

WASHINGTON Fruit Survey 1986



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U.S. Dept. of Agriculture
Washington State Dept. of Agriculture

WASHINGTON FRUIT SURVEY 1986

Prepared by:

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Acknowledgments

This bulletin presents the results of the Fruit Tree Survey carried out this past spring. It provides the first detailed inventory of Washington's fruit trees by age, variety, and planting density in more than a quarter of a century. Similar surveys were conducted in 1949 and 1959. The remarkable cooperation of fruit growers indicates a strong public spirit and interest in the future of their industry. The near perfect response of growers was gratifying and helped keep survey costs at a minimum.

Many people had a part in conducting and publishing the Fruit Tree Survey. From the beginning, Tom Hale of the Washington State Apple Commission had sought to improve basic information of the State's fruit production base and thus improve planning and development of the industry. Tom deserves much credit for getting this project started. Also, the Washington Fruit Commission was of great assistance in the publicity given to the survey. The Cooperative Extension Service was a strong supporter and provided much assistance in the field. The late Ron Tukey provided invaluable knowledge in areas of questionnaire design and classification of the hundreds of fruit varieties covered in the survey. Our thanks go to these and many other fruit associations and individual growers who have helped.

The added workload for this survey fell largely on our regular staff and especially Jerry McCall, who was the project leader. The long days of extra work, beyond the normal busy schedule, are appreciated.

Respectfully,

Lloyd Garrett
Statistician in Charge

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The objective of the Fruit Acreage Survey was to survey the entire State for all tree fruits. Information to be collected included acreage and tree counts by age of planting and by variety as of January 1, 1986. Strains for Red Delicious apples and Red Strain pears were to be included as an additional breakout.

Survey Design and Data Collection

The Fruit Acreage Survey was designed as a multiple frame survey. Extensive list building was done during December 1985-January 1986 to augment existing list of orchards. Orchardists with grapes only were eliminated from the universe of orchards to be surveyed. The universe of orchards was stratified based on their total fruit acreage. An area frame estimator was developed using the mid-year Enumerative Survey to account for orchards not on the list.

Data collection was completed by mail, telephone, and personal interviews. Orchardists identified the county where their orchards were located and an inventory of the acreage by type of fruit on the face page of the questionnaire. Detailed information was requested for each block of fruit. The operators defined their own blocks (areas of land in their orchards). Harvested pollenizers and interplanted trees were included in tree counts and non-harvested pollenizers were excluded from tree counts.

Questionnaires were mailed to all strata. Telephone follow-up interviews were conducted for the small and medium strata. Personal interviews were conducted for the medium and large strata. Less than 2 percent of the orchardists contacted elected not to participate in the survey.

Information from the area frame was obtained for orchards that were operated in segments of land defined on aerial photos, but were not represented by orchards on our list. If an orchard was in one of these segments and was also represented on the list of orchards, information from the list questionnaire was used to represent this orchard.

Questionnaires received from growers were edited manually for legibility and coding. Identifying codes were entered for the county of operation, block/sub-block and strain/variety of each fruit. Each sub-block (line of data) had to be complete for fruit strain/variety, year planted, spacing pattern, and number of trees. Each block had to have an acreage, and only one type of fruit. There were three levels of completion. A complete report had entire orchard information plus all the detail information for blocks. A partial report had entire orchard data, but no block information. The inaccessible report had only control data (used to classify the operation) and no other data. The ratio of the complete and partial reports to their control data was used to account for the inaccessible reports. The ratio of the complete reports block data to entire operation was used to adjust the partial, inaccessible and area frame data.

The spacing pattern was used to determine the trees per acre density for each sub-block for apples. Acreage was assigned to each sub-block based on one of three methods. Some operators reported acreage for each line. Other operators reported the block acreage with multiple sub-blocks. If the calculated acreage for a block based on tree counts and spacing indicated interplanting, the block acreage was allocated to each sub-block proportional to the tree count. If interplanting was not involved in the block, the sub-block acreage was assigned proportional to the calculated acreage from the tree spacing.

Data presented in this bulletin are survey expansions and not official estimates. Data are presented for all strains/varieties that represented one percent of the State total. Acreage have been rounded to the nearest 5 acres and trees to the nearest 100 trees.

Major Fruit Counties and Districts

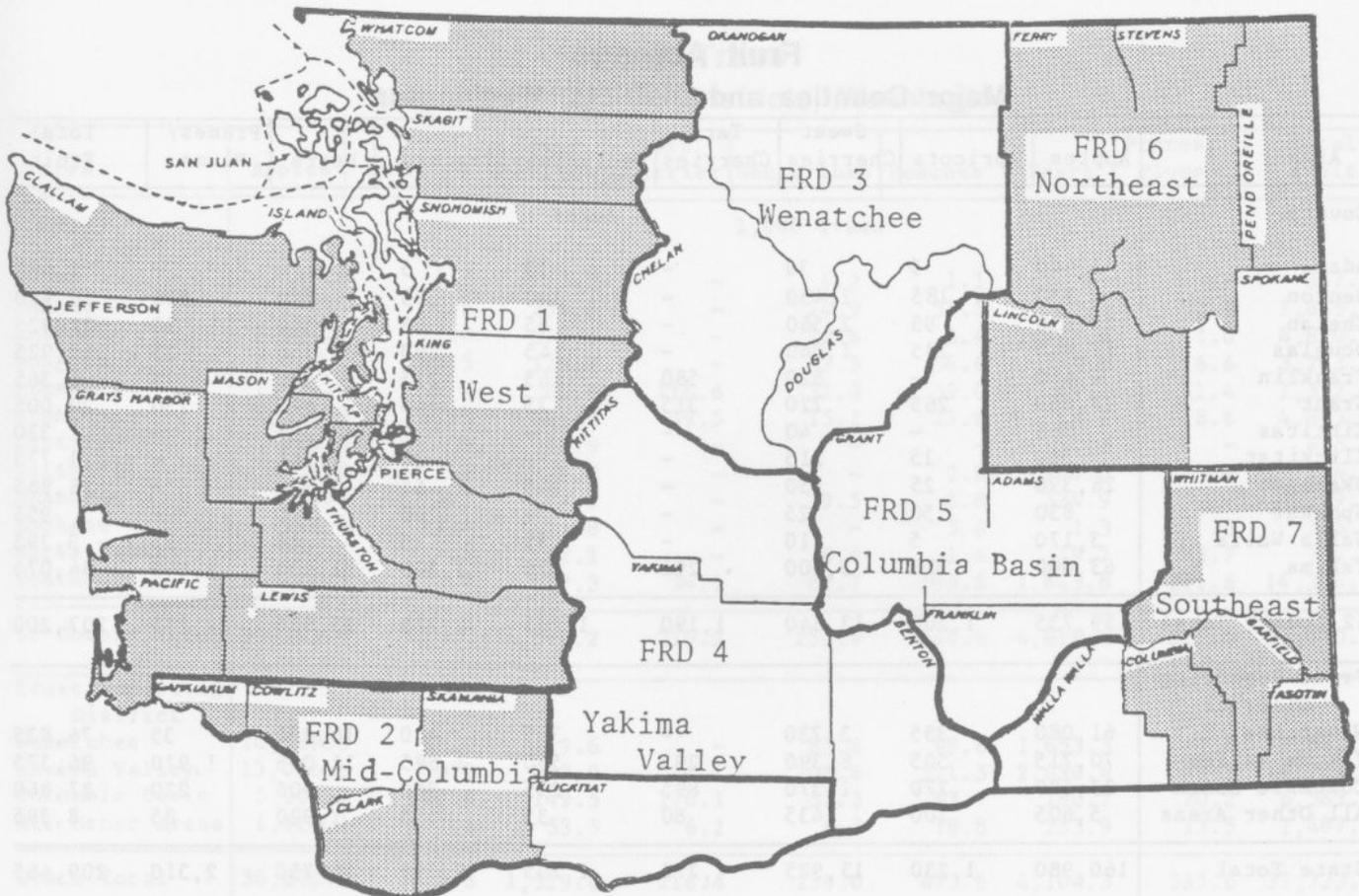
The Fruit Acreage Survey was conducted statewide. Fruit was reported in 29 of Washington's 39 counties. Nine major counties in the Fruit Reporting District of Wenatchee, Yakima Valley, and Columbia Basin account for 96 percent of the State's total fruit acreage. The addition of three more counties, (Klickitat, Spokane, and Walla Walla) bring the total to 99 percent of the State's total fruit acreage.

Counties have been grouped into Fruit Reporting Districts. Washington is divided into seven Fruit Reporting Districts of which three are major and represent nine counties. Information presented in this publication for Other Districts represents all counties in the West, Mid-Columbia, Northwest, and Southeast Fruit Districts.

The information listed in the bulletin for other counties represent all counties not listed separately.

The shaded portion of the map defines the counties grouped for the Other County total. The counties grouped for each Fruit Reporting District and counties listed separately are not shaded.

Fruit Reporting Districts (FRD)



Fruit Inventory - Acreage

January 1, 1986

The Fruit Acreage Survey of Washington tree fruit acreage indicates a total of 209.5 thousand acres of fruit. Apples account for over three-fourths of the acreage at 160,980 acres. Pears were the second ranking fruit crop with 25,750 acres and sweet cherries were the third ranking fruit at 13,925 acres.

The leading fruit area was the Yakima Valley District which includes Benton, Kittitas, and Yakima Counties. Yakima County is the leading county in this district and the State with 84,075 acres or 40% of the State's total. Chelan, Douglas, and Okanogan Counties are grouped to form the Wenatchee District and are the next ranking area with 76,835 acres. Chelan County is the leading county for this district and second ranking county in the State. The Columbia Basin District includes Adams, Grant, and Franklin Counties and has 27,860 acres of fruit. Grant is the leading county for this district and the fourth largest county in the State's fruit ranking.

Peaches were the fourth ranking crop at 2,795 acres. Prunes and plums acreage was 2,310 acres. Tart cherries, apricots, and nectarines had about equal acreage, although tart cherries were grown in only three major counties. Tart cherry acreage totaled 1,270 acres, apricots 1,230 acres, and nectarines at 1,205 acres.

Fruit Acreage Major Counties and Districts, Washington

Area	Apples	Apricots	Sweet Cherries	Tart Cherries	Nectarines	Peaches	Pears	Prunes/ Plums	Total Fruit
County	Acres								
Adams	1,440	5	30	-	15	5	-	-	1,495
Benton	6,750	185	2,450	-	140	395	520	530	10,970
Chelan	21,650	95	2,560	-	65	45	7,500	10	31,925
Douglas	13,040	235	1,040	-	145	290	1,150	25	15,925
Franklin	4,480	-	620	580	165	215	230	75	6,365
Grant	17,660	265	720	315	75	145	675	150	20,005
Kittitas	965	-	40	-	-	-	325	-	1,330
Klickitat	360	15	215	-	-	20	1,165	-	1,775
Okanogan	26,390	25	130	-	145	65	2,230	-	28,985
Spokane	830	50	25	-	-	40	10	-	955
Walla Walla	3,170	5	110	-	35	5	45	25	3,395
Yakima	63,000	320	5,900	295	420	1,500	11,200	1,440	84,075
12 County Total	159,735	1,200	13,840	1,190	1,205	2,725	25,050	2,255	207,200
Fruit Reporting District									
Wenatchee	61,080	355	3,730	-	355	400	10,880	35	76,835
Yakima Valley	70,715	505	8,390	295	560	1,895	12,045	1,970	96,375
Columbia Basin	23,580	270	1,370	895	255	365	905	220	27,860
All Other Areas	5,605	100	435	80	35	135	1,920	85	8,395
State Total	160,980	1,230	13,925	1,270	1,205	2,795	25,750	2,310	209,465

Fruit Inventory - Trees

January 1, 1986

The inventory of fruit trees in Washington on January 1, 1986 totaled 37.7 million trees. Apples accounted for the lion's share with 30.6 million trees and a slightly higher percent of the State's total than the acreage percentage--81% of the total trees compared with 77% of the acreage. Pear tree inventory totaled 4.1 million and sweet cherries accounted for 1.5 million trees.

The distribution of all fruit trees was similar to the acreage. The Columbia Basin had a higher percentage of the trees than acreage due to a higher density of trees planted recently.

The inventory of peach trees totaled 473.6 thousand trees. Yakima County accounted for a slightly higher percent of the trees (56%) compared with Yakima's percent of the State acreage (54%). The Yakima Valley has over two-thirds of the State's peach trees.

Prunes and plums totaled 335 thousand trees. Yakima County has 66% of the State's total prunes and plums, and the Yakima Valley accounts for 88% of the total trees.

Tart cherry and apricot tree inventory held the same relationship as the acreage and totaled 216.4 and 207.3 thousand trees respectively.

Nectarine tree inventory totaled 254,000. The Yakima Valley inventory was the largest area, but the Wenatchee District had a higher density of trees. Wenatchee accounted for 35% of the State's trees and 29% of the nectarine acreage.

Fruit Trees Major Counties and Districts, Washington

Area	Apples	Apricots	Sweet Cherries	Tart Cherries	Nectarines	Peaches	Pears	Prunes/Plums	Total Fruit
County	1,000 Trees								
Adams	347.9	1.1	3.5	-	4.2	1.1	-	-	357.8
Benton	1,293.6	35.6	251.8	-	24.9	57.5	80.4	72.1	1,815.9
Chelan	3,384.2	11.0	279.5	-	16.6	6.4	1,121.4	1.0	4,820.1
Douglas	2,810.7	40.5	120.2	-	33.5	54.6	197.0	6.6	3,263.1
Franklin	1,029.0	-	61.9	116.6	32.0	39.0	42.1	11.4	1,332.0
Grant	4,536.3	47.3	84.1	59.5	15.1	23.6	118.6	8.8	4,893.3
Kittitas	479.4	-	15.9	-	-	-	110.2	-	605.5
Klickitat	52.0	2.1	19.2	-	-	2.8	148.0	-	224.1
Okanogan	4,372.1	4.5	19.9	-	39.5	8.8	334.9	-	4,779.7
Spokane	119.4	7.4	1.8	-	-	5.6	1.3	.3	135.8
Walla Walla	730.7	.8	22.1	-	6.4	1.4	19.7	3.7	784.8
Yakima	11,228.5	53.7	639.3	34.1	81.7	263.8	1,845.8	221.6	14,368.5
12 County Total	30,383.8	204.0	1,519.2	210.2	253.9	464.6	4,019.4	325.5	37,380.6
Fruit Reporting District									
Wenatchee	10,567.0	56.0	419.6	-	89.6	69.8	1,653.3	7.6	12,862.9
Yakima Valley	13,001.5	89.3	907.0	34.1	106.6	321.3	2,036.4	293.7	16,789.9
Columbia Basin	5,913.2	48.4	149.5	176.1	51.3	63.7	160.7	20.2	6,583.1
All Other Areas	1,121.1	13.6	53.5	6.2	6.5	18.8	253.9	13.5	1,487.1
State Total	30,602.8	207.3	1,529.6	216.4	254.0	473.6	4,104.3	335.0	37,723.0

Usual Bloom and Harvest Dates, Washington

Area	Usual Dates of Full Bloom	Usual Harvesting Dates		
		Begin	Most Active	Ends
Lower Yakima Valley 1/				
Apples	April 5	July 15	Sept. 10-Oct. 25	October 25
Apricots	April 5	July 5	July 5-July 10	July 20
Sweet Cherries	April 15	June 15	June 25-June 30	July 5
Peaches	April 10	July 15	Aug. 20-Sept. 5	September 15
Pears, Bartletts	April 20	August 10	Aug. 15-Aug. 25	August 30
Pears, Other	April 20	September 5	Sept. 20-Oct. 5	October 20
Plums/Prunes	April 20	August 20	Aug. 20-Aug. 25	October 1
Upper Yakima Valley 2/				
Apples	April 30	September 1	Sept. 15-Oct. 25	November 1
Apricots	April 5	July 20	July 20-July 25	August 1
Sweet Cherries	April 20	June 25	July 1-July 5	July 15
Pears, Bartletts	April 25	August 15	Aug. 25-Sept. 10	September 25
Pears, Other	April 25	September 10	Oct. 10-Oct. 20	October 30
Prosser-Kennewick				
Apricots	March 20	June 25	July 5-July 10	July 15
Sweet Cherries	April 10	June 10	June 15-June 20	June 20
Peaches	April 10	July 10	Aug. 10-Aug. 20	August 25
Plums/Prunes	April 15	August 15	Aug. 25-Sept. 5	September 15
Wenatchee River Zone 3/				
Apples	April 30	August 10	Sept. 5-Sept. 15	October 25
Apricots	April 5	July 5	July 15-July 20	July 20
Sweet Cherries	April 10	June 25	July 1-July 5	July 10
Peaches	April 15	July 20	Sept. 1-Sept. 10	September 15
Pears, Bartletts	April 20	August 10	Aug. 15-Aug. 20	August 25
Pears, Other	April 20	September 5	Sept. 20-Oct. 5	October 15
Wenatchee Intermediate Zone 4/				
Apples	May 5	October 1	Oct. 1-Oct. 10	November 1
Sweet Cherries	April 25	July 1	July 5-July 10	July 15
Pears, Bartletts	April 25	August 15	Aug. 20-Sept. 5	September 15
Pears, Other	April 25	September 10	Oct. 5-Oct. 15	October 25
Wenatchee Upper Zone 5/				
Apples	May 10	October 5	Oct. 5-Oct. 10	November 5
Pears, Bartlett	May 5	August 30	Sept. 5-Sept. 10	September 20
Pears, Other	May 5	September 20	Oct. 15-Oct. 20	November 1
Columbia Basin				
Apples	April 15	August 20	Sept. 1-Sept. 30	October 10
Apricots	April 15	July 5	July 10-July 25	July 30
Sweet Cherries	April 15	June 10	June 15-July 15	July 25
Peaches	April 10	July 5	July 10-July 30	August 5
Pears, Bartlett	April 15	August 10	Aug. 15-Aug. 30	September 10
Pears, Other	April 20	August 25	Sept. 1-Sept. 20	September 30
Plums, Prunes	April 10	August 5	Aug. 10-Aug. 20	August 25

- 1/ Lower Yakima Valley is from Prosser to Union Gap below the City of Yakima.
- 2/ Upper Yakima Valley is the area around the City of Yakima and extending northwest along the Naches River.
- 3/ Wenatchee River Zone is the river bottom lands extending from Wenatchee to the Canadian Border.
- 4/ Wenatchee Intermediate Zone is locations above river bottom lands, such as Cashmere, Entiat, Lake Chelan, Manson, Omak, and Okanogan.
- 5/ Wenatchee Upper Zone are locations which approach the 2,000-foot elevation mark such as Peshastin, Leavenworth, Ardenvoir, and Methow Valley.

