the range of the dates from first until full bloom of the more common varieties for the 15-year period. For this period the average time for these varieties from first bloom to full bloom was a little more than seven days.

The chart shows an average full-bloom period ranging from May 5 to 15. While this is a comparatively narrow range of difference in the full bloom period, in certain years many of the varieties reached the full-bloom stage before others opened their first blossoms.

It will be seen that on the average the date from first to full bloom on the majority of varieties ranges between May 2 and May 9. A word of caution should be expressed against planting varieties, such as Oldenburg, Early Harvest or Red Astrachan, which open their first blossoms earlier than May 1, on the average, with such late-blooming varieties as Rome Beauty, Northern Spy, or Ralls.

No record has been kept of the time elapsing between full bloom and last petal fall. Observations indicate that this period is somewhat shorter than the period from first to full bloom.

HIGH-YIELDING VARIETIES

The ten highest-yielding varieties among those planted in 1893 are given in Table 1.

TABLE 1.—15-YEAR AVERAGE ANNUAL YIELD OF TEN VARIETIES

Variety	Bushels
Gano	24.7
Grimes Golden	20.4
Northwestern Greening	18.3
Fallowater	16.4
Winter Banana	16.3
Rome Beauty	16.2
White Pippin	16.2
Baldwin	15.9
York Imperial	15.1
Roxbury Russet	14.6

Baltimore, Boiken, Delicious, McIntosh, and Stayman Winesap, not represented in the orchard set in 1893, have also been consistently high yielders. While Delicious has not come into fruiting much under 10 years from planting in any case, once in bearing, it has quite generally given good yields. Stayman Winesap has come into fruiting generally about 3 years earlier than Delicious and, once in bearing, has borne regular crops.

INCREASE OR DECREASE IN YIELDS WITH AGE

Thirty-nine of the varieties planted in 1893 showed a higher average annual yield for the 15-year period ending with 1924 than the same varieties showed for the 10-year period ending with 1919. Some of the more common varieties in this group are given in Table 2.

TABLE 2.—VARIETIES SHOWING AN INCREASE IN YIELD IN LATER PERIOD, AVERAGE ANNUAL YIELD BY PERIODS

Variety	10 years 1910—1919	5 years 1920—1924	15 years 1910—1924
	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>
Baldwin.....	14.5	18.7	15.9
Grimes Golden.....	18.2	24.8	20.4
Jonathan.....	9.2	17.3	11.9
Northern Spy.....	9.9	15.0	11.6
Northwestern Greening.....	15.0	24.9	18.3
Oldenburg.....	9.5	18.8	12.6
Red Astrachan.....	6.8	11.0	8.2
Red Canada.....	11.2	13.0	11.8
R. I. Greening.....	10.0	19.9	13.3
Rome Beauty.....	14.4	19.8	16.2
Stark.....	9.7	13.8	10.9
Wealthy.....	6.0	10.2	7.4
White Pippin.....	14.8	19.0	16.2
Winter Banana.....	14.4	20.1	16.3
Yellow Transparent.....	8.1	15.3	10.5

While more varieties increased than decreased in their average annual production in the past five years, yet there were a number of varieties which showed a falling off in their average annual yield for the 15-year period as compared with the 10-year period ending with 1919. Some of these varieties are given in Table 3.

TABLE 3.—VARIETIES WHICH DECLINED IN YIELD, AVERAGE ANNUAL YIELD BY PERIODS

Variety	10 years 1910—19	5 years 1920—24	15 years 1910—24
	<i>Bushels</i>	<i>Bushels</i>	<i>Bushels</i>
Arkansas.....	12.6	9.0	11.4
Arkansas Black.....	12.5	8.0	11.0
Ben Davis.....	14.5	13.9	14.3
Early Harvest.....	8.7	8.4	8.6
Tompkins King.....	7.3	7.0	7.2
Rambo.....	11.6	9.5	10.9

Had these varieties been given a special fertilizer treatment it is quite possible that they would have at least maintained the earlier average yield. Table 3 is not presented to show that these varieties begin to decline about 30 years from planting, but rather to show that certain varieties may require special treatment or that these individual trees declined from some special cause.

BEARING HABITS OF VARIETIES

Individual trees of any given variety may vary greatly in the regularity of their bearing; however the bearing habit, in the main, is characteristic of the variety. Many factors, other than varietal differences are involved in individual trees or groups of trees. Among these factors are climate, and such specific conditions as low temperature, condition of the tree, type of pruning, disease, and pollination.

The bearing habits of the varieties in the Station orchards seem to warrant their classification roughly into the four following groups:

First: Annual Bearers, or those varieties which have a tendency to produce a crop each year. In this group are such varieties as Baltimore, Ben Davis, Bonum, Gano, Grimes Golden, Nottingham, Rome Beauty, San Jacinto, and Stayman Winesap.

Second: Biennial Bearers, or those which produce a crop one year and little or no fruit the following year. This group includes such varieties as Red Astrachan, Baldwin, Fall Jennetting, Jefferis, Loy, Oldenburg, Oliver, Wealthy, Yellow Transparent, Arkansas, Family, Summer King, Liveland, and Hubbardston.

Third: Alternate Bearers, or those which produce a heavy crop one year followed by a light or scattering crop the next year. In this group are Winter Banana, Boiken, Charlamoff, Early Harvest, Fallwater, Mann, Mother, Northern Spy, Rambo, Red Canada, R. I. Greening, Stark, White Pippin, Jonathan, King David, and McIntosh.

Fourth: Irregular Bearers, or those which may produce two or three successive crops followed by several seasons in which little or no fruit is produced. These varieties generally do not have a high average yield. The following might be placed in this group: Babbitt, Golden Russet, Greenville, Pecks, Yellow Bellflower, Blenheim, Fameuse, Red June, Yellow Newtown, and Tompkins King.

AGE AT WHICH VARIETIES REACH BEARING

The age of a tree when the first fruit is produced is not so important as is the length of time required for the tree to reach an age when a crop of commercial importance is produced. The pro-

TABLE 4.—AGE AT WHICH VARIETIES HAVE REACHED BEARING AT WOOSTER

8 years or less from planting	9 to 11 years from planting	12 years or more from planting
Baltimore Bayard Ben Davis Ben Hur Black Ben Hubbardston Jonathan King David Milwaukee Oldenburg Stayman Winesap Wealthy Winter Banana	Arkansas Baldwin Banks Blenheim Boiken Bonum Delicious Fameuse Grimes Golden McIntosh Mother Nottingham Red June Rome Beauty San Jacinto Summer Rambo White Pippin Winesap	* Liveland Northern Spy Oliver (Senator) Rhode Island Yellow Newton York Imperial

duction of a few scattering apples on a young tree is of importance only for the purpose of identification of the variety.

An attempt is made in Table 4 to classify some of the varieties discussed in this bulletin into three general groups, according to age at which they come into commercial bearing. Obviously, however, no such arbitrary standard can be definitely fixed. These groups are: first, those varieties which are likely to produce a crop of at least half a bushel eight years from planting or earlier; second, those varieties which, as a rule, reach production between 8 and 12 years from planting; and third, those varieties which do not reach profitable production in less than 12 years from planting.

BLOOMING PERIOD AND YIELD RECORDS

Data concerning the blooming period and yield of 109 varieties of apples which have fruited in the Station orchards all or part of the time from 1910 to 1924, inclusive, are compiled in Tables 5 and 6.

A previous report embodying data on blooming dates and yield was published in the March-April Monthly Bulletin for 1921.

Most of the trees represented in Table 5 were set in 1893, but a few were set as late as 1897. However, all of the varieties had reached full bearing age when the records compiled in this table were begun.

The trees recorded in Table 6 were set between 1899 and 1913. The blooming and yield records of these trees are compiled from the year in which the tree first produced a crop of one-half bushel or more to, and including, the year 1924.

Some varieties in Table 5 show a slightly earlier blooming period than the same varieties in Table 6. This is accounted for by the fact that twice during the 10-year period, 1910-1919, the blooming season came very early. Once during the five-year period, 1921-1924, the trees were in full bloom in April. It is apparent, however, that a 10-year cycle furnishes reliable information on the average date of bloom for a given locality.

A yield of one-half bushel or more has been considered a "crop" in Table 5 and 6. Less than this amount has been considered a "crop failure."

The earliest date of first bloom recorded for the varieties in Table 5 and 6 was for Oldenburg, April 6, 1910. This variety opened its first blossoms latest on May 15, 1917.

Ralls, the latest blooming variety reported upon, registered its first bloom earliest on April 22, 1910 and latest on May 20, 1917.

TABLE 5.—APPLE VARIETIES—AVERAGE DATE OF BLOOM AND OF PICKING AND YIELD PER TREE—TREES PLANTED 1893

Tree	Variety	Average date		Average annual yield		Highest yield	Lowest yield	Number of crop failures
		Full bloom	First picking	1910—19	1910—24			
No.				Bu.	Bu.	Bu.	Bu.	
262	Arkansas	May 8	October 26	13.0	11.9	31.0	0.5	2
264	Arkansas	May 8	October 26	12.2	10.4	27.0	.6	3
252	Arkansas Black.....	May 9	October 29	12.6	10.8	31.0	1.0	0
301	Arkansas Black.....	May 8	October 27	12.4	11.3	22.0	1.0	0
213	Babbitt	May 5	October 17	11.7	12.9	33.5	1.0	0
299	Babbitt	May 5	October 17	7.0	7.2	19.0	1.0	1
117	Baldwin	May 8	October 18	14.7	16.4	34.0	1.8	2
118	Baldwin	May 8	October 18	12.7	14.4	31.1	.8	1
119	Baldwin	May 8	October 14	18.3	19.4	35.7	5.0	1
126	Baldwin	May 8	October 16	15.6	17.2	35.0	.5	1
127	Baldwin	May 7	October 16	13.1	13.3	31.0	5.0	4
128	Baldwin	May 8	October 17	12.9	14.8	33.5	1.5	3
80*	Baltimore	May 5	October 17	15.1	24.2	2.5	0
81*	Baltimore	May 5	October 17	14.9	17.9	8.7	0
85	Ben Davis	May 10	November 4	12.3	12.5	28.5	1.2	2
86	Ben Davis	May 10	November 4	13.1	13.6	31.3	1.0	0
87	Ben Davis	May 10	November 4	16.4	16.3	33.3	1.2	0
143	Ben Davis	May 8	November 2	16.8	15.8	21.2	7.2	0
170	Ben Davis	May 8	November 2	16.6	16.2	28.0	7.7	0
197	Ben Davis	May 7	November 1	11.8	11.5	19.0	4.3	0
104†	Centennial.....	May 9	August 29	12.5	13.4	27.0	.9	1
180	Charlamoff.....	May 8	August 8	6.1	7.5	16.6	1.0	0
102†	Duling	May 9	August 23	14.2	16.0	29.6	2.5	0
179	Early Harvest.....	May 6	August 21	8.7	8.6	15.1	2.0	0
268	Fallowater	May 8	October 3	14.4	13.8	28.8	.9	1
269	Fallowater	May 8	October 3	19.6	18.9	34.8	1.9	0
330	Fall Jennetting.....	May 11	September 5	8.7	8.7	20.8	1.8	6
331	Fall Jennetting.....	May 10	September 7	8.4	10.3	25.2	.5	2
332	Fall Jennetting.....	May 10	September 7	8.2	9.6	22.2	.5	0
148	Gano	May 8	November 1	24.3	24.7	40.6	12.5	0
107†	Gideon	May 7	September 5	6.0	9.5	23.5	2.3	2
97	Giffin	May 9	October 6	14.8	16.7	32.2	1.3	0
98	Giffin	May 9	October 6	13.1	14.7	30.5	.5	1
188	Golden Russet.....	May 6	October 25	8.7	11.0	21.0	1.4	0
315	Greenville	May 8	October 13	7.9	10.1	18.3	1.5	0
316	Greenville	May 8	October 13	7.7	8.6	19.0	.5	1
317	Greenville	May 9	October 13	4.8	6.2	15.5	.5	1
195	Grimes Golden.....	May 7	October 5	24.0	23.3	44.9	5.5	0

TABLE 5.—APPLE VARIETIES—AVERAGE DATE OF BLOOM AND OF PICKING AND YIELD PER TREE—TREES PLANTED 1893—Continued

Tree	Variety	Average date		Average annual yield		Highest yield	Lowest yield	Number of crop failures
		Full bloom	First picking	1910-19	1910-24			
<i>No.</i>				<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
196	Grimes Golden.....	May 7	October 5	16.0	17.4	30.6	7.5	1
214	Jefferis.....	May 8	September 1	8.5	8.0	25.9	.5	4
243	Jonathan.....	May 9	October 9	10.3	13.9	44.3	4.0	1
244	Jonathan.....	May 8	October 9	8.1	9.9	31.1	2.3	1
219	King (Tompkins).....	May 7	October 5	7.3	7.2	12.7	2.2	1
248	Lankford.....	May 9	October 31	7.3	8.1	21.7	2.0	1
250	Lankford.....	May 9	October 31	5.9	6.6	17.4	1.5	2
199	Lansingburg.....	May 7	October 30	10.5	11.4	33.1	1.0	3
283	Late Strawberry.....	May 7	September 2	10.5	9.0	16.5	.5	0
284	Late Strawberry.....	May 7	September 4	12.3	12.3	27.3	2.7	0
333	Lowell.....	May 8	August 9	8.4	9.2	27.2	.8	2
151	Loy.....	May 9	October 20	14.2	16.3	40.5	9.0	7
139	Mann.....	May 6	October 22	12.6	15.3	31.9	2.8	0
216	Mann.....	May 6	October 24	11.3	13.9	31.0	.5	3
293	Mann.....	May 6	October 22	8.9	9.8	31.3	2.5	2
294	Mann.....	May 6	October 22	13.3	13.0	28.2	1.1	4
129	Moyer.....	May 10	October 14	14.2	15.5	40.8	3.2	6
327	Munson Sweet.....	May 8	September 1	12.3	12.6	32.6	.8	4
328	Munson Sweet.....	May 8	August 27	10.4	10.3	28.9	1.5	3
329	Munson Sweet.....	May 8	August 26	12.1	12.8	34.7	.6	1
144	Northern Spy.....	May 10	October 11	4.5	5.2	14.8	1.0	2
145	Northern Spy.....	May 10	October 10	12.8	15.1	29.6	4.0	2
146	Northern Spy.....	May 10	October 10	3.8	5.1	17.7	1.1	4
167	Northern Spy.....	May 11	October 11	5.9	8.2	17.7	.8	3
169	Northern Spy.....	May 10	October 11	16.9	21.4	40.1	2.5	1
176	Northern Spy.....	May 10	October 11	3.9	7.0	23.0	1.0	4
178	Northern Spy.....	May 10	October 11	16.7	19.3	52.5	1.1	1
175	Northwestern.....	May 10	October 23	11.7	13.8	30.0	.9	0
352	Northwestern.....	May 11	October 24	19.0	22.8	42.1	4.0	1
132	Oldenburg.....	May 6	August 5	9.0	11.5	28.7	.8	5
133	Oldenburg.....	May 5	August 5	10.0	13.7	36.9	1.0	5
340	Pecks (Pleasant).....	May 8	October 20	6.4	7.6	14.2	1.3	1
239	Ralls.....	May 15	October 27	12.6	14.3	32.6	3.8	2
240	Ralls.....	May 15	October 27	9.6	13.0	29.6	1.1	2
241	Ralls.....	May 15	October 27	7.9	10.8	31.0	.5	4
334	Rambo.....	May 8	October 10	11.6	10.9	21.0	3.5	1
281	Red Astrachan.....	May 5	July 29	6.8	8.2	19.3	.8	5
342	Red Canada.....	May 7	October 16	8.6	9.6	32.4	2.0	2
343	Red Canada.....	May 8	October 16	11.0	10.8	23.9	1.5	2

BLOOMING PERIOD AND YIELD OF APPLES

TABLE 5.—APPLE VARIETIES—AVERAGE DATE OF BLOOM AND OF PICKING AND YIELD PER TREE—TREES PLANTED 1893—Concluded

Tree	Variety	Average date		Average annual yield		Highest yield	Lowest yield	Number of crop failures
		Full bloom	First picking	1910—19	1919—24			
<i>No.</i>				<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
344	Red Canada.....	May 7	October 15	14.1	15.0	39.0	4.2	2
227	R. I. Greening.....	May 8	October 6	10.1	13.6	34.4	2.9	0
229	R. I. Greening.....	May 8	October 6	9.9	13.0	39.5	3.5	0
324	Rome Beauty.....	May 12	October 21	13.1	15.7	29.8	2.6	0
325	Rome Beauty.....	May 12	October 21	19.2	20.7	34.6	8.5	0
326	Rome Beauty.....	May 12	October 21	10.9	12.2	26.4	1.5	0
101	Roxbury Russet.....	May 8	October 16	14.8	14.6	34.0	.5	1
224	Salome.....	May 7	October 26	11.2	14.9	41.5	2.0	1
91	Stark.....	May 8	October 21	10.6	10.1	22.3	1.4	1
92	Stark.....	May 7	October 21	8.4	9.6	23.6	.7	1
121	Stark.....	May 8	October 20	16.4	16.2	28.4	5.5	0
136	Stark.....	May 7	October 22	8.3	10.3	36.2	1.0	3
354†	Summer King.....	May 8	August 13	8.5	10.4	39.3	1.1	7
296	Sweet Bough.....	May 7	August 5	8.2	7.3	18.7	2.6	1
112	Twenty Ounce.....	May 8	October 7	5.8	9.8	23.4	1.0	1
124	Walbridge.....	May 7	October 26	8.1	8.9	21.0	1.8	0
125	Walbridge.....	May 9	October 28	9.5	9.5	24.6	1.0	1
289	Wealthy.....	May 8	August 29	6.2	7.3	19.9	.5	1
290	Wealthy.....	May 8	September 2	6.1	7.3	12.7	3.8	0
291	Wealthy.....	May 10	September 2	5.9	7.5	21.0	.9	5
245	Whinery.....	May 7	October 27	12.8	11.9	27.0	2.9	2
247	Whinery.....	May 6	October 26	14.2	12.2	32.5	1.0	3
88	White Pippin.....	May 7	October 23	11.4	14.1	35.1	1.4	0
89	White Pippin.....	May 7	October 24	17.2	19.0	40.5	.7	0
90	White Pippin.....	May 7	October 23	16.0	15.6	30.5	2.9	0
266	Winter Banana.....	May 6	October 13	13.7	16.3	36.4	.9	0
114	Wolf River.....	May 9	September 19	12.3	13.1	36.1	1.0	4
251	Yellow Bellflower.....	May 7	October 25	5.2	6.0	25.8	1.1	1
83	Yellow Transparent.....	May 9	July 25	8.7	11.1	29.3	.6	3
84	Yellow Transparent.....	May 9	July 25	9.8	12.4	29.7	1.3	4
232	Yellow Transparent.....	May 9	July 22	6.0	8.0	19.9	.5	3
111	York Imperial.....	May 9	October 24	11.3	15.1	36.5	1.5	3

*Numbers 80 and 81 were probably planted prior to 1879. Yield and bloom record for 1918-24.
†104 planted 1897; 102, 1895; 107, 1897; 354, 1896.

TABLE 6.—APPLE VARIETIES—DATE OF PLANTING, AVERAGE DATE OF BLOOM AND OF PICKING, AND YIELD PER TREE

Tree	Variety	Year planted	Average date		Date of first crop	Average yield	Highest yield	Lowest yield	Number of crop failures
			Full bloom	First picking					
No.						Bu.	Bu.	Bu.	
401	Arkansas	1900	May 9	October 28	1911	7.1	16.2	2.2	3
424	Arkansas	1904	May 9	October 23	1914	5.8	18.2	1.1	2
361	Arkansas Black	1900	May 8	October 29	1913	5.7	14.8	2.0	2
476	Arkansas Black	1905	May 9	October 29	1913	3.7	15.0	.8	2
523	Baldwin	1909	May 10	October 14	1916	3.1	9.0	.7	2
359	Baldwin	1912	May 10	October 13	1922	7.3	15.8	2.6	0
204	Baltimore	1913	May 7	October 18	1918	4.8	17.8	1.0	1
510	Banks	1905	May 6	August 27	1915	6.4	28.8	1.0	2
480	Bayard	1905	May 11	October 11	1912	3.7	11.0	.6	2
448	Ben Davis	1904	May 10	October 29	1911	8.5	23.0	.6	1
481	Ben Hur	1905	May 9	October 14	1911	4.0	16.9	.8	1
391	Black Ben	1900	May 9	October 31	*	9.3	21.5	1.5	0
453	Black Ben	1904	May 10	October 28	1911	8.0	23.8	1.7	0
153	Blenheim	1903	May 9	September 12	1913	8.8	23.0	.5	0
455	Blenheim	1905	May 9	September 19	1915	6.5	17.6	.7	1
394	Boiken	1900	May 12	October 22	1911	15.3	45.5	2.0	3
525	Bonum	1905	May 10	October 4	1914	8.4	19.4	3.5	0
526	Bonum	1905	May 10	October 4	1914	5.9	15.8	1.3	0
106	Bottle Greening	1899	May 9	October 23	1911	8.0	13.1	.5	1
484	Bottle Greening	1905	May 10	October 25	1916	5.4	13.1	.9	0
541	Buckingham	1905	May 11	October 9	1914	3.8	9.0	.7	3
542	Buckingham	1905	May 10	September 30	1919	2.9	9.3	1.0	0
154	Charlamoff	1909	May 8	August 9	1916	1.5	3.5	.6	2
201	Charlamoff	1909	May 5	August 9	1919	3.4	10.5	.5	1
521	Coffelt	1909	May 10	October 24	1916	3.9	18.8	2.0	3
392	Collins	1900	May 9	October 28	*	8.6	24.0	.5	3
105	Delicious	1899	May 8	October 11	*	8.5	22.4	.7	1
279	Delicious Tp. Wk.	1912	May 8	October 8	1920	11.4	20.5	5.1	0
451	Delicious	1904	May 9	October 11	1914	7.3	21.0	2.1	1
452	Delicious	1904	May 9	October 11	1914	7.2	23.2	.5	0
586	Delicious	1909	May 9	October 8	1918	4.3	15.3	.9	1

BLOOMING PERIOD AND YIELD OF APPLES

TABLE 6.—APPLE VARIETIES—DATE OF PLANTING, AVERAGE DATE OF BLOOM AND OF PICKING, AND YIELD PER TREE—Continued

Tree	Variety	Year planted	Average date		Date of first crop	Average yield	Highest yield	Lowest yield	Number of crop failures
			Full bloom	First picking					
<i>No.</i>						<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
571	Dinwiddie.....	1905	May 9	October 22	1911	5.7	18.0	.6	2
564	Edwards.....	1905	May 8	October 27	1914	7.0	26.3	1.2	1
501	Fameuse.....	1905	May 8	October 6	1914	3.8	14.8	.8	2
502	Fameuse.....	1905	May 9	October 5	1912	2.5	7.7	.5	3
94	Family.....	1901	May 6	August 12	*	4.0	13.3	.5	6
95	Family.....	1901	May 7	August 12	*	4.0	15.3	.7	6
538	Farthing.....	1905		September 23	1913	6.1	28.9	.5	3
255	Giant Jeniton.....	1909	May 9	October 20	1918	2.4	7.4	.6	3
215	Gold Crab.....	1912	May 5	August 15	1920	1.6	3.5	.5	1
522	Grimes Golden.....	1911	May 8	October 4	1920	2.7	5.8	.5	0
524	Grimes Golden.....	1909	May 8	October 3	1920	2.7	9.0	.5	0
421	Hathaway.....	1905	May 8	October 6	1914	5.4	10.2	1.5	1
468	Hibernal.....	1905	May 7	September 8	1914	6.3	27.1	4.0	5
308	Highfill.....	1899	May 11	October 25	1911	5.3	13.8	1.5	2
335	Hubbardston.....	1903	May 8	October 8	1914	7.8	18.9	6.5	5
303	Hubbardston.....	1913	May 8	October 7	1921	2.3	3.0	1.5	1
360	Hubbardston.....	1913	May 8	October 8	1920	3.1	7.4	1.6	2
417	Hubbardston.....	1905	May 8	October 8	1912	4.9	13.5	.7	3
539	Hubbardston.....	1909	May 8	October 8	1916	5.8	18.1	2.6	3
206	Huntsman.....	1905	May 9	October 23	1913	8.5	19.7	.5	3
582	Isham Sweet.....	1905	May 9	September 7	1912	3.0	12.0	1.0	5
445	Jonathan.....	1912	May 5	October 6	1918	3.4	7.6	1.0	0
202	King David.....	1909	May 10	October 7	1917	4.3	12.0	1.3	0
516	King David.....	1909	May 10	October 7	1916	3.8	10.2	.5	0
583	King David.....	1905	May 8	October 13	1911	3.9	13.3	.5	3
261	Kinnard.....	1909	May 8	October 21	1918	4.7	8.8	1.6	0
437	Kinnard.....	1905	May 10	October 29	1915	3.7	10.1	.9	3
464	Linville.....	1905	May 11	October 31	1917	6.4	19.2	.8	0
449	Liveland.....	1604	May 6	July 26	1918	3.1	9.2	.8	2
450	Liveland.....	1904	May 6	July 25	1915	3.7	10.2	.5	4
379	Longfield.....	1900	May 7	August 24	*	5.4	15.3	.6	4
380	Longfield.....	1900	May 7	August 24	*	6.6	15.5	.9	3

TABLE 6.—APPLE VARIETIES—DATE OF PLANTING, AVERAGE DATE OF BLOOM AND OF PICKING, AND YIELD PER TREE—Continued

Tree	Variety	Year planted	Average date		Date of first crop	Average yield	Highest yield	Lowest yield	Number of crop failures
			Full bloom	First picking					
<i>No.</i>						<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
578	Maxon.....	1909	May 5	August 1	1916	4.6	20.4	.5	1
110	McIntosh.....	1903	May 7	September 17	1911	11.8	33.3	2.5	3
338	McIntosh.....	1903	May 7	September 18	1911	9.6	29.1	.5	0
388	McIntosh.....	1900	May 7	September 17	1911	15.2	39.0	2.6	1
577	Milam.....	1909	May 10	October 21	1916	4.3	11.7	1.1	1
563	Milwaukee.....	1909	May 9	September 13	1914	4.9	20.8	.5	2
122	Milwaukee.....	1909	May 8	September 11	1917	2.6	5.2	.6	0
131	Milwaukee.....	1909	May 7	September 7	1917	4.8	16.0	.5	1
375	Missing Link.....	1900	May 8	October 26	*	13.4	27.2	.6	2
376	Missing Link.....	1900	May 7	October 25	*	5.1	19.0	1.0	3
456	Money-maker.....	1905	May 10	October 4	1912	5.1	10.4	1.0	1
441	Mother.....	1909	May 11	September 19	1918	4.5	14.2	1.0	1
442	Mother.....	1909	May 13	September 17	1919	2.3	4.7	.5	0
381	Nottingham.....	1900	May 8	October 22	1911	7.3	23.5	1.5	2
382	Nottingham.....	1900	May 8	October 21	1911	7.6	22.0	.9	1
383	Oldenburg.....	1905	May 8	August 1	1912	3.8	11.0	.6	5
400	Oldenburg.....	1900	May 9	August 1	1911	6.9	19.3	1.4	4
402	Oldenburg.....	1905	May 7	July 31	1911	2.5	10.6	.5	5
155	Oliver (Senator).....	1899	May 8	October 18	1912	8.6	28.3	1.6	3
357	Oliver (Senator).....	1899	May 9	October 15	1913	8.0	23.4	1.8	4
387	Oliver (Senator).....	1900	May 8	October 14	1912	3.8	11.5	.8	4
208	Patten Greening.....	1909	May 7	September 12	1917	5.0	19.8	.5	2
209	Patten Greening.....	1909	May 7	September 14	1915	2.4	7.8	.7	2
559	Patten Greening.....	1909	May 9	September 12	1914	3.5	10.1	.6	5
423	Fayne.....	1904	May 12	October 24	1911	6.3	19.9	.8	2
552	Peerless.....	1909	May 6	August 22	1919	3.6	12.3	.5	1
444	Finestump.....	1909	May 5	October 18	1919	3.1	5.4	2.1	1
461	Ramsdell.....	1905	May 8	October 27	1915	6.8	21.5	2.0	1
504	Rebel.....	1909	May 8	October 6	1919	3.7	17.0	.5	0
295	Red June.....	1903	May 7	August 4	1913	3.6	10.0	1.5	2
499	Red June.....	1905	May 8	August 9	1914	3.0	10.6	.5	2
500	Red June.....	1905	May 8	August 5	1915	2.4	9.0	.5	2

BLOOMING PERIOD AND YIELD OF APPLES

TABLE 6.—APPLE VARIETIES—DATE OF PLANTING, AVERAGE DATE OF BLOOM AND OF PICKING, AND YIELD PER TREE—Concluded

Tree	Variety	Year planted	Average date		Date of first crop	Average yield	Highest yield	Lowest yield	Number of crop failures
			Full bloom	First picking					
<i>No.</i>						<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
430	Rome Beauty.....	1905	May 14	October 23	1916	3.1	7.1	1.1	2
371	Rutledge.....	1900	May 7	October 28	*	4.5	9.0	.5	0
434	San Jacinto.....	1905	May 10	August 30	1914	7.7	18.9	1.1	1
435	San Jacinto.....	1905	May 10	August 29	1914	4.7	13.4	1.1	0
372	San Jacinto.....	1900	May 8	September 4	*	7.6	24.0	.5	5
182	Shiawassee.....	1903	May 10	October 15	1914	3.8	15.3	.9	1
260-B	Shiawassee.....	1903	May 10	October 17	1913	3.3	16.2	.6	5
531	Simmons.....	1905	May 9	September 20	1914	6.7	16.6	2.0	1
134	Stayman Winesap.....	1901	May 8	October 27	*	8.7	14.7	1.7	2
158	Stayman Winesap.....	1899	May 8	October 23	*	9.9	27.1	.8	0
212	Stayman Winesap.....	1899	May 8	October 25	*	6.0	15.3	.6	3
312	Stayman Winesap.....	1899	May 9	October 25	*	14.6	31.8	1.0	0
425	Stayman Winesap.....	1904	May 11	October 24	1912	8.1	18.9	1.1	1
426	Stayman Winesap.....	1904	May 12	October 23	1912	7.6	18.3	1.0	0
458	Summer Rambo.....	1905	May 9	September 3	1914	6.3	20.1	1.2	1
473	Uncle Sam.....	1905	May 9	October 8	1912	4.5	16.2	.9	1
570	Utter.....	1909	May 9	September 21	1915	5.8	11.3	1.6	2
463	Wealthy.....	1905	May 10	September 4	1913	2.6	9.3	.5	4
585	Wealthy.....	1909	May 10	August 31	1914	3.3	16.5	.5	2
368	Whinery.....	1900	May 8	October 27	*	9.0	21.1	1.0	4
369	Whinery.....	1900	May 8	October 27	*	7.3	18.6	1.1	2
259	White Pippin.....	1899	May 8	October 22	*	8.8	35.0	.5	3
364	Winesap.....	1900	May 10	October 27	*	3.4	9.0	1.4	3
365	Winesap.....	1900	May 10	October 27	*	3.0	8.5	.6	2
389	Winter Banana.....	1903	May 10	October 16	1911	8.3	21.9	1.0	2
404	Winter Banana.....	1903	May 11	October 16	1911	4.8	13.6	.5	1
546	Winterstein.....	1909	May 8	September 23	1917	3.0	7.5	.9	3
482	Yellow Newtown.....	1905	May 10	October 25	1917	2.8	6.5	1.0	1
483	Yellow Newtown.....	1905	May 10	October 25	1916	2.4	6.5	.8	3
309	York Imperial.....	1899	May 9	October 24	1911	4.4	19.0	.5	3
377	York Imperial.....	1900	May 9	October 20	1913	8.9	32.1	.7	0
378	York Imperial.....	1900	May 10	October 18	1913	7.2	17.6	.5	1

*Produced crop in 1910 or earlier.