

CHAPTER III

PRODUCTION, DISPOSITION AND UTILIZATION OF WASHINGTON FRUIT

Data on the production, disposition, and utilization of Washington fruits are presented for as many years as official estimates are available. Similar figures are available for all major producing states.①

Total production, as used in the Crop Reporting Service reports, is the total amount available for harvest in the state. In the case of apples, however, the total production is for certain specified counties designated as commercial. Production having value includes the portion of the crop sold by the farmer and used in the farm household. It does not include quantities unused because of economic conditions such as unharvested fruit, nor does it include excess cullage of harvested fruit. Value of production is the season average price multiplied by production having value. Disposition figures show the disposal of production having value, while the value of sales is season average price multiplied by amount sold.

Utilization data shows fresh sales and the major processing uses of each fruit. However, each of the utilization categories covers only the first commercial use of the fruit. For example, a very considerable portion of the fruit purchased by the housewife on the fresh market is later canned or frozen, but for utilization purposes is included only under fresh sales. Some processing utilizations are changed before the fruit finally reaches the consumer. For instance, dried apples sometimes are later made into apple butter, but herein are shown only under the dried apple utilization.

Apples Washington leads all states in apple production. The irrigated orchards of central Washington produced 27 percent of all the commercial apples produced in the United States during the 8 years 1944-51, despite the fact that New York, Virginia, Michigan, and Pennsylvania all had more apple trees than Washington.

New York, Virginia, Michigan, and California are the other important apple-producing states. In the 8-year period 1944-51, New York ranked second in every year except 1945. Virginia ranked third in every year except 1947 and 1949. Michigan was fifth in 1944 and 1948, and was fourth in 1947, 1950, and 1951. California was second in 1945, third in 1947, fourth in 1948 and 1949, and fifth in 1946, 1950, and 1951. Pennsylvania was fourth in 1944 and 1946 and fifth in 1947, but

then dropped below the five leaders. Illinois placed fifth in apple production in 1945 and Oregon was fourth.

The major portion of the United States apple crop is sold as fresh fruit. Processing is very important in New York, California, and Virginia but is of relatively small volume in Washington and Michigan. Processors acquired more New York apples than went to fresh markets in four of the eight years 1944-51. There was only one year in the eight-year period 1944-51 in which more California apples were sold fresh than were processed. Processors took the bulk of Virginia's crop in three of the eight years during that period.

Uses such as vinegar, cider, and juice accounted for most of the New York apples used by processors in the years 1944-46; but the canned apples and apple sauce became more important thereafter. Drying is a very important utilization in California; but canning, vinegar, cider, and juice also take sizeable amounts. In Virginia most of the processed apples are canned; although there have been some years in which cider, vinegar, and juice have taken more apples.

Apricots Only three states produce enough apricots for reliable official estimates on production, disposition, and utilization. California, of course, is the leading state. During the eight years 1944-51 California produced almost 90 percent of the estimated production, Washington accounted for 8 percent, and the other 2 percent came from Utah. The bulk of the California crop in the 1944-51 period was taken by processors—canners requiring the greater share in 1945, 1946, 1948, 1950, and 1951; and driers the greatest quantity in the other three years. In contrast, the Washington and Utah crops are disposed of principally through fresh market channels.

Cherries Washington ranks second in the nation in sweet cherry production. Only California produces more sweet cherries than does Washington. In most years Oregon is a very close third and in 1951 the amount produced there exceeded the Washington total. Michigan is a poor fourth in sweet cherry production, and Utah is generally fifth, with Idaho not far behind Utah.

Although usually ranking about fifth in sour cherry production, Washington is not important when compared with Michigan, Wisconsin, or New York. Those three states in recent years have accounted for about 80 percent of the total tart cherry production in the nation.

Michigan alone generally produces about one-half of the total crop. New York is usually second, Wisconsin usually third but sometimes second, and Pennsylvania is usually fourth.

A higher proportion of the sweet cherries grown in Washington are sold through fresh markets than is true in California and Oregon. (See page 54.) In the years 1944-51 there were only two years in which fresh markets took more California sweet cherries than did the processors. Fresh markets never were as important as the processors in Oregon during that same period. Briners usually take most of the crop in both California and Oregon.

Only a small portion of the nation's sour cherry crop is sold on fresh markets. Commercial canners have always taken the bulk of the Michigan crop, but in Wisconsin there have been some years in which more cherries were frozen than were canned. Freezing has been far more important than canning in New York State since 1944.

Peaches California alone produced between one-third and one-half of all the peaches produced in the United States in the four years 1944-47 and over one-half of the nation's total in the period 1948-51. Washington ranked as high as fourth in 1949 and fifth in 1945, but in most years has been no better than seventh.

Although by no means as important as California, southeastern United States has for many years been an important peach-producing area. South Carolina and Georgia have ranked second to California in some years, and North Carolina also has been among the leaders. Michigan in the Mid West usually is among the first five states in peach production and has ranked second in three of the years 1944-51.

Clingstone production exceeds freestone production in California—in some years twice as many bushels of clingstones are produced. Slightly more freestone peaches are processed than are sold fresh, with driers taking the greater share although canning has been increasingly important in recent years. Clingstone peaches have very little fresh market outlet, and the crop is largely canned.

In the South Atlantic States, which include North and South Carolina and Georgia, the peach crop moves into fresh market channels. Those that are used by processors are canned or frozen. Drying is not important.

① Official publications, Crop Reporting Board, Bureau of Agricultural Economics, United States Department of Agriculture.

Table 31.—Apples: Production, Disposition, Utilization, and Value, Washington, 1889-1951^①

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES					
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Frozen	Dried	Other ^②	
	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels	
1889.....	295	295										
1890.....	522	522										
1891.....	693	693										
1892.....	611	611										
1893.....	821	821										
1894.....	819	819										
1895.....	1,146	1,146										
1896.....	972	972										
1897.....	1,700	1,700										
1898.....	2,058	2,058										
1899.....	729	729										
1900.....	1,950	1,950										
1901.....	1,870	1,870										
1902.....	2,300	2,300										
1903.....	2,600	2,600										
1904.....	2,700	2,700										
1905.....	2,500	2,500										
1906.....	3,000	3,000										
1907.....	3,800	3,800										
1908.....	3,200	3,200										
1909.....	2,672	2,672	4,302	485	2,237	3,602						
1910.....	5,800	5,800	6,294	540	5,254	5,674						
1911.....	3,500	3,500	3,920	443	3,057	3,434						
1912.....	7,700	7,700	4,466	592	7,108	4,123						
1913.....	6,900	6,900	8,763	500	6,310	8,014						
1914.....	9,790	9,790	5,678	626	9,164	5,315						
1915.....	9,782	9,782	9,067	631	9,151	8,510						
1916.....	16,560	16,560	16,736	736	15,824	15,982						
1917.....	18,360	18,360	22,399	764	17,596	21,467						
1918.....	19,592	19,592	31,347	787	18,805	30,088						
1919.....	25,295	25,295	49,325	888	24,407	47,594						
1920.....	18,300	18,300	31,293	730	17,570	30,045						
1921.....	31,500	31,500	46,305	1,026	30,474	44,797						
1922.....	27,449	27,449	28,821	902	26,547	27,874						
1923.....	33,000	33,000	34,320	1,053	31,947	33,225						
1924.....	22,000	22,000	36,520	788	21,212	35,212						
1925.....	28,700	28,700	38,745	935	27,765	37,483						
1926.....	34,445	33,756	34,094	1,032	32,724	33,051						
1927.....	24,940	24,940	42,897	826	24,114	41,476						
1928.....	37,840	37,840	41,624	1,100	36,740	40,414						
1929.....	30,000	30,000	42,000	928	29,072	40,701						
1930.....	38,000	38,000	39,520	1,068	36,932	38,409						
1931.....	31,000	30,500	19,825	934	29,566	19,218						
1932.....	32,000	29,000	15,950	979	28,021	15,412						
1933.....	29,240	26,240	21,779	888	25,352	21,042						
1934.....	31,826	31,275	22,305	200	31,075	22,063	25,156	2,146		3,327	446	
1935.....	31,208	27,347	19,143	190	27,157	19,010	21,610	1,353		3,798	396	
1936.....	26,194	26,194	28,551	181	26,013	28,254	21,814	1,869		2,280	50	
1937.....	29,212	26,388	16,361	167	26,221	16,257	22,090	1,055		2,676	400	
1938.....	28,400	26,737	22,450	155	26,582	22,329	22,639	742		2,847	354	
1939.....	24,768	23,642	16,244	139	23,403	16,148	19,070	1,290		2,584	459	
1940.....	25,644	24,227	18,897	118	24,109	18,805	20,515	938		2,250	400	
1941.....	26,804	26,534	30,249	116	26,418	30,117	21,610	1,353		2,188	356	
1942.....	27,339	26,462	50,542	114	26,348	50,325	21,473	1,216		3,322	337	
1943.....	23,000	23,000	58,880	114	22,886	58,588	18,715	871	320	2,746	216	
1944.....	31,600	31,000	78,368	114	31,486	78,085	25,906	710	322	3,042	546	
1945.....	26,530	26,530	80,651	92	26,438	80,372	23,105	426	358	2,195	354	
1946.....	32,710	32,710	91,588	96	32,614	91,319	28,129	725	267	3,057	445	
1947.....	33,480	32,810	67,260	108	32,702	67,039	29,848	247	84	1,622	591	
1948.....	25,760	25,684	71,915	108	25,576	71,613	23,468	229	56	1,286	537	
1949.....	31,820	29,480	51,000	120	29,360	50,793	26,094	403	42	2,071	750	
1950.....	35,532	34,488	57,605	128	34,350	57,364	27,600	551	64	4,945	1,190	
1951.....	19,108	19,108	58,279	108	19,000	57,950	16,600	300		1,530	550	

① Figures from 1889 to 1938 are for entire State; figures 1934-51 are for commercial areas only.
 ② In 1951 includes apples frozen.

Pears California, Washington, and Oregon in the order named dominate pear production in the United States. Michigan, New York, and Georgia have all ranked fourth at one time and Michigan, New York, Georgia, and Texas have ranked fifth. California usually produces one-third to one-half of the United States total. The bulk of California's production consists of Bartlett pears, slightly more than one-half of which usually are processed. Canners take the

larger part of the Bartletts that are sold for processing. Winter pears are largely sold for fresh market, but there have been years when the amount processed is greater than the quantity sold fresh.

Washington is second to California in pear production. (See page 58.) Oregon, which is third, produces more winter pears than it does Bartletts. In late years about as much of the Oregon Bartlett crop has gone to processors as is sold fresh, but this was not true before 1947.

Canners take the greater share of the Bartlett crop. Processors get very little of the winter pear production in Oregon.

Prunes and Plums There are only five states in the United States which are important in the production of prunes and plums. California far outranks all others. During the eight-year period 1944-51, plum and prune production in California averaged between 400,000 and 650,000 tons per year. California's prune production is practically all utilized for

UTILIZATION OF TOTAL APPLE PRODUCTION

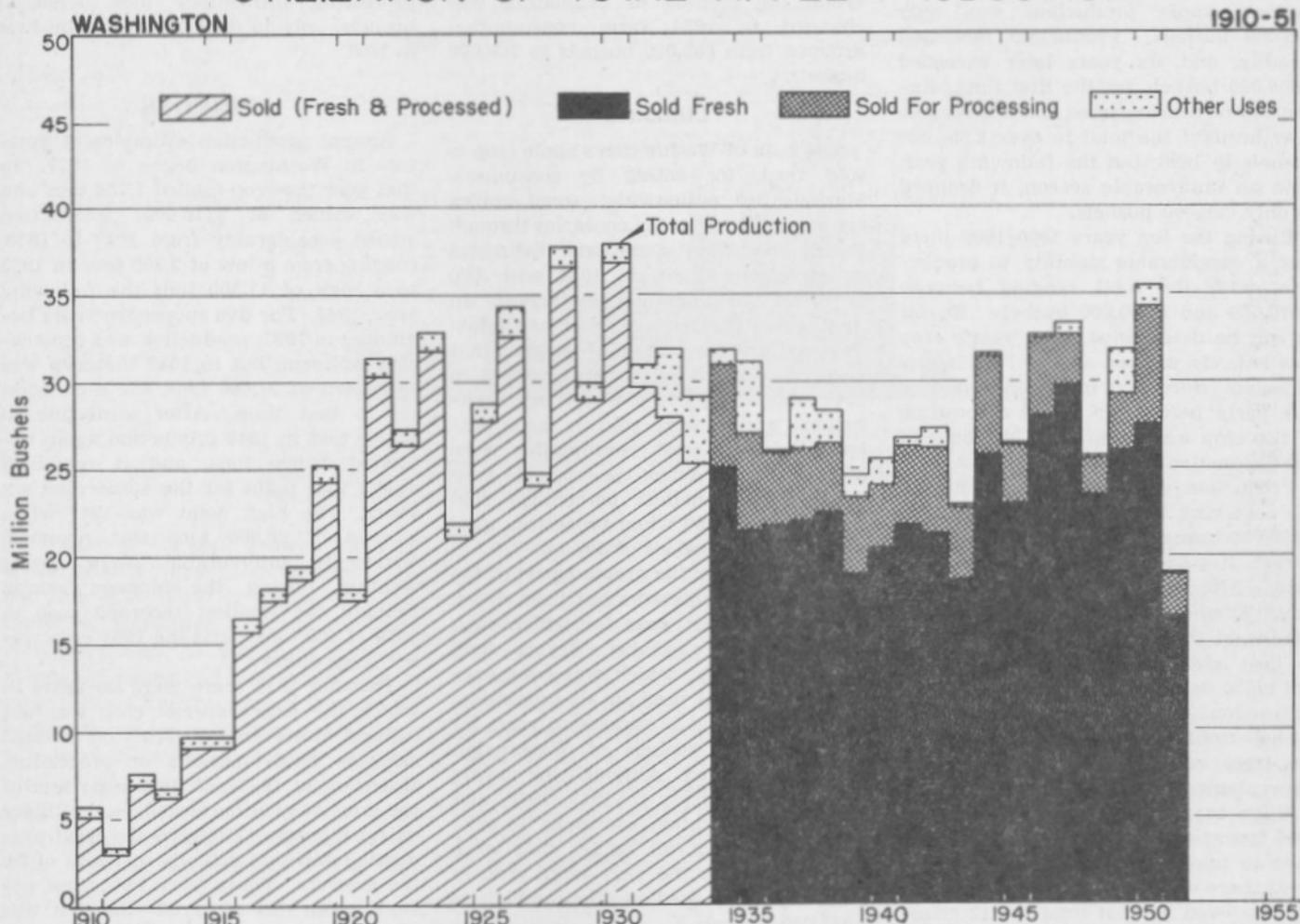


Figure 23. Washington apple production showed a decided upward trend from 1909 to 1930 despite some year-to-year variation. Production never reached the 1930 peak thereafter. Beginning in 1934 the estimates were changed from a statewide basis to estimates for certain counties designated as commercial. However, there was not much change in total production as the commercial counties always accounted for the bulk of the crop. Since the estimates began in 1934 the bulk of the state's apple crop has reached consumers through fresh market channels. Processors, however, have taken a sizeable amount, especially in years when apples were plentiful. Farmers themselves use some apples, and in some years many bushels of apples are not harvested due to economic conditions.

drying, whereas the plums are largely sold fresh with a small amount canned.

In the 1944-51 period, except in 1947, Oregon was second to California in the production of plums and prunes. In 1947 Idaho replaced Oregon in second place. Although in second place, Oregon's production was never as much as one-quarter that of California in the seven-year period 1944-51. Prunes form the bulk of Oregon's production, and the crop is largely processed. In Idaho, also, prunes make up the main volume, and plum production is unimportant. Idaho alternated with Washington in third place in total plum and prune production during the 1944-51 period. Practically all of Idaho's prunes are sold for fresh market use.

APPLES

For many years apples were produced principally for use on the farm. Whatever surpluses developed were traded or sold in nearby cities and villages by the growers themselves. However, as in all forms of agriculture, with the growing trend toward commercialization more of the production was concentrated in larger orchards whose market spread farther and farther afield.

Because of this trend, there developed a demand for data on the commercial portion of the apple crop—that portion which was grown principally for fresh market or for processing. In 1934, therefore, the United States Department of Agriculture revised its methods of estimating the apple crop. Instead of estimating the entire crop for the state as

was done previously, the total crop in certain specific counties was estimated. These counties were selected because the production was definitely classed as commercial.

In Washington 12 counties were designated as commercial. Estimates were, and still are, made for the total crop in those counties. Those included are Yakima, Chelan, Okanogan, Grant, Douglas, Skamania, Spokane, Walla Walla, Benton, Kittitas, Klickitat, and Columbia. Actually, there has been a steady concentration of the orchards in certain favored areas. Whereas all 12 of these commercial counties contained 98.7 percent of the total production in 1950, four of them (Yakima, Chelan, Okanogan, and Douglas) contained 96.7 percent of the total apples produced in Washington in that year.

Total Production

When estimates began in 1889 Washington's apple production was only 295,000 bushels. Production increased steadily, and six years later exceeded 1,000,000 bushels for the first time. Expansion of bearing trees and a favorable year brought the total to over 2,000,000 bushels in 1898; but the following year, with an unfavorable season, it dropped to only 729,000 bushels.

During the ten years 1900-1909 there was a considerable stability to production, with the total ranging between 1,870,000 and 3,800,000 bushels. So far as can be determined, each year's crop was entirely utilized and, if 1909 is any criterion (since that is the only year in this early period for which disposition of the crop was estimated), the bulk of the production was sold.

Production rose very sharply during the following ten years. Starting from 5,800,000 bushels at the beginning of the period, it rose to 25,295,000 bushels in 1919. Although this increase is sometimes attributed to World War I it is significant that apple trees do not begin to bear sizeable quantities until they are eight or more years of age. Since production did not exceed 10,000,000 bushels until 1916, it is obvious many of the trees responsible for the increase were planted before 1910.

When the estimates were changed in 1934 from total production for the entire state to total production in commercial areas there was but little change in level, because even by that time the 12 counties rated as commercial were producing the bulk of the state's crop. Five times in the 1930's production exceeded 30,000,000 bushels, with the peak in 1930.

In the 1940's there were four occasions in which the apple crop went over 30,000,000 bushels. In 1950 the total was 35,532,000 bushels, but with a series of late frosts the following spring, production dropped to 19,108,000 bushels. Following 1934 there were several years in which, for various reasons, not all the crop was picked. The difference between total production and production having value was particularly noticeable in the 1930's when, because of the depression, great care was taken to see that only quality apples were marketed.

Disposition

Disposition figures show better than anything else the difference between estimates of total production for the state as a whole and production in commercial areas. When all counties were included, farm consumption was sizeable since many farms maintained only a few trees for home use. The increase in

farm consumption from 1909 to 1933 reflected the increase in farm numbers. When the method of estimating was changed in 1934 farm consumption dropped from 888,000 bushels to 200,000 bushels.

Utilization

The bulk of Washington's apple crop is sold fresh for eating by consumers. Markets are nationwide: some apples are exported to foreign countries through Pacific and Atlantic seaports. Estimates of utilization began in 1934 with the estimates of commercial production. In most years the fresh market has taken 80 percent of the portion of the crop that was sold. Fresh sales were greatest in 1947 and 29,848,000 bushels of Washington's apples were sold in those outlets. Sales for fresh consumption were smallest in 1951 when the crop was very small. The smallest percentage sold fresh was in 1950 when processors used over 7,000,000 bushels of apples.

Over the years the greatest part of the crop used by processors has been dried. In 1934, the first year for which such estimates are available, dryers took 3,327,000 bushels, which was over one-half of the total used in all processing. For the following 12 successive years 2.1 to 3.5 million bushels of Washington apples were dried. Although the drying dropped off sharply in 1947, 1948, and 1949, that utilization continued to take over one-half of all apples that were processed. With the very large crop in 1950, drying reached an all-time high of 4,945,000 bushels.

In contrast, the percentage of the crop which is canned has declined considerably over the years. A total of 2,146,000 bushels was canned in 1934. Thereafter, the canners never used more than 2,000,000 bushels, the secondary high point being 1,946,000 bushels in 1941. An almost steady decline followed with a low of 229,000 bushels recorded in 1948. Even with the very large crop in 1950 only 551,000 bushels were used in canned apples and apple sauce.

Reports on frozen apples began in 1943. For four consecutive years there was a sizeable quantity used in this manner. However, this utilization declined and was so small in 1951 that it was included in the other uses.

Processing utilizations other than canning, drying, and freezing include such items as apple juice, jam and jelly, wine and brandy. From 1934 to 1938—except for 1936—these miscellaneous utilizations required about the same amount of apples each year. The lowest requirement (aside from the 50,000 bushels in 1936) was 216,000 bushels, while the high was 591,000 bushels. In 1949 the

"other uses" took 750,000 bushels of apples. With the large crop of 1950 these processing utilizations took 1,190,000 bushels, only to drop to 550,000 bushels in 1951.

APRICOTS

Annual production estimates of apricots in Washington began in 1927. In that year the crop totaled 1,700 tons and was valued at \$116,000. Production varied considerably from 1927 to 1936, ranging from a low of 2,300 tons in 1933 to a high of 11,300 tons the following year, 1944. For five successive years beginning in 1937, production was remarkably uniform; but in 1942 the crop was estimated at 21,000 tons, the high point up to that time. After a decline to 15,400 tons in 1943 production again exceeded 20,000 tons, and it remained above that point for the succeeding six years. The high point was 1947 when a crop of 28,000 tons was reported. Extremely unfavorable early spring weather during the blossom season brought the smallest recorded crop in 1950 (1,600 tons), and the 1951 crop was not large either.

Through 1933 there were no years in which the entire apricot crop was not utilized either on the farms or through sales to fresh markets or processing. However, in 1934 and 1935 a portion of the crop was not harvested, so that there was a difference between the total production and that actually disposed of by the growers. There were two other periods when this occurred—the first was in the years 1938, 1939, and 1940 and the second was 1947, 1948, and 1949. The small crops in 1950 and 1951 were utilized by fresh markets and processors.

Disposition

Although sizeable quantities of apricots are used on Washington farms where they are grown, the greater share of the crop has always been sold for fresh market or for processing. Farm use followed the same trend as production over the years, increasing from a low of 140 tons in 1930 to a high of 800 tons in the late 1940's when production was high. The relatively great farm use reflects the fact that many farms in the State of Washington have only a few apricot trees providing just enough for home use. Sales were greatest in 1946 and 1947. In 1949 sales were relatively low despite a large crop because a considerable portion was not harvested.

Utilization

Apricots in Washington are grown principally for fresh market sale. Few growers dispose of their crop directly. The bulk of the crop is moved into mar-

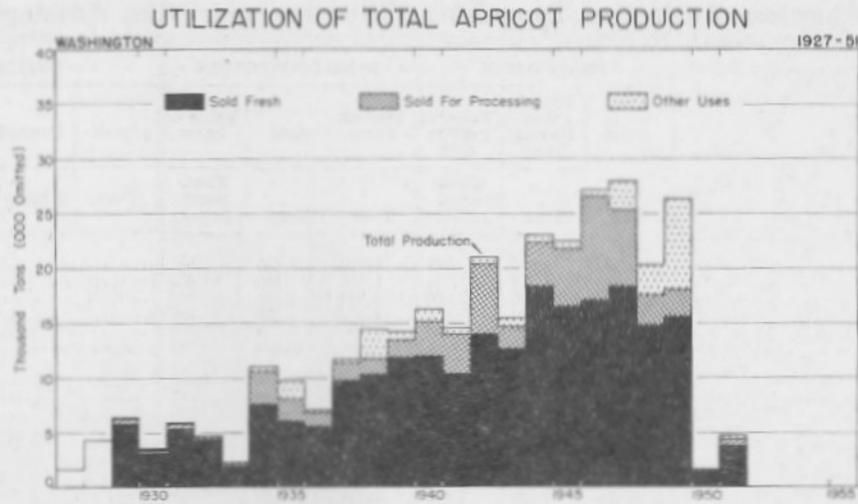


Figure 24. The trend in apricot production in the State of Washington was generally upward from 1927 through 1947. An upward trend in the amount of apricots sold fresh accompanied the increase in production. Processors took sizeable amounts of the state's apricot crop in the 1940's. In 1947, 1948, and 1949 there was a considerable part of the total production which was not sold by the grower.

ket channels through grower cooperatives, private buyers, or brokers. The markets—like those of apples—are nationwide. Of course, many of the apricots purchased in stores or roadside stands are canned by housewives, but in recent years the increasing amount of apricots used by processors would seem to indicate some decline in home canning.

Sales for fresh market rose almost steadily from 1930 to 1938, with some annual variation due to the size of the crop. For the six years following 1937

the amount used in fresh market channels was rather uniform, ranging between 10,000 and 14,000 tons each year. Another rather stable six-year period followed, with the tonnage sold ranging between 14,000 and 18,500 tons each year. The percentage of the crop used in this manner has varied greatly. In the early 1930's fresh market uses took over 90 percent of the total sold. In 1946 the sales of 17,170 tons for fresh market was only about 65 percent of the total amount sold by growers.

Canning has taken the bulk of the apricots used by processors in most of the years since 1928. More apricots were frozen than were canned in 1943, 1944, and 1945 and again in 1950; but aside from those four years canning has always taken more than any other use. The largest amount ever processed was in 1946 when 9,390 tons were used by processors, 35 percent of the total sales for that year. Peak year for canning was 1947 when 5,220 tons were canned. Frozen apricot production hit its high point in 1945—4,320 tons.

Table 32.—Apricots: Production, Disposition, Utilization, and Value, Washington, 1927-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES					
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned [Ⓞ]	Frozen	Dried	Other	
	Tons	Tons	Thousand Dollars	Tons	Tons	Thousand Dollars	Tons	Tons	Tons	Tons	Tons	
1927.....	1,700	1,700	116									
1928.....	4,300	4,300	267									
1929.....	6,500	6,500	488	175	6,325	474	5,706	379				250
1930.....	5,600	5,600	184	140	5,460	176	3,300					100
1931.....	6,000	6,000	195	150	5,850	150	5,400	360				81
1932.....	4,800	4,800	129	160	4,640	125	4,380	190				70
1933.....	3,300	3,300	140	170	3,130	130	1,988					142
1934.....	11,300	11,100	512	400	10,700	493	7,707	2,800				108
1935.....	9,800	8,600	507	420	8,180	483	6,241	1,603				246
1936.....	7,300	7,200	461	300	6,900	442	5,610	900				360
1937.....	11,800	11,800	708	450	11,350	681	9,764	1,325				261
1938.....	14,500	12,300	465	490	11,810	389	10,353	1,197				290
1939.....	14,300	14,000	547	530	13,470	527	11,900	1,940				310
1940.....	16,300	15,800	629	500	15,300	607	11,900	3,000				300
1941.....	14,600	14,600	612	560	14,040	588	10,330	3,330				100
1942.....	21,000	21,000	1,686	580	20,420	1,640	14,010	4,800		320		550
1943.....	15,400	15,400	3,080	600	14,740	2,945	12,680	330		1,740		70
1944.....	25,100	25,100	3,118	700	24,400	3,024	18,390	630		2,100	70	230
1945.....	27,500	27,500	3,195	700	21,800	3,096	16,490	900		4,320		
1946.....	27,300	27,300	3,685	740	26,560	3,001	17,170	5,150		4,690	150	
1947.....	28,000	26,040	2,760	750	25,290	2,681	18,340	5,220		1,730		
1948.....	20,300	18,390	1,513	800	17,590	1,447	14,900	2,170		560		
1949.....	20,400	18,900	881	800	18,100	843	15,580	2,330		190		
1950.....	1,600	1,600	251	64	1,536	241	1,386	50		100		
1951.....	4,800	4,800	793	360	4,440	706	3,770	490		180		

[Ⓞ] Includes some quantities used for jam and nectar in 1945-1951.

Table 33.—All Cherries: Production, Disposition, Utilization, and Value, Washington, 1924-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES				
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canred	Frozen	Brined ^①	Other ^②
	Tons	Tons	Thousand Dollars	Tons	Tons	Thousand Dollars	Tons	Tons	Tons	Tons	Tons
1924	4,800	4,800	768	1,320	3,480	557					
1925	8,400	8,400	1,344	2,370	6,030	965					
1926	10,500	10,500	1,260	2,390	8,110	973					
1927	4,130	4,100	656	1,370	2,730	437					
1928	9,700	9,700	1,630	2,450	7,250	1,218					
1929	15,500	13,500	2,632	2,640	10,860	2,118					
1930	15,500	14,000	1,890	2,670	11,330	1,530					
1931	10,500	8,000	480	2,440	5,560	334					
1932	16,500	12,500	562	2,710	9,790	441					
1933	18,500	16,000	800	2,720	13,280	664					
1934	19,500	17,000	1,275	2,620	14,380	1,078	9,399	4,316	414	149	102
1935	18,200	17,200	1,462	2,650	14,550	1,237	8,226	4,423	895	856	150
1936	19,300	16,500	1,320	2,680	13,820	1,106	7,341	4,362	541	1,318	258
1937	16,000	14,100	1,692	2,620	11,480	1,378	4,665	3,303	850	1,622	1,040
1938	26,700	21,900	1,404	2,750	19,150	1,234	10,186	5,930	672	2,023	339
1939	26,800	25,300	2,077	2,780	22,520	1,862	12,909	6,006	1,212	2,100	293
1940	30,100	27,500	2,698	2,800	24,700	2,442	14,779	5,900	1,125	2,345	551
1941	29,700	28,200	3,004	2,830	25,370	2,709	16,160	5,810	580	2,290	530
1942	30,900	26,900	3,801	2,820	24,080	3,415	14,300	7,040	740	650	1,350
1943	30,500	28,940	6,463	2,820	26,120	5,854	15,920	4,870	1,140	3,290	900
1944	27,000	26,800	6,835	2,820	23,980	6,143	12,590	4,370	2,870	3,240	910
1945	36,600	36,490	9,075	2,760	33,730	8,432	17,310	8,110	2,110	5,770	430
1946	36,500	36,500	9,836	2,750	33,750	9,093	14,310	8,300	3,210	7,640	290
1947	29,800	28,210	7,429	2,750	25,460	6,743	14,180	2,960	1,590	6,620	110
1948	23,100	23,100	5,762	2,430	20,670	5,174	10,740	4,080	620	5,180	40
1949	38,900	34,100	4,754	2,600	31,500	4,361	21,850	5,580	1,020	3,030	20
1950	19,400	19,400	4,053	2,150	17,250	3,636	10,740	1,910	1,070	3,480	50
1951	16,200	14,980	4,294	1,560	13,420	3,905	7,960	4,060	800	590	10

① Includes some quantities used for jam, juice, brandy, etc., 1945-1951, sweet cherries.

② Includes some quantities brined in 1945-1951, sour cherries.

Table 34.—Sweet and Sour Cherries: Production, Disposition, Utilization, and Value, Washington, 1934-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES				
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Brined ^①	Frozen	Other ^②
	Tons	Tons	Thousand Dollars	Tons	Tons	Thousand Dollars	Tons	Tons	Tons	Tons	Tons
Sweet Cherries											
1934	14,800	12,900		1,700	11,200		8,832	2,167	149		2
1935	13,200	12,500		1,740	10,760		7,708	2,146	856		50
1936	13,700	11,200		1,780	9,420		6,734	1,330	1,318		38
1937	10,400	8,700		1,720	6,980		4,030	1,128	1,622		200
1938	19,900	15,700	1,218	1,850	13,850	1,075	9,408	2,360	2,023		61
1939	20,600	19,300	1,849	1,890	17,410	1,668	12,189	3,081	2,100		40
1940	23,000	21,300	2,450	1,920	19,380	2,229	14,028	2,900	2,345		107
1941	24,700	24,700	2,668	1,950	22,750	2,457	15,490	4,850	2,290		120
1942	25,900	22,800	3,329	1,980	20,820	3,040	13,290	6,040	650		840
1943	26,700	25,700	5,860	1,980	23,720	5,408	14,930	4,660	3,290		740
1944	21,200	21,200	5,894	1,980	19,220	5,343	11,750	3,240	3,240		100
1945	32,400	32,400	8,392	1,980	30,420	7,879	16,510	6,540	5,770	1,600	
1946	32,200	32,200	8,662	1,980	30,220	8,129	13,460	7,880	7,640	1,240	
1947	25,600	24,600	6,765	1,980	22,620	6,220	13,400	2,360	6,620	240	
1948	21,300	21,300	5,389	1,830	19,470	4,926	9,950	4,000	5,180	340	
1949	36,400	31,600	4,266	1,900	29,700	4,010	21,010	5,250	3,030	410	
1950	16,500	16,500	3,630	1,400	15,100	3,322	9,890	1,660	3,480	70	
1951	12,700	11,480	3,811	900	10,580	3,513	7,330	2,610	590	50	
Sour Cherries											
1934	4,700	4,100		920	3,180		517	2,149		414	100
1935	5,000	4,700		910	3,790		518	2,277		895	100
1936	5,600	5,300		900	4,400		607	3,032		541	220
1937	5,600	5,400		900	4,500		635	2,175		850	840
1938	6,800	6,200	186	900	5,300	159	780	3,570		672	278
1939	6,200	6,000	228	890	5,110	194	720	2,925		1,212	253
1940	7,100	6,200	248	880	5,320	213	751	3,000		1,125	444
1941	5,000	3,500	336	880	2,620	252	670	960		580	410
1942	5,000	4,100	472	840	3,260	375	1,010	1,000		740	510
1943	3,800	3,240	603	840	2,400	446	990	210		1,040	160
1944	5,800	5,600	941	840	4,760	800	840	1,130		2,290	500
1945	4,200	4,090	683	780	3,310	553	800	1,570		510	430
1946	4,300	4,300	1,174	770	3,530	964	850	420		1,970	290
1947	4,200	3,610	664	770	3,430	523	780	600		1,350	110
1948	1,800	1,800	373	600	1,200	248	790	80		290	40
1949	2,500	2,500	488	700	1,800	351	840	330		610	20
1950	2,900	2,900	423	750	2,150	314	850	250		1,000	50
1951	3,500	3,500	483	660	2,840	392	630	1,450		750	10

① Sweet Cherries: Includes some quantities used for jam, juice, brandy, etc., 1945-1951.

② Sour Cherries: Includes some quantities brined in 1945-1951.

UTILIZATION OF THE TOTAL SWEET AND SOUR CHERRY PRODUCTION

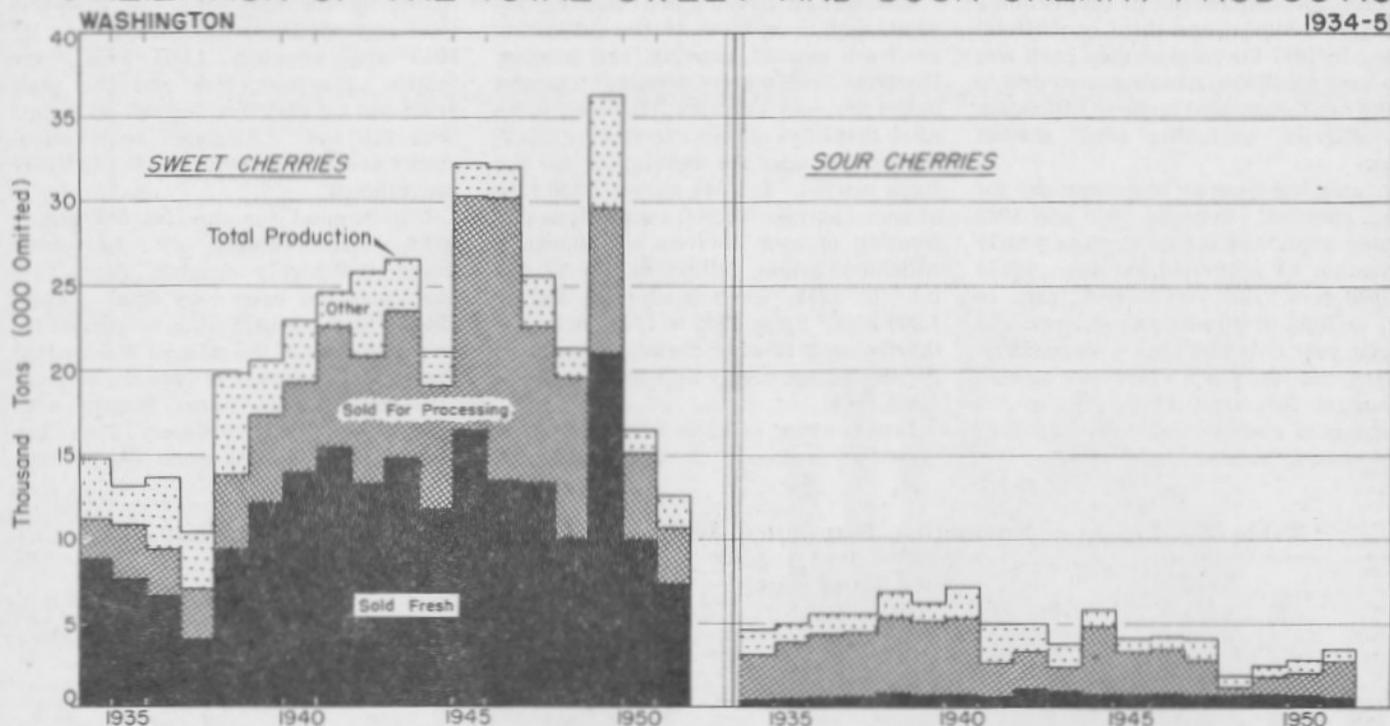


Figure 25. Sweet cherries are far more important than sour cherries in Washington's fruit industry. Although the fresh market has always been the most important outlet for sweet cherries, processing requirements were heavy during the years 1940-49. Sour cherries are usually processed. Fresh sales are rather small. Farm use is important with both crops, and in some years a considerable amount has been left unharvested or there has been unusually heavy cullage for one reason or another. This has been especially true of sweet cherries, which are sometimes split by cold rains during or just prior to harvest. A very large quantity of sweet cherries was left unharvested in 1949, when there was a bumper crop.

CHERRIES

Washington cherry production was first estimated in 1924. In that year the total production amounted to 4,800 tons. Individual estimates for sweet and sour cherries were not available until 1934. A fairly uniform increase in Washington cherry production occurred from 1924 to 1946 inclusive. Following 1946 there was a decline in production and in 1951 the crop totaled only 16,200 tons. Generally speaking, 1950 and 1951 were very poor soft fruit years in Washington, but it is significant that the number of cherry trees of bearing age declined by more than 25 percent between 1940 and 1950.

A wide fluctuation has been characteristic of cherry values. Production having value is generally less than the total production. In many years it has been uneconomical to harvest some of the cherry crop, while in other years mature fruit was lost due to unfavorable weather conditions at harvest or shortages of pickers.

Value

There is a wide range in the value of Washington cherry production. From 1940 to 1949, inclusive, the cherry crop had an average value of over \$5,900,000 per year. However, total returns were approximately \$9,800,000 in 1946, and in 1949 were less than \$4,800,000. The 1949

crop was seven percent larger than the total production for 1946, but the 1949 crop was valued at less than 50 percent of the record returns for 1946. Although the 1950 and 1951 crops were very small, the value in each year was not greatly different from 1949 when production totaled 38,900 tons.

Disposition

The farm consumption of cherries reveals a generally static pattern in recent years. From 1940 to 1949, inclusive, cherry growers consumed about 9 percent of their yearly production. This figure represented a yearly total of over 2,700 tons. From 1930 to 1939 the farm use was slightly lower but represented about 15 percent of total production; and in 1924, the first year of disposition estimates, Washington cherry growers consumed over one-fourth of their production. From the above estimates it is evident that total sales have generally amounted to about 90 percent of the production having value.

Utilization

Utilization estimates on cherries began in 1934. Over one-half of the Washington cherries were sold through fresh market outlets in all but one year of the period for which utilization data are available. Naturally, fresh market sales

are almost completely sweet cherries, although the sour cherries have a limited sale through those channels. From 1940 to 1949 fresh market sales for sweet cherries averaged more than 14,000 tons per year. In addition, sales of sour cherries averaged more than 800 tons per year.

In 1949 sales of Washington cherries through fresh market channels reached almost 22,000 tons. This figure was a record high. In 1950, with a much smaller crop, almost 11,000 tons were consumed through fresh market outlets. The 1951 crop was the smallest since 1937, the result of untimely rains, causing severe splitting loss of sweet cherries. Fresh market sales in that year declined to about 8,000 tons. The highest fresh market utilization was in 1949 when about two-thirds of the crop was marketed through fresh market channels.

Canned cherries have also been an important part of the total sales although much smaller than the tonnage handled by the fresh market. From 1940 to 1949, inclusive, about 20 percent of the average yearly crop was handled in this manner. During the same period processors handled an average of 4,800 tons of sweet cherries per year. In addition, canned sour cherries accounted for about 900 tons per year. Cherry canning reached its peak in 1946 when processors utilized

8,300 tons. In 1950 only 11 percent of the crop was canned, but in 1951 canning constituted almost one-third of the total sales. In 1947 the total canned pack was also very small, but canning continues to be the most important mode of utilization for cherries, excluding fresh market sales.

Brining has been an important use for sweet cherries. Between 1940 and 1949 brining accounted for an average yearly utilization of around 4,000 tons, while in 1946 over 7,500 tons were brined. In 1951 brining dropped quite sharply, and in that year only 590 tons were handled. During the ten years (1940-49) brining accounted for about 15 percent of the Washington cherry sales. A small tonnage of cherries was used for jam, juice,

and brandy from 1945 to 1951, inclusive.

Cherries for freezing are relatively insignificant in relation to the utilization for fresh market, canning, and brining. However, freezing constitutes the largest outlet for sour cherries. In most years since 1946 sales of sour cherries for freezing exceed sales for canning or for the fresh market. In 1944 almost 2,300 tons of sour cherries were frozen. However, freezing of sour cherries has shown a wide fluctuation, falling as low as 290 tons in 1948, when production fell to 1,200 tons. From 1940 to 1949, inclusive, the freezing of sour cherries accounted for an average yearly utilization of about 1,000 tons.

Frozen sweet cherries enjoyed a short period of success. In 1943 about 100

tons of Washington sweet cherries were frozen for the first time. In 1944 this total expanded to almost 600 tons. By 1945 approximately 1,600 tons were frozen. However, this was the peak year; and by 1947 freezing fell off to less than 250 tons. Although some sweet cherry freezing continues, it is relatively insignificant.

The demand for cherries for use in jams, juices, brandy, etc., has been limited and highly variable. Since 1918 this usage has been very small. From 1940 to 1949 this utilization accounted for only 1 percent of the sales of Washington cherries. From 1942 to 1944 the tonnage handled for jams, juices, brandy, etc., amounted to about 1,000 tons. There has been a steady decline since this period.

Table 35.—Peaches: Production, Disposition, Utilization, and Value, Washington, 1899-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES					
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Dried	Frozen	Other	
	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels	
1899.....	81	81										
1900.....	100	100										
1901.....	200	200										
1902.....	172	172										
1903.....	210	210										
1904.....	250	250										
1905.....	190	190										
1906.....	260	260										
1907.....	240	240										
1908.....	270	270										
1909.....	84	84	138	22	62	87						
1910.....	298	298	527	39	259	280						
1911.....	261	261	396	25	236	267						
1912.....	282	282	411	49	232	259						
1913.....	446	446	690	52	392	582						
1914.....	624	624	636	64	560	571						
1915.....	940	940	649	73	867	598						
1916.....	812	812	877	69	743	802						
1917.....	1,073	1,073	1,159	81	990	1,069						
1918.....	952	952	1,523	77	875	1,400						
1919.....	1,545	1,545	2,626	101	1,444	2,455						
1920.....	594	594	1,723	52	541	1,569						
1921.....	1,056	1,056	1,522	82	968	1,464						
1922.....	1,212	1,212	1,649	94	1,218	1,522						
1923.....	1,366	1,366	2,244	91	1,269	2,094						
1924.....	450	450	1,079	55	409	961						
1925.....	800	800	1,926	68	732	1,757						
1926.....	1,244	1,244	1,357	86	1,258	1,271						
1927.....	297	297	588	40	257	509						
1928.....	1,462	1,462	1,667	80	1,382	1,575						
1929.....	1,225	1,225	1,899	77	1,148	1,779						
1930.....	688	688	1,080	57	631	991						
1931.....	1,050	1,050	798	72	978	743						
1932.....	1,200	1,207	507	82	1,150	474						
1933.....	256	256	372	37	218	318						
1934.....	1,470	1,397	1,229	60	1,337	1,177	1,329	8				
1935.....	1,040	1,040	1,279	59	981	1,207	961	15			5	
1936.....	1,856	1,856	1,633	67	1,789	1,574	1,686	101			2	
1937.....	1,186	1,127	1,251	59	1,068	1,185	896	147			26	
1938.....	1,887	1,812	1,987	68	1,744	1,646	1,482	228			22	
1939.....	1,662	1,662	1,413	70	1,592	1,352	1,211	243			23	5
1940.....	2,094	2,094	1,596	70	2,024	1,457	1,525	458			20	11
1941.....	2,000	2,000	2,220	71	1,929	2,228	1,264	622			25	7
1942.....	2,124	2,108	2,595	73	2,035	2,478	1,294	709			71	11
1943.....	2,022	2,022	6,012	72	1,950	5,861	1,499	266	0		103	3
1944.....	2,529	2,448	4,284	96	2,332	4,116	1,686	469	5		180	21
1945.....	2,280	2,280	4,541	100	2,280	4,445	1,525	415			200	40
1946.....	2,528	2,528	4,324	110	2,418	4,710	1,376	740	1		202	9
1947.....	2,563	2,563	4,360	90	2,473	4,308	1,269	1,081			126	29
1948.....	1,208	1,056	3,750	80	1,128	3,600	1,140	603			82	22
1949.....	2,628	2,628	1,692	80	1,948	1,510	1,033	744			125	26
1950.....	185	185	501	15	170	586	119	1				
1951.....	810	810	2,106	50	760	1,976	428	260			10	2

UTILIZATION OF TOTAL PEACH PRODUCTION

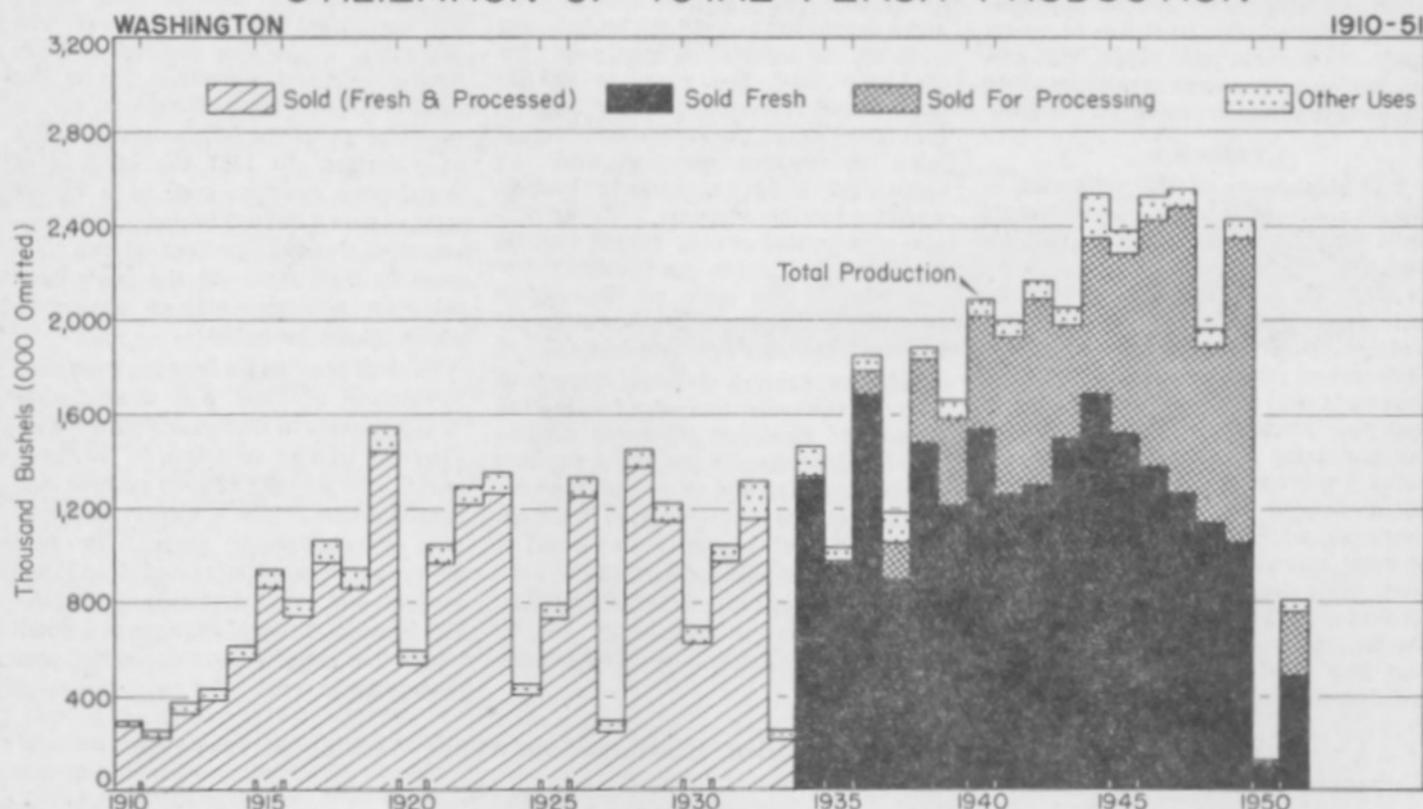


Figure 26. Peach production in Washington showed considerable year to year variation up to 1934. Following 1934 there was a marked upward trend in production culminating in four successive years of large crops (1944-47). An almost complete crop failure occurred in 1950 as a result of the very severe winter in 1949-50. Spring frosts also reduced the 1951 crop to the second lowest in 17 years. Processors have been taking an increasingly larger portion of the crop since records began in 1934. With the small crops in 1950 and 1951 there was only a small amount available for processing. Home use, waste, and unusual cullage has not been as important in Washington's peach crop as it has been in some of the other fruits.

PEACHES

Washington peach production has shown a generally steady increase. This trend was very evident in 1940. In the period between 1940 and 1950 Washington peach production showed a greater stability. However, the 1950 and 1951 crops were almost complete failures. The largest crop was produced in 1947, when total production reached 2,565,000 bushels. In comparison, the 1950 crop was only 135,000 bushels. In the 10-year period from 1940 to 1949, inclusive, total production exceeded 2,000,000 bushels in nine out of ten years.

The value of Washington peach production showed a very wide fluctuation over the years, even during the period from 1940 to 1949 when the total production showed considerable stability. During this space of ten years the annual average value of the Washington peach crop was around \$3,700,000. However, in 1943, a war year, the total value exceeded \$6,000,000; while in 1949 the total crop was valued at just \$1,600,00. In 1940 the total value was only about \$1,500,000. Thus, the total returns to Washington peach growers in 1943 were as much as 60 percent above the 1940-41

average. However, in 1940 and again in 1949 the total returns fell off to about 40 percent below the 10-year average. At the same time the total production never exceeded the 10-year average of 2,280,000 bushels by more than 25 percent, nor did it fall more than 15 percent below average.

Aside from the year 1933 when the peach crop was almost a total failure, production expanded rapidly during the 1930's. Previous to 1930 production was highly variable, reaching a high of 1,545,000 bushels in 1919 and falling as low as 459,000 bushels in 1924. However, a general increase in production was evident for a number of years prior to 1930. In 1900 total Washington peach production was estimated at only 190,000 bushels. After 1940 production exceeded 2,000,000 bushels in most years.

The hazards of raising soft fruit are evident from the wide variations that have existed in production. From 1930 to 1951 two years of almost complete failure are evident. In 1933 production totaled 255,000 bushels, and in 1950 the production was even less at 135,000 bushels. Yet prices were not always high when crops were small. In 1949 Washington peach growers received an av-

erage of only 79 cents per bushel for their fruit. In 1947, a year of considerably larger production, they received \$1.70 per bushel. In 1946 the average return was \$1.94 per bushel, but the production was almost the same as in 1947. In 1950, a year of almost complete crop failure, the grower received an average of \$4.38 per bushel.

Disposition

The farm consumption of peaches shows little change over the years for which there are records. From 1940 to 1949, inclusive, Washington farmers consumed at home about 85,000 bushels of peaches each year. This figure was not greatly different prior to 1940. In 1950 home use was restricted to 15,000 bushels, largely due to the complete failure of many orchards to produce any fruit. Farm consumption in 1951 rose to 50,000 bushels as the total state production was considerably larger than in 1950.

The balance of farm disposition is classified as "sold." This figure represents all sales through commercial channels. In some years it will be noted that the total production and the production having value are not the same. Good examples are in 1932 when 83,000

bushels were unharvested and in 1949 when 500,000 bushels remained unharvested. Most of this fruit was of poorer grade. To harvest poor grade fruit can, and has meant, an even greater loss than allowing the fruit to remain on the trees.

Utilization

The breakdown on the utilization of Washington peach sales did not begin until 1934. However, prior to 1934 almost all sales were to the fresh market. In 1934 only 8,000 bushels were used for canning, so the crop was almost completely utilized on the fresh market. By 1936 canned peaches began to be a more important part of the utilization, and in that year 101,000 bushels were used by the canneries. This total represented about 6 percent of total sales. By 1938 about 238,000 bushels were used by canneries, which represented 14 percent of total sales. By 1939 the canneries were using about 20 percent of the total amount sold. The year 1939 also marked the trial stages in freezing peaches. In that year 33,000 bushels were used for freezing purposes.

Canning utilized almost one-quarter of all Washington peaches sold in 1940, and a record total of 458,000 bushels was used by the canners in that year. By 1941 the total had risen to 623,000 bushels and represented almost 33 percent of the sales. During the same period sales for freezing remained near the same level. In 1941 about 35,000 bushels were used in this manner. The year 1942 saw a utilization of over 700,000 bushels by canneries which represented over one-third of the sales of Washington peaches. During the same year sales for freezing expanded to 71,000 bushels.

Sales for canning dropped sharply in 1943. At the same time sales for freezing expanded. However, increased utilization for freezing did not offset declines by the canneries, and as a result the percentage of the crop diverted to fresh market channels rose from 60 percent in 1942 to over 75 percent in 1943. In 1943 sales for freezing rose to 103,000 bushels, while canning utilized only 366,000 bushels in comparison to over 700,000 for 1942.

Canneries utilized 740,000 bushels in the first post-war year of 1946, which was comparable to the 1942 level. The percentage of the crop diverted to fresh market declined somewhat, while the total utilization for freezing was, for all practical purposes, unchanged from a year earlier. In 1947 the canning of Washington peaches rose to a record total of over 1,000,000 bushels. This represented about 40 percent of the total sales in that year. At the same time sales for freezing declined sharply to about 135,000 bushels.

Sales of peaches for freezing continued to decline in 1948, and totaled only 82,000 bushels in that year. With a considerably smaller crop than in 1947 canneries utilized only 633,000 bushels, and the diversion to fresh market channels was proportionately higher. In 1949 sales for freezing increased to 125,000 bushels, and canning totaled about 745,000 bushels. During these years a small amount of peaches was for other uses such as preserves.

Table 36.—All Pears: Production, Disposition, Utilization, and Value, Washington, 1909-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES			
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Dried	Other
	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels
1909	311	311		49	262					
1910	412	412		57	355					
1911	407	407		52	355					
1912	565	565		66	499					
1913	584	584		70	514					
1914	740	740		85	655					
1915	884	884		88	796					
1916	1,045	1,045		95	950					
1917	1,326	1,326		110	1,216					
1918	1,638	1,638		128	1,510					
1919	1,729	1,729	3,331	134	1,595	3,009	1,300	295		
1920	1,606	1,606	2,695	144	1,462	2,452	1,062	400		
1921	1,875	1,875	3,071	141	1,734	2,840	1,420	305		
1922	2,240	2,240	2,378	150	2,090	2,213	1,287	803		
1923	2,728	2,728	4,187	151	2,597	3,985	2,015	582		
1924	1,947	1,947	3,617	150	1,797	3,327	1,139	658		
1925	2,484	2,484	3,959	127	2,357	3,734	1,285	1,062		
1926	3,600	3,600	3,653	185	3,415	3,456	2,427	988		
1927	2,016	2,016	3,613	134	1,882	3,368	1,376	506		
1928	4,140	4,140	5,042	184	3,956	4,814	2,456	1,500		
1929	3,322	3,322	6,564	172	3,150	6,223	1,534	1,616		
1930	4,717	4,717	3,756	224	4,493	3,581	2,503	1,090		
1931	3,976	3,976	3,629	200	3,776	3,349	2,620	1,750		
1932	4,307	3,807	1,420	241	3,566	1,331	1,966	1,610		
1933	5,084	4,904	2,015	258	4,646	2,479	2,276	2,370		
1934	5,144	4,981	3,909	213	4,768	3,769	2,162	2,606		
1935	6,091	5,822	3,831	221	5,601	3,687	2,841	2,769		
1936	6,133	5,909	4,563	229	5,680	4,388	3,077	2,602		1
1937	6,600	6,241	4,436	238	6,003	4,268	3,237	2,664		2
1938	7,121	5,542	3,472	246	5,296	3,329	3,054	2,150		90
1939	6,300	5,403	4,205	254	5,149	4,008	2,299	2,671	177	2
1940	6,120	5,656	4,615	261	5,395	3,831	2,509	2,880	4	2
1941	6,954	6,870	7,882	267	6,603	7,577	2,955	3,686	2	20
1942	6,675	6,645	12,397	268	6,377	11,890	2,791	3,362	23	1
1943	5,296	5,296	14,148	300	4,996	13,365	2,780	2,045	97	44
1944	8,665	8,378	17,998	300	8,078	17,356	4,480	3,422	128	48
1945	7,709	7,370	16,752	304	7,066	16,083	3,087	2,770	226	83
1946	8,899	8,890	20,729	298	8,592	20,048	4,763	3,526	195	108
1947	8,305	8,094	16,709	298	7,763	16,101	3,697	3,803	98	128
1948	5,555	5,555	14,740	290	5,305	14,059	2,792	2,492		111
1949	6,077	5,982	7,630	290	5,732	7,328	2,748	2,826		158
1950	5,738	5,495	14,448	241	5,254	13,807	2,622	2,264	140	228
1951	5,554	5,554	15,416	240	5,314	14,751	2,340	2,854		120

PEARS

For many years pears have ranked second to apples in production and value among all fruit crops produced in the State of Washington. Beginning in 1915 pears took over second place in production, and in 1930 pear trees rose to second place in tree numbers. Although pears are produced throughout the state, the production is largely in Yakima and Chelan Counties. Even so, the largest single pear orchard in the state is in Skamania County near White Salmon.

Official estimates on the production of all pears extend over a period of 43 years from 1909 to 1951. The records show a steady upward trend from 1909 to 1938, with some decline during the five years following 1938. Then came a jump to the all-time peak during the years 1944 to 1947. In the period since 1947 the average annual production has been reduced to about the level of the years 1935 and 1936.

Production increased from less than 300,000 bushels in 1909 to the record high of almost 9,000,000 bushels in 1946. During the decade 1910-19 average production was a little under one million bushels. Continued increases during the 1920's raised the average production to more than 2,500,000 bushels per year. Production was more than doubled again during the following decade, and the average crop in the 1930's exceeded 5,500,000 bushels. The average crop during the 1940's was slightly more than 7,000,000 bushels, although there were some poor years at the end of that 10-year period.

Starting with the year 1919, the official estimates of production show separate totals for Bartlett pears and other pears (Bosc, D'Anjou, Nelis, and others). During the preceding 10-year period (1909-1918) estimates were made only for all pears. In the period of 33 years for which the production records give a breakdown between Bartletts and all other varieties, the Bartlett pears have usually accounted for more than two-thirds of the total pear production, and all other varieties for somewhat less than one-third of the total.

The production of Bartlett pears shows a consistent upward trend from 1919 to the mid-1940's and a sharply lower level for the four years 1948 to 1951. During the 25 years when Bartlett pear production was increasing rapidly, there were only a few breaks in the upward tide. These, of course, were the result of bad weather conditions, especially during the period when the pear trees were in bloom. The seasons of 1927 and 1943 in particular brought crops that were far below normal.

UTILIZATION OF PEAR PRODUCTION

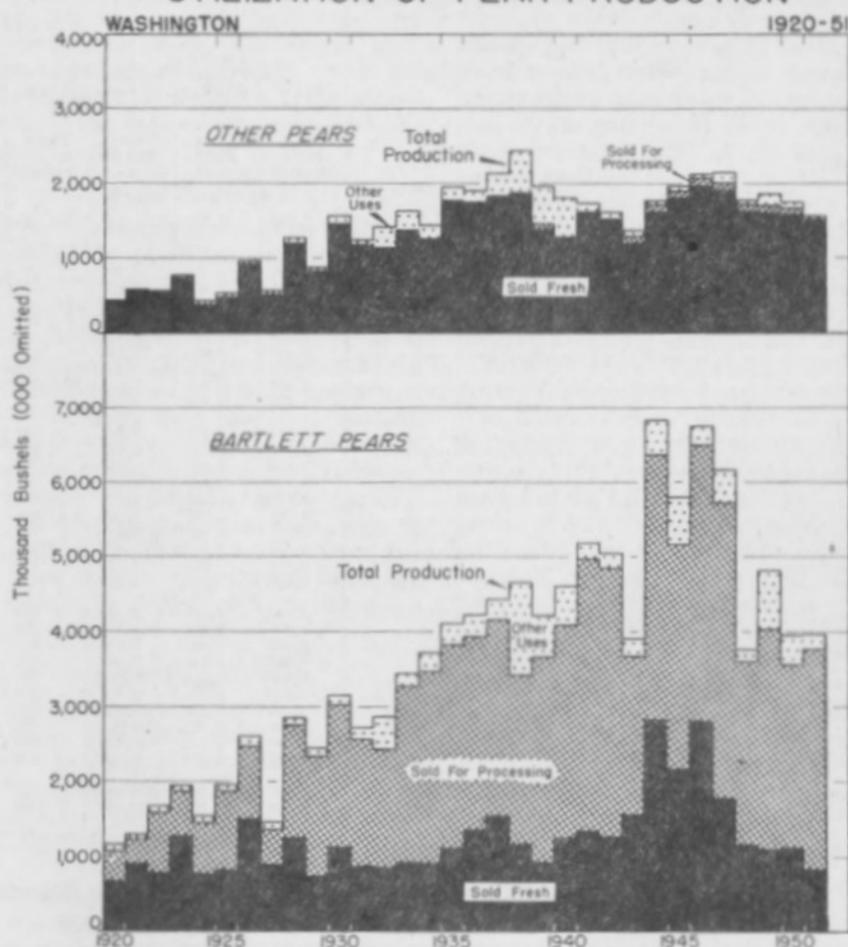


Figure 27. Many more Bartlett pears than winter pears (other pears) are produced in Washington. The production of Bartletts did not reach its peak until 1944, whereas the peak for other pears was about 1937. The greater share of the Bartlett pear crop is sold to processors, although in both 1944 and 1946 almost 3,000,000 bushels were sold on fresh markets. In contrast, the bulk of the winter pears are sold fresh and only a small amount is processed. In most years on record a sizeable amount of the Bartlett pear crop is not sold. Unusual cullage and abandonment before harvest has been important in some years.

In 1934 the Bartlett pear crop set a record up to that time of 3,724,000 bushels, but the 1934 crop was exceeded in every one of the 17 years 1934-1951. The Bartlett crop exceeded four million bushels in 13 of the years 1934-1951, was over 5,000,000 bushels in six of the years, and over 6,000,000 bushels in three of the years. The present record production for Bartlett pears in Washington of 6,885,000 bushels was set in 1944.

Among Washington's pear trees of varieties other than Bartlett, about 70 percent were D'Anjous and about 15 percent Bosc, with Nelis the chief variety among the remaining 15 percent of "other pears." The record of production of pears other than Bartletts, dating back to 1919, showed a sharp increase in the late 1920's, a small increase in the late 1930's, and rather small fluctuations since that time. The smallest crop of record was in 1924 when only 410,000

bushels were reported harvested, and the largest in 1938 when 2,451,000 bushels were produced.

However, the production of pears other than Bartletts has been more consistent in recent years than that of most other fruit crops. In the 22-year period from 1930 to 1951 there were 14 years in which the production of other pears was more than 1,500,000 bushels but less than 2,000,000 bushels. In four years the crop was less than 1,500,000 bushels, and in four other years the crop was larger than 2,000,000 bushels.

Value of Production

Over the years since 1919 Bartlett pears have, on the average, accounted for almost two-thirds of the total value of production of all pears, and other pears for a little over one-third. Of course, there have been wide differences in this ratio by years, depending upon the weather in a particular year. In

Table 37.—Bartlett Pears: Production, Disposition, Utilization, and Value, Washington, 1919-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES			
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Dried	Other
	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels
1919	1,259	1,259	2,203	91	1,168	2,044	873	295		
1920	1,157	1,157	1,909	94	1,063	1,754	663	400		
1921	1,300	1,300	1,950	96	1,204	1,806	899	305		
1922	1,684	1,684	1,600	100	1,584	1,505	781	803		
1923	1,956	1,966	2,886	91	1,865	2,704	1,283	582		
1924	1,537	1,537	2,612	102	1,435	2,440	777	658		
1925	1,966	1,966	2,949	95	1,871	2,806	809	1,062		
1926	2,612	2,612	2,220	120	2,492	2,118	1,504	988		
1927	1,473	1,473	2,283	92	1,381	2,141	875	506		
1928	2,876	2,876	3,020	120	2,756	2,894	1,256	1,500		
1929	2,458	2,458	4,793	118	2,340	4,563	724	1,616		
1930	3,174	3,174	1,904	157	3,017	1,810	1,117	1,900		
1931	2,732	2,732	1,912	145	2,587	1,811	867	1,720		
1932	2,895	2,595	753	169	2,426	704	846	1,580		
1933	3,452	3,452	1,381	186	3,266	1,306	926	2,340		
1934	3,724	3,624	2,718	144	3,480	2,610	914	2,566		
1935	4,111	3,981	1,990	153	3,828	1,914	1,112	2,716		
1936	4,233	4,102	2,666	162	3,940	2,561	1,377	2,662		1
1937	4,450	4,347	2,826	172	4,175	2,714	1,549	2,624		2
1938	4,670	3,585	1,613	181	3,404	1,532	1,194	2,118		90
1939	4,220	3,875	2,906	190	3,685	2,764	946	2,600		137
1940	4,620	4,299	2,794	199	4,100	2,665	1,258	2,840		2
1941	5,200	5,200	5,460	206	4,994	5,244	1,351	3,625		18
1942	5,063	5,063	9,012	207	4,856	8,644	1,294	3,562		
1943	3,906	3,906	9,062	238	3,668	8,510	1,572	2,042		54
1944	6,885	6,598	12,338	238	6,360	11,893	2,849	3,422		60
1945	5,800	5,400	10,152	238	5,162	9,706	2,187	2,760		151
1946	6,750	6,750	13,838	238	6,512	13,350	2,810	3,526		80
1947	6,156	5,971	11,945	238	5,733	10,893	1,790	3,803		23
1948	3,780	3,780	10,622	190	3,590	10,080	1,173	2,314		103
1949	4,822	4,222	3,758	190	4,062	3,588	1,108	2,776		148
1950	3,950	3,742	10,328	181	3,561	9,828	1,136	2,244		181
1951	3,970	3,970	10,838	180	3,790	10,347	830	2,840		120

Table 38.—Pears Other Than Bartlett: Production, Disposition, Utilization, and Value, Washington, 1919-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES			
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Canned	Dried	Other
	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Dollars	Thousand Bushels	Thousand Bushels	Thousand Bushels	Thousand Bushels
1919	470	470	1,128	43	427	1,025	427			
1920	449	449	780	50	399	698	399			
1921	575	575	1,121	45	530	1,034	530			
1922	556	556	778	50	506	708	506			
1923	772	772	1,351	40	732	1,281	732			
1924	410	410	1,004	48	362	887	362			
1925	518	518	1,010	42	476	928	476			
1926	988	988	1,433	65	923	1,338	923			
1927	543	543	1,330	42	501	1,227	501			
1928	1,264	1,264	2,022	64	1,200	1,920	1,200			
1929	864	864	1,771	54	810	1,660	810			
1930	1,543	1,543	1,852	67	1,476	1,771	1,446	30		
1931	1,244	1,244	1,617	61	1,183	1,538	1,153	30		
1932	1,412	1,212	667	72	1,140	627	1,110	30		
1933	1,032	1,452	1,234	72	1,380	1,173	1,350	30		
1934	1,420	1,357	1,221	69	1,288	1,159	1,248	49		
1935	1,980	1,841	1,841	68	1,773	1,773	1,729	44		
1936	1,900	1,807	1,897	67	1,740	1,827	1,700	40		
1937	2,150	1,894	1,610	66	1,828	1,554	1,788	49		
1938	2,451	1,967	1,859	65	1,892	1,797	1,860	32		
1939	1,980	1,528	1,299	64	1,464	1,244	1,353	71		40
1940	1,800	1,357	1,221	62	1,295	1,166	1,251	40		4
1941	1,754	1,670	2,422	61	1,609	2,333	1,604	1		2
1942	1,612	1,582	3,385	61	1,521	3,255	1,497			23
1943	1,360	1,360	5,086	62	1,298	4,855	1,208	3		43
1944	1,780	1,780	5,660	62	1,718	5,463	1,640			68
1945	1,970	1,970	6,600	66	1,904	6,378	1,800	10		75
1946	2,140	2,140	6,891	60	2,080	6,698	1,933			115
1947	2,149	2,063	5,364	60	2,003	5,208	1,907			75
1948	1,775	1,775	4,118	60	1,715	3,979	1,619	88		8
1949	1,855	1,760	3,572	60	1,700	3,740	1,640	50		10
1950	1,753	1,753	4,120	60	1,693	3,979	1,486	20		140
1951	1,584	1,584	4,578	60	1,524	4,404	1,510	14		

1938 and again in 1949 the pears other than Bartletts had a value of production greater than the Bartletts.

Value of production of the Bartlett pear crop has ranged from a low of \$753,000 in 1932 to a high of \$13,833,000 in 1946. Average value of the crop was lower in the 1930's than during the 1920's, even though production was far larger, because prices were so low during the depression of the 1930's.

Conversely, value of the crop increased much faster than production during the 1940's when all prices were stimulated by World War II. Before 1942 the value of the crop had never reached \$6,000,000; following 1942 the value was over \$9,000,000 in every year except 1949. The lowest season average price of record was in 1932 when Bartlett pears were worth less than 30 cents per bushel. The highest price was established in 1948 at more than \$2.80 a bushel. In 14 of the 33 years of record, Bartlett pears have sold at an average of less than \$1.00 per bushel.

The value of production of pears other than Bartletts varied from a low of \$667,000 in 1932 to a high of \$6,891,000 in 1946. Total value of the other pear crop averaged higher during the 1930's than during the 1920's because production increases more than offset lower prices. Dollar value of the crop skyrocketed in

the 1940's. Before 1942 the value of the crop had never reached \$2,500,000, but after that year the value was over \$4,000,000, in every year except 1949. The lowest season average price for other pears was the 55 cents per bushel received by farmers in 1932, and the highest price was \$3.74 in 1943.

Farm Disposition

The tonnage of pears used on the farms where grown increased slowly over the years, but gradually became relatively smaller in proportion to the tonnage sold. Home consumption of pears, however, is still important. Farm use accounted for an average of about 240,000 bushels of pears annually over the years 1927-51. More than three-fourths of the pears used on producing farms are Bartletts, indicating considerable home canning. In most years there are more than 20 bushels of pears sold for every bushel used on farms—even though there are thousands of small home orchards which sell no fruit.

Utilization of Sales

Records are available on the utilization of pears sold each year, beginning in 1919. In that year less than 20 percent of the sales were made to processors, and over 80 percent were made through the fresh market channels. Canning of

pears increased so rapidly during the late 1920's and early 1930's that over the last 20 years sales to processors have been about equal to fresh market sales. This trend toward processing, of course, has characterized most fruits as the population of the nation has become increasingly urbanized and as families have become smaller.

For many years the bulk of the Bartlett pear crop has been used for canning. Over the 20 years 1932-51 the tonnage of Bartletts used annually by canners was about double the tonnage sold for fresh market use. Fresh market sales were more important than usual during the war years from 1943 through 1946. Canners used over 2,000,000 bushels of Bartlett pears each year from 1933 through 1951, and over 3,800,000 bushels were canned in 1947. During the same period of time fresh market sales of Bartlett pears have been considerably more variable, ranging from a high of over 2,800,000 bushels in 1944 to a low of only 830,000 bushels in 1951.

The pears other than Bartletts are sold almost exclusively for use as fresh fruit, although in some years a few are canned, dried, or used for other types of processing. Of course, many of the Bosc, D'Anjou, and Nelis pears that are purchased on the fresh market by the housewife are canned before they are consumed.

Table 39.—Prunes: Production, Disposition, Utilization, and Value, Washington, 1919-1951

Year	PRODUCTION			FARM DISPOSITION			UTILIZATION OF SALES					
	Total	Production Having Value	Value of Production	Used on Farm	Sold	Value of Sales	Fresh	Dried	Canned	Frozen	Other	
	Tons	Tons	Thousand Dollars	Tons	Tons	Thousand Dollars	Tons	Tons	Tons	Tons	Tons	
1919	22,000	22,000	2,388									
1920	21,400	21,000	1,553									
1921	14,100	14,100	954									
1922	21,500	21,800	1,082									
1923	26,600	26,600	861									
1924	25,600	25,600	1,424									
1925	20,200	20,200	958									
1926	35,700	35,700	1,326									
1927	23,900	23,900	799									
1928	21,700	21,700	725									
1929	50,300	50,300	1,689	1,900	48,400	1,625	18,500	25,800	4,100			
1930	38,800	35,800	979	1,900	33,900	927	15,300	14,400	4,200			
1931	27,800	27,800	626	2,000	25,800	581	8,300	15,600	1,900			
1932	29,100	24,400	509	2,000	22,400	467	11,100	10,100	1,200			
1933	30,300	25,800	828	2,100	23,700	761	15,000	6,500	2,200			
1934	38,800	36,000	990	2,600	33,400	918	15,200	13,700	4,400			100
1935	45,200	41,400	1,077	2,600	38,800	1,009	12,900	19,000	6,800			100
1936	24,700	24,200	762	2,200	22,000	693	12,900	4,500	4,500			100
1937	18,600	17,400	609	2,200	15,200	532	8,600	1,900	4,600			100
1938	25,700	22,300	621	2,200	20,100	560	14,200	3,400	2,300			200
1939	32,900	30,100	611	2,400	27,700	562	13,300	7,100	7,000			300
1940	18,900	18,900	514	1,800	17,100	465	8,400	400	8,100			200
1941	22,300	21,200	731	2,200	19,000	655	9,600	1,300	7,870			30
1942	23,500	21,900	1,533	2,100	19,800	1,386	15,000	300	3,700			400
1943	23,000	22,470	2,693	2,000	20,470	2,453	12,300	2,100	4,370			1,500
1944	25,800	25,800	2,453	1,800	24,000	2,282	15,610	840	6,030			1,130
1945	26,000	26,000	2,270	1,800	24,200	2,113	13,400	850	7,700			1,750
1946	29,100	29,100	2,647	2,000	27,100	2,465	10,600	810	14,890			510
1947	23,100	23,100	2,077	2,000	21,100	1,897	10,830	350	9,570			150
1948	19,000	17,900	1,054	1,340	16,560	975	11,130	180	4,950			150
1949	23,700	17,810	626	1,870	15,940	560	10,000	700	4,600			300
1950	13,600	13,600	1,537	930	12,670	1,432	9,470		3,030			170
1951	13,600	13,600	1,195	1,480	12,120	1,065	8,660		3,200			240

UTILIZATION OF TOTAL PRUNE PRODUCTION

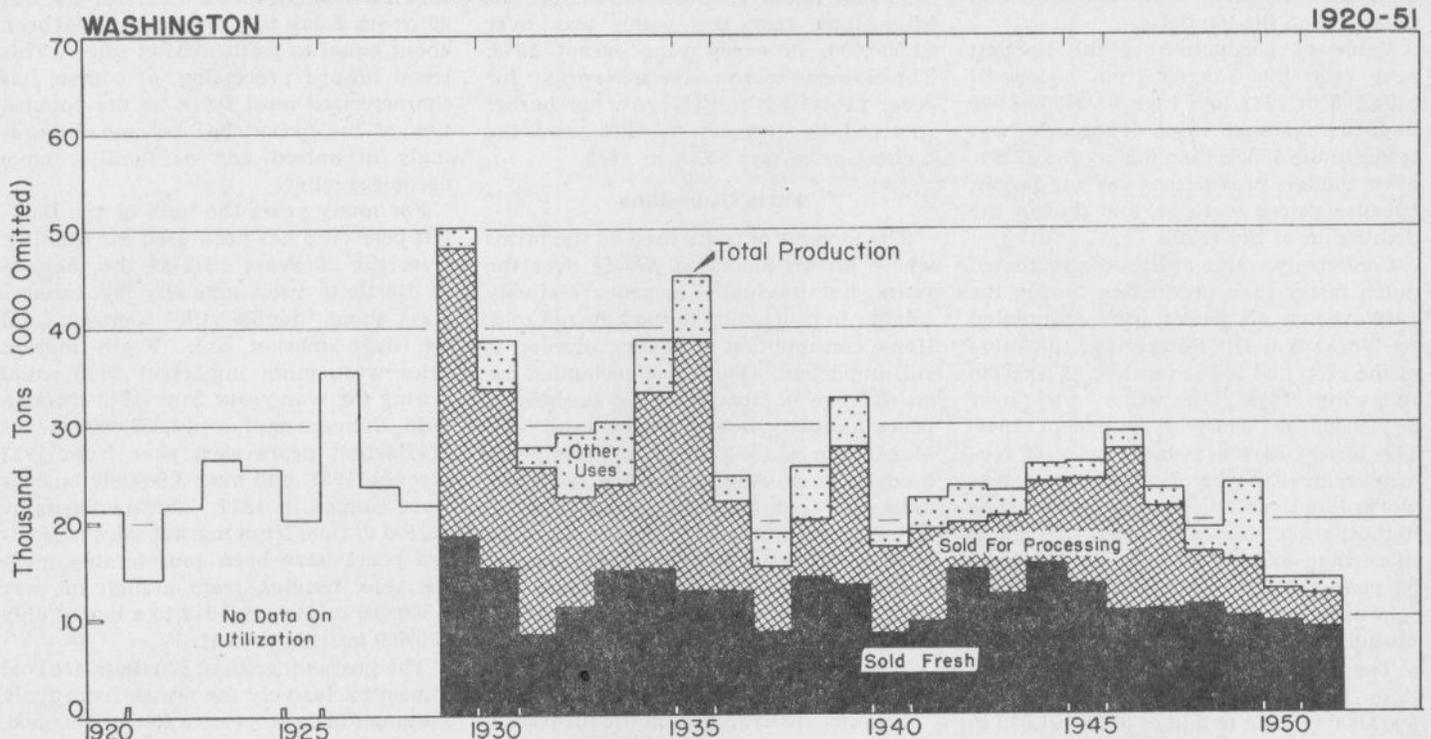


Figure 28. Prune production in Washington has shown a downward trend since the 1929 production peak. For a period from 1938 to about 1949 production appears to have been rather stable, with some annual variation due to weather. Prior to 1929 there was no data on utilization. The amount reaching the consumer through fresh market channels has been remarkably uniform. The decline in production was reflected in a decline in the processing of prunes. This became very marked after about 1935 and especially after 1947. A fairly sizeable quantity of prunes is used in the farm households. This is especially true of the prunes raised on farms west of the Cascade Mountains.

PRUNES AND PLUMS

The records on production of prunes and plums in Washington extend over the 33 years from 1919 to 1951, inclusive. There are great differences in production from year to year which are largely due to the influence of weather, but the long-time trend was upward until 1929 and downward thereafter. The long-time trend in production is closely associated with the ups and downs in numbers of bearing trees, which increased until 1930 and then declined in subsequent years.

During the span of 33 years Washington's plum and prune production was over 30,000 tons in seven years, and less than 20,000 tons in six different years. In 20 of the 33 seasons prune and plum production ranged between 20,000 and 30,000 tons.

Total production in Washington in 1929 amounted to over 50,000 tons of prunes and plums, the highest record through 1951. During the decade from 1926 to 1935 the state's production exceeded 30,000 tons six times. Before 1926 the highest production of record was in the favorable year 1923, when 26,000 tons were produced. The seasons of 1939 and 1946 were outstanding in the period after 1935, with production around the 30,000 ton level.

The lowest production on record—13,600 tons—came in 1950 and was repeated again in 1951. Other unusually low years of production after the records were started in 1919 were 1921 with 14,100 tons, 1937 with 18,600 tons, 1940 with 18,900 tons, and 1948 with 19,000 tons.

There have been 15 years of the 33 years on record in which a part of the sound fruit produced was left unharvested as economic abandonment. The quantity of prunes and plums left on trees was greatest during the depression years from 1932 to 1935 when prices were very low. It occurred again in 1949 when the state had unusually large crops of the other soft fruits as well as a relatively large prune crop.

The dollar value of the prune and plum crop has shown tremendous variation over the years, with average prices showing even more instability than production. In six of the 33 years of record the crop has exceeded \$2,000,000 in value. The highest year was 1943 when the crop was valued at \$2,693,000. Other high-value years were 1919 and the four years 1944 through 1947. In seven years the value of the crop fell below \$700,000, with a record low of \$509,000 in 1932. Other low-value years were 1931, the four years 1937 through 1940, and 1949. In the other 20 years of record, the value

of the crop exceeded one million dollars in ten seasons and has fallen short of the million-dollar mark ten times.

Disposition

Records on the disposition of prunes and plums were started in 1929. These records show how much of the harvested tonnage was sold and how much was used on the farms of producers each year. The tonnage for farm use has been rather stable over the years, so that the tonnage sold each year has been almost directly proportional to the total amount harvested. Home farm use has usually accounted for 1,800 to 2,600 tons annually.

Utilization

Data on the utilization of prunes and plums sold are available beginning with the year 1929. Sales are classified as fresh market or processed, and the processor sales are further broken down by uses such as drying, freezing, canning, and other.

The most impressive feature of the utilization records is the increasing importance of fresh market sales in recent years. The actual volume of fresh sales have comprised a larger proportion of all sales in recent years than was the case earlier. In 14 years out of the 23

years of record, fresh market sales have exceeded all processing sales. This was the case in every year after 1940 except for 1946, and was also true of 1933 and in the years 1936 to 1938.

The largest volume of fresh market sales for any single year was recorded in 1929 when 18,500 tons were sold fresh. Fresh market sales that year made up about 38 percent of all sales. In 1951 fresh market sales amounted to only 8,660 tons, but this volume represented over 70 percent of all sales.

Historically, the major use of prunes and plums by processors was prunes for drying. During the early years of the 1930's drying was still the principal processing use for the crop, but by 1940 drying had become second to canning, and after 1945 more tonnage was canned and frozen than dried.

During the 23 years of record, canning has been an important use for prunes and plums. During this period the volume canned was less than 3,000 tons in only four years, and was more than

7,000 tons in only six years. However, after 1940 more prunes and plums were canned each year than were used in all other kinds of processing.

Freezing of prunes and plums is a relatively new development, starting in 1941. However, the tonnage used for freezing became rather insignificant in most years after 1945. The largest volume used by freezers was in the years 1943, 1944, and 1945 when over 1,000 tons were frozen each year.

INDEX

Adams County

Apples
 production 2
 trees 2, 3, 15, 16
 Apricots
 production 4
 trees 4, 5, 15, 16
 Cherries, All
 production 6
 trees 6, 15, 16
 Peaches
 production 8
 trees 8, 9, 15, 16
 Pears
 production 12
 trees 13, 14, 15, 16

Alabama

Apples
 disposition 51, 52
 sold 50, 52
 used on farm 50, 52
 production 1, 2, 17, 49, 50, 51, 52
 by years 50
 having value 24, 25
 size of orchard 24, 25
 trees 3, 3, 15, 16, 19
 all ages 3
 bearing age 2
 by selected counties 20, 21, 22, 23
 by varieties 20, 21, 22, 23
 by year of planting 20, 21, 22, 23
 non-bearing age 3, 15, 16
 utilization 50, 51, 52
 canned 50, 52
 dried 50, 52
 fresh sales 50, 51, 52
 frozen 50, 52
 processing 51
 value 1, 17, 50
 by years 17, 50

Apricots

disposition 52, 53
 used on farms 53
 production 1, 4, 17, 49, 52, 53
 by years 4, 17, 53
 trees 19
 all ages 27, 28, 29
 bearing age 27, 28, 29
 by varieties 27, 28, 29
 non-bearing age 15, 16
 utilization 52
 canned 53
 dried 53
 fresh sales 53
 frozen 53
 processing 53
 value 1, 17, 53
 by years 17, 53

Arkansas

Asotin County
 Apples
 production 2
 trees 2, 3, 15, 16
 Apricots
 production 4
 trees 4, 5, 15, 16
 Cherries, All
 production 6
 trees 6, 15, 16
 Peaches
 production 8
 trees 8, 9, 15, 16
 Pears
 production 12
 trees 12, 15, 16
 Prunes and Plums
 production 14
 trees 13, 14, 15, 16

Bartlett Pears

disposition 60, 61
 sold 60, 61
 used on farms 60, 61
 production 59, 60, 61
 trees 40
 by selected counties 40, 41, 42, 43, 44
 by year of planting 40, 41, 42, 43, 44
 utilization 59, 60, 61
 canned 60, 61
 dried 60, 61
 fresh 59, 60, 61
 processed 59
 value 60

Benton County

Apples
 production 2
 trees 2, 3, 15, 16
 by varieties 20, 21, 22, 23
 by year of planting 20, 21, 22, 23
 Apricots
 production 4
 trees 4, 5, 15, 16, 30
 by varieties 27, 28, 29, 30
 by year of planting 27, 28, 29, 30
 Cherries, All
 production 6
 trees 6, 15, 16
 Cherries, Sweet
 trees 35
 by varieties 31, 32, 33, 34
 by year of planting 31, 32, 33, 34
 Cherries, Sour
 trees 31, 34, 35
 Peaches
 production 8
 trees 8, 9, 15, 16, 39
 by varieties 35, 36, 37, 38, 39
 by year of planting 35, 38, 39
 Pears
 production 12
 trees 12, 15, 16
 Prunes and Plums
 production 13, 14
 trees 13, 14, 15, 16
 by varieties 45, 46, 47, 48
 by year of planting 45, 46, 47, 48

Bing Cherries

trees
 by ages 31, 34
 by selected counties 31, 32, 33, 34

Bosc Pears

trees
 by selected counties 40, 41, 42, 43, 44
 by year of planting 40, 41, 42, 43, 44

Brined Fruit

Cherries, Sweet 54

California

..... 21, 27, 31, 35, 39, 43, 49, 50, 51

Canned Fruit

Apples 50
 Apricots 53
 Cherries 54
 Peaches 56
 Pears 58, 60, 61
 Prunes 61

Chelan County

Apples
 production 2
 size of orchard 24, 25
 trees 2, 3, 15, 16, 20, 22, 26
 by varieties 20, 21, 22, 23
 by year of planting 20, 21, 22, 23

Apricots

production 4
 trees 4, 5, 15, 16, 30
 by age of planting 27, 28, 29
 by variety 27, 28, 29

Cherries, All

production 6
 trees 6, 15, 16

Cherries, Sweet

trees 31, 34, 35
 by varieties 31, 32, 33, 34
 by year of planting 31, 32, 33, 34

Cherries, Sour

trees 31, 32, 33, 35

Peaches

production 2, 10
 size of orchard 24, 25
 trees 8, 9, 10, 15, 16, 39
 by varieties 40, 41, 42, 43
 by year of planting 35, 36, 37, 38, 39

Pears

production 10, 12
 trees 10, 12, 15, 16
 by varieties 40, 41, 42, 43
 by year of planting 40, 41, 42, 43

Prunes and Plums

production 14
 trees 13, 14, 15, 16
 by year of planting 45, 46, 47, 48
 by variety 45, 46, 47, 48

Cherries, All

disposition 54, 55
 fresh sales 54, 55
 used on farms 54, 55
 production 1, 6, 9, 17, 40, 54, 55
 by years 6, 17, 54
 trees 6, 9, 15, 16, 19
 by selected counties 31, 32, 33, 34
 by varieties 31, 32, 33, 34
 by year of planting 31, 32, 33, 34
 utilization 54, 55, 56
 brined 54, 55
 canned 54, 55
 dried 54, 55
 fresh sales 54, 55
 frozen 54
 values 1, 17, 54
 by years 17, 54

Cherries, Sweet

disposition
 sales 54
 used on farm 54
 production 54, 55
 trees 7, 34
 by selected counties 31, 32, 33, 34
 by varieties 31, 32, 33, 34
 by year of planting 31, 32, 33, 34
 utilization
 brined 54
 canned 54
 fresh sales 55
 frozen 54
 processing 55

Cherries, Sour

disposition
 sold 54
 used on farm 54
 production 54, 55
 trees 31, 32, 33, 34
 utilization
 canned 54
 fresh sales 54, 55
 frozen 54
 processing 55