The Vegetable and Specialty Crop Regions of Eastern Washington
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INTRODUCTION

The state of Washington is located in the most northwest corner of the United States. It is bounded by the Pacific Ocean on the west, the Canadian province of British Columbia on the north, the state of Idaho on the east, and the state of Oregon on the south. The Columbia River makes much of this southern boundary.

Washington is one of the smallest states west of the Mississippi River. The greatest distance north and south is 230 miles, while east and west it is 340 miles. Its gross area is 68,192 square miles of which 66,709 is land. In comparison to other states on the West Coast, Oregon is about one and one-half times larger and California is some two and one-half times larger.

The Cascade Mountain Range, extending from north to south, divides Washington into two contrasting areas. Western Washington is characterized by mountains and lowlands, moderate to heavy rainfall, mild temperature, dense forests, a fertile alluvial plain, and extensive inland waterways. Most of the small fruits, ornamentals, and many vegetable crops are grown in this portion of the state. However, shipping, fishing, and the aircraft industry dominate the economy. Urbanization is a constant threat to agriculture in western Washington. Seattle is the center of the heavily populated area.

East of the Cascades the climate is dry. Agriculture, the dominant industry, is associated with extensive dryland farming or intensive cropping under irrigation. In terms of on-farm value, wheat is the leading crop followed closely by apples, potatoes, and other horticultural crops. The value of the leading crops is shown in Table 1.

The importance of horticultural crops in Washington as well as in the United States is shown by the rank among the states. In 1973, Washington ranked first in the production of apples, sweet cherries, hops, spearmint, and dry peas. It ranked second in fall potatoes, pears, green peas, asparagus, peppermint, and alfalfa seed, and third in strawberries, grapes, and Merion Kentucky bluegrass. Washington’s rank in the production of many other crops was nearly as high.

The city of Spokane, near the Idaho border, is the major center of commerce in eastern Washington. Wenatchee and Yakima, on the leeward side of the Cascades, are the two major centers for the fruit industry. Pasco, in the south, is a major shipping point, particularly for grain.

Table 1. Farm Value of Selected Crops Produced in Washington

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1973 Value (million dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>437.1</td>
</tr>
<tr>
<td>Apples</td>
<td>157.3</td>
</tr>
<tr>
<td>Potatoes</td>
<td>102.3</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>44.3</td>
</tr>
<tr>
<td>Hops</td>
<td>27.1</td>
</tr>
<tr>
<td>Pears</td>
<td>26.9</td>
</tr>
<tr>
<td>Dry field peas</td>
<td>20.6</td>
</tr>
<tr>
<td>Cherries</td>
<td>15.8</td>
</tr>
<tr>
<td>Asparagus</td>
<td>14.2</td>
</tr>
<tr>
<td>Green peas</td>
<td>13.9</td>
</tr>
<tr>
<td>Grapes</td>
<td>12.8</td>
</tr>
<tr>
<td>Dry beans</td>
<td>10.7</td>
</tr>
<tr>
<td>Mint</td>
<td>9.7</td>
</tr>
<tr>
<td>Sweet corn</td>
<td>9.5</td>
</tr>
<tr>
<td>Bluegrass</td>
<td>8.5</td>
</tr>
<tr>
<td>Raspberries</td>
<td>6.3</td>
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<tr>
<td>Strawberries</td>
<td>5.2</td>
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<tr>
<td>Peaches</td>
<td>4.0</td>
</tr>
<tr>
<td>Carrots</td>
<td>3.4</td>
</tr>
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<td>Onions</td>
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<td>Prunes</td>
<td>2.7</td>
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<tr>
<td>Cranberries</td>
<td>1.6</td>
</tr>
<tr>
<td>Lettuce</td>
<td>1.4</td>
</tr>
<tr>
<td>Snap beans</td>
<td>1.3</td>
</tr>
</tbody>
</table>

PHYSICAL FEATURES OF EASTERN WASHINGTON

Eastern Washington can be depicted as a great interior valley surrounded by the high Cascade Range on the west, the Okanogan highlands to the north, the mountains of Idaho on the east, and the highlands of Oregon on the south. In the center lies a great, central basin circumscribed by the Columbia River.

A series of east-west ridges extends across the basin creating sharp breaks on the north, and long, broad slopes on the south. Parts of the basin have been etched by glacial water flowing southeast toward Pasco and the lower Columbia River. The high side of the basin on the north and east rises to 1500 to 2000 feet, while the low end near Pasco and the Columbia River is less than 400 feet above sea level.

Wind action has deposited soil from the drier regions on the leeward side of the Cascade Range and on the higher edges of the interior valley. These form the high, rolling hills and the Palouse in the southeast portion of the state.

One of the distinctive features of eastern Washington is the complex of rivers which combine to form the Columbia River. The Columbia River enters Washington from Canada toward the Idaho border. Flowing south it makes a great bend to the west along the base of the Okanogan highlands. There it is joined by the Spokane River flowing westward from Idaho, near the present location of the Grand Coulee Dam. The two together continue westward toward the Cascade Range where it is joined by the Okanogan River flowing southward. The Columbia River turns at this point toward the south.

Rivers and streams, including the Wenatchee River flowing out of the Cascades, feed the Columbia as it continues. Uplifts in the central portion of the state divert the Columbia River back east and finally south again. It is met first by the Yakima River flowing from the west, and then by the Snake River flowing from the east out of Idaho. Together they flow south around the final uplift, the Horse Heaven Hills, before finally flowing west to the Pacific Ocean.

The pattern of rivers has had a significant influence upon the development of eastern Washington. Essentially it is a desert; dryland farming and grazing have been the dominant types of agriculture up until recent years. Only as irrigation projects have developed have other types of more intensive agriculture come into this portion of the state.

The rivers are also the sites of a whole series of dams beginning with the Grand Coulee in the north, followed by the Chief Joseph, Azwell, Rocky Reach, Rock Island, Wanapum, Priest Rapids, McNary, John Day, The Dalles, and ending at Bonneville near Portland, Oregon.

The major cities and trading centers are frequently located geographically along the rivers. They include Spokane, Wenatchee, Yakima, and Pasco-Kennewick-Richland.
CLIMATE OF EASTERN WASHINGTON

The climate of Washington resembles that of the other states on the West Coast. The prevailing winds are from the west, off the Pacific Ocean. These winds moderate temperatures making Washington remarkably temperate for a state located so far north.

The Cascade Mountain Range, extending in a north-south direction through the center of the state, divides it into the maritime west and the arid east. The moisture-saturated air moving in from the ocean drops its moisture on western Washington as it rises over the high Cascade Mountains.

As the air descends into eastern Washington it is dry, creating the warm, dry climate and the desert on the leeward side of the mountains. Moving eastward across the drylands, it again begins to pick up moisture. More moisture is dropped as this air is forced into the higher elevations of eastern Washington.

Precipitation in eastern Washington is related to location and elevation. The lower elevations close to the eastern slopes of the Cascade Mountain Range are extremely dry, receiving only about 6 inches of rainfall annually. Of this, only 2 inches fall during the six-month growing season. This makes irrigation essential for production of horticultural crops in this portion of the state.

Further east, in the higher elevations toward Idaho, precipitation reaches 20 inches or more per year. While marginal for most horticultural crops, it is sufficient for grain crops and, in some areas, for the production of peas.

The wind can attain hurricane force on the coast near the ocean, but the mountains moderate the winds in the east. Winds of 20 to 30 mph are relatively common and can reach much higher velocities at times, almost every season of the year. Winds are highest during the winter and reach a general low during the late spring and summer. The local topography has a major influence on wind currents.

Temperatures are remarkably moderate and equable making Washington much milder than other sections of the country in the same latitude. The temperature during January ranges from 24 to 32 degrees F. The average temperature during July ranges from about 58 to 86 degrees F. Temperatures can be expected to go below zero degrees F. several times each winter, but rarely below a minus 10 to 20 degrees F. in the vegetable-growing areas. Summer temperatures can also exceed 100 degrees F., but such temperatures are usually of short duration.

The length of the growing season makes Washington one of the most favored of areas to produce horticultural crops. Most of the areas where tree fruits and vegetables are grown

1 Source: M. Ledwitz and E. Robinson, Air Pollution Research, College of Engineering, Washington State University.
average over 150 frost-free days per season. Some districts average over 180 frost-free days per season.

*Spring frosts* are usually a constant hazard throughout eastern Washington. These frosts are usually the result of cold air masses moving into the central portion of the state from the north and east.

**SOILS AND WATER OF EASTERN WASHINGTON**

**Soils**

The soils of eastern Washington are varied due to differences in parent material and manner in which they were weathered and/or deposited.

Basically they are of two types: 1) shallow or eroded soils found predominantly in the upland areas, usually underlaid by bedrock or basalt; and 2) deep soils which are wind- or water-laid.

The only restriction on depth in these soils is in localized areas where caliche layers are found or where perched water tables occur.

The soils are of relatively high pH (neutral to alkaline and quite low in organic matter—usually less than 1.5 percent). Salts or salinity are not usually a problem except in local areas, usually associated with drainage.

Nutrient availability from these soils is generally good and fertility programs using additions of major elements N, P, and K are quite successful on all crops produced; minor element deficiency soils do exist. Zinc is the primary nutrient which must be supplied regularly to insure production. However, in some locations and with some crops, boron and sulfur must be provided.

**Water**

Water for irrigation in eastern Washington is from two primary sources: 1) runoff from mountains usually taken from rivers by irrigation districts or federally funded reclamation projects, and 2) from deep wells. Water from both sources is extremely pure and is excellent for all types of horticultural crops. Reused water in some irrigation areas can cause some problems, however.

Some areas irrigated from deep wells are faced with a problem of limited water supply from underground sources. Further development of these areas served by underground water is limited. Expansion depends on these underground waters being resupplied from an outside source, i.e., diverting the Spokane River into underground aquifers.
THE VEGETABLE AND SPECIALTY CROP INDUSTRIES OF EASTERN WASHINGTON

The vegetable and specialty crop industries of eastern Washington are composed of a great variety of crops produced, in some cases, in very local geographical areas and, in other cases, in broad, rather general production areas.

Vegetables: The vegetable industry includes production for both fresh market and processing. Processing acreages and production has increased in all vegetable crops except fall spinach over the past few years. Fresh market acreage in some crops has also increased (carrots, onions, and watermelon).

The major crops are as follows:

Potatoes: Of the vegetables, potatoes are the dominant crop in both acreage and dollar value. The Washington potato harvest falls in two seasons—late summer and fall. Most of the fall crop goes to storage for shipping and processing. The late summer crop is marketed for fresh market and processing, directly from field harvest. Currently, over 80 percent of the total crop is utilized by the processing industry. Washington leads the nation in potato production per acre and is second in the nation in total production. Production of both late summer and fall potatoes is 31.4 million hundredweight with a farm value of $102.2 million. (Since 1972 all potato production from Washington is classed as fall for reporting in USDA crop statistics.)

Potatoes are the sixth-ranked agricultural commodity within the state. Russet Burbank is the dominant variety used by the industry. However, Norgold Russet is produced as an early shipping and processing variety. Production of red-skinned and nonrusseted, white-fleshed potatoes has decreased over the recent years to where it is a very small portion of the total production. Production of potatoes is general throughout the eastern Washington area except in the far eastern and northern regions. The center of production is the Columbia Basin. Potatoes are also produced in the Kittitas and Yakima Valleys.

Peas: Peas for processing are the third most important vegetable crop representing 23 percent of the value of all vegetables exclusive of potatoes. Washington is the second leading green pea-producing state in the nation with a production of 112,750 tons with an on-farm value of some $13.9 million.

Although an important eastern Washington crop, western Washington green pea production is a major factor in the importance of the crop to the state. Important production areas are the Palouse Hills region and the Columbia Basin.

Sweet corn: An annual production of 226,350 tons and an on-farm value of $9.5 million makes sweet corn the fourth-ranking vegetable crop in Washington. As with peas, the portion of the industry located west of the Cascade Mountains is a major factor in the importance of the crop to the state’s economy. Nationally, Washington ranks fifth in production of sweet corn for processing. Important production areas include the Kittitas and Yakima Valleys and the Columbia Basin.

Asparagus: Asparagus is the second-ranking major vegetable crop in Washington. Washington is second in national production. Growth of Washington’s asparagus industry has been steady in both production and dollar figures. The annual on-farm value of asparagus is in excess of $14.2 million from a production of 30,800 tons. The Yakima Valley and the Touchet and the Walla Walla Valleys account for a high percentage of the state’s total production. However, recent expansion has taken place in the Columbia Basin area.

2 Most of the quantitative data presented was taken from Washington Agricultural Statistics, 1973.
Other crops: In addition to the crops listed, there are a number of vegetables which add substantially to the overall value of the horticultural industry in the state of Washington. These crops with their on-farm value are carrots, $3.4 million; onions, $3.2 million; snap beans, $1.3 million; and lettuce, $1.4 million. There are also a number of crops of horticultural nature which are considered minor crops in terms of the total value and acres of production.

Specialty crops: Specialty crop production is a significant portion of the agricultural industry in eastern Washington. Although many crops can be included in a classification of this type, the major ones in eastern Washington are discussed here.

Hops: The principal hop-producing area is the Yakima Valley. Total production in Washington approaches 37 million pounds and has a value of $27.1 million. Washington State is the top producer of hops nationally, accounting for a major share of the U.S. total production. Hops are the eleventh most important agricultural commodity in Washington based on value of production.

Mint oils: The production of mint for oil is heavily concentrated in the Yakima Valley and the Columbia Basin region of eastern Washington. Both spearmint and peppermint are produced. Washington is the leading state in national production of spearmint and second in peppermint. Total production of mint oil is 4.5 million pounds with a value of $9.7 million.

Sugar beets: Sugar beets are produced in four irrigated regions in eastern Washington—the Yakima Valley, the Columbia Basin, the Walla Walla Valley, and the Kittitas Valley. The principal production areas are the Yakima Valley and the Columbia Basin. Sugar beets rank eighth in value of commodities produced by farms in Washington with a production of 2.5 million tons worth $44.3 million on the farm.

Seed crops: Dry field and seed peas are grown in a concentrated area of eastern Washington. Production is centered in the Palouse Hills region with scattered production areas in the Columbia Basin and in the Walla Walla Valley. About one half of the dry field pea crop is used for human consumption and the balance is used for seed and livestock feed. The Columbia Basin raises dry peas almost solely for seed.

Other seed crops—some field beans have been grown in the Columbia Basin region for seed and food purposes since the beginning of its development. In recent years, many additional horticultural seed crops have been produced throughout the central Washington area. Seed crops of importance include, but are not limited to, the following: lettuce, onion, radish, carrot, turnip, mustard, dill, collard, parsnip, kale, and parsley.

LOCATION OF RESEARCH AND EXTENSION CENTERS

Vegetables and Specialty Crops

Pullman: O. E. Smith, Chairman, Department of Horticulture, 149 Johnson Hall, Washington State University, 99163

Prosser: Irrigated Agriculture Research and Extension Center, Washington State University, J. L. Allison, Superintendent, P. O. Box 30, 99350

Yakima: USDA-ARS, Vegetable Insect Investigations, Bill Butt, Leader, 3706 Nob Hill Boulevard, 98902

Ephrata: Grant-Adams Counties, Ken Waud, area chairman—Ray Hunter, Tim Smith—area agents, Courthouse, Box 608, 98823

Ellensburg: Kittitas County, Philip Bloom, county chairman, 213 Courthouse, 98926
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**Yakima:** Yakima County, Don Chaplin, county agent—Jim Griffin, county agent, 233 Courthouse, 98901

**Prosser:** Benton County, Wilbert Gerlitz, county chairman, Courthouse Annex, 99350

**Pasco:** Franklin County, Gus Hokanson, county chairman—Bill Ford, county agent, Courthouse, 99301

**Walla Walla:** Walla Walla County, Howard Willson, county chairman—Gerry Nyberg, county agent, P.O. Box 536, Courthouse, 99361

**Dayton:** Columbia County, Art Sunderland, county chairman, Federal Building, 99328

**Pomeroy:** Garfield County, Richard Brown, county chairman, Courthouse, 99347

**Colfax:** Whitman County, Felix Entenmann, county chairman, Courthouse, 99111

**Spokane:** Spokane County, David Bosley, county agent, Courthouse, 99201

**DESCRIPTION OF VEGETABLE AND SPECIALTY CROP REGIONS**

Eastern Washington can be divided into several generalized production regions, each having distinctive characteristics related to physical features as well as production. The easternmost area is the **Palouse Hills** region which is centered in Whitman County. It also involves portions of five additional counties: Spokane, Asotin, Garfield, Columbia, and Walla Walla. Dry peas are the predominant vegetable crop of the area followed by green peas for processing.

The **Columbia Basin** is a relatively new irrigated area although dryland crops have been produced there for some time. Although irrigated crops have been grown for many years near water sources, it remained predominantly a desert until the development of Grand Coulee Dam and the massive irrigation project. Several million acres are involved in the irrigation project, almost all of which are adapted to vegetable and/or specialty crop production. In addition, large landholdings previously devoted to dryland grain production are being developed for irrigation from deep wells. The three counties of Grant, Adams, and Franklin make up this region.

The **Kittitas Valley** lies entirely within the boundaries of Kittitas County. Irrigation water for this valley is brought down mainly from the nearby Cascade Mountains. A late growing season and cool season are typical of this area. Sweet corn for processing is the major vegetable crop of the area.

The **Yakima Valley** is one of the most diverse vegetable-growing regions in Washington. The center of the valley is the city of Yakima and it extends through Yakima and Benton counties to Benton City near Pasco. Vegetable crops produced in this area are many and varied including asparagus, sweet corn, tomatoes, and many others. Specialty crops are predominantly hops and mint.

The **Klickitat-Horse Heaven Hills** region is a potential vegetable-specialty crop region. Currently, it is devoted mostly to grain and legume production with bottom land and bench lands producing the intensive agricultural crops that are grown in the area. The Horse Heaven Hills area is currently being developed by private enterprise and is becoming an important potato-producing area.

The **Touchet-Walla Walla Valley** and the **Spokane Valley** are predominantly vegetable truck garden areas. Most farms in these areas cultivate a wide variety of vegetables on small acreages.
The Palouse Hills

The Palouse soils and terrain are ideal for large acreages of wheat and have always figured prominently in the production of grain crops in the Northwest. Peas for processing and for dry, edible use are also a major portion of the economy of the area. This region accounts for a major portion of all dry field peas produced in the state. The Palouse is the major producing area of this crop in the United States.

The soil is wind-laid in a deep mantle over basaltic rock, and is fine-textured, fertile, and highly retentive of moisture. Erosion has fashioned the low plateau into an intricate pattern of undulating, rolling topography. Low, rounded hills appear as the main surface features. The southern part of the Palouse region includes a portion of the Blue Mountain topography. This area is rough and well dissected by numerous streams, but contains several accessible high plateaus. Agriculture is confined primarily to these two topographic features—the low, rolling hills of the Palouse Country and the elevated tablelands of the Blue Mountains to the southeast.

Variation in elevation is one of the features which has encouraged the development of green pea processing in this region. Early areas exist along the stream beds which allow early planting and harvest. Later areas are found as elevation from the stream beds increases. This variation gives a natural spread to the pea-harvest season throughout the area.

Recent deep-well development in some areas, though limited at present, has opened the door to additional crop possibilities. Presently, much of the irrigation is used as supplemental to the natural rainfall on grain, pea, and lentil crops.

Columbia Basin Region

The Columbia Basin region is an important area of irrigated agriculture and broad, dryland grain fields. The region lies within the basaltic tableland commonly referred to as the Columbia Plateau. It is basinlike in structure, being higher around the margins and sloping inward to low, level plains. Its smooth features are broken in the western half by two east-west ridges—the Saddle Mountains and the Frenchman Hills—and by two small, enclosed plains—the Quincy Basin and the Pasco Basin. The eastern part of the region is composed of broad, flat areas of gently undulating land broken by several deep coulees.

Farming is on units of large and medium size. Medium-sized farms predominate in the irrigated western half of the district, while large grain farms are common in the eastern half. The Columbia Basin Irrigation Project covers the western half of the district. The major purpose of this project is to bring water to the semiarid
lands of the western part of the region from slack water behind the Grand Coulee Dam. Irrigated, commercial crops, such as mint, hay, potatoes, dry beans, corn, and sugar beets, have made this one of the principal agricultural areas within Washington.

Farming in this area has changed from commercial grain growing to more diversified crop production as more irrigated land becomes available. In the eastern portion of the region, grain farming is still the predominant form of agriculture. However, it is becoming ever more common to find deep-well development in this area. Deep-well development initially was related to supplemental irrigation for grain crops, changing these enterprises from a grain-fallow rotation to an annual cropping program. As a further development, these same enterprises are now turning to higher-return crops including potatoes, dry beans, and sugar beets.

The western and southern parts of the region are important potato production areas. Potatoes produced in this region are the primary reason for the predominant role Washington plays in national potato production. This area is also important for the production of sweet corn for processing, mint oils, and a whole array of seed crops. Asparagus is becoming ever more important as a cash crop for farmers of this area.

**Kittitas Valley**

The Kittitas Valley region is the upper Yakima River drainage basin between the Wenatchee Mountains and the Manastash Ridge. Low valley plains and river terraces are the most important features of the terrain. Crop land is centered around Ellensburg or scattered along the upper Yakima River. The valley lands in this region vary from 1500 to 2000 feet in elevation, making this area one of the highest in the state for growing crops.

The agricultural economy of the Kittitas Valley is quite diversified. Many farm operators maintain mixed farming procedures, utilizing the varied land and soil characteristics to the best advantage with the aid of irrigation. Irrigation water is brought to the valley mainly from the nearby Cascade Mountains.

Kittitas Valley farms produce a number of high-value cash crops. Sweet corn for processing is the main vegetable crop of the area. South from the town of Kittitas, potatoes are an important crop. However, the production of potatoes in this region has declined, due primarily to the area’s isolation from potato-processing facilities. Sugar beets, dry field and seed peas, and green peas are produced in the region but do not constitute a very large percentage of the production of these crops for the state.

**Klickitat-Horse Heaven Hills**

The Klickitat-Horse Heaven Hills region lies on the eastern slope of the Cascade Mountains and parallels the Columbia River from White Salmon to the Wallula Gap. The general topography is a mixture of mountains, plateaus, and narrow valleys. Four physical areas have been developed agriculturally—the Horse Heaven Hills plateau, the Klickitat and White Salmon River Valleys, and the bar and bench lands of the Columbia River. Agriculture varies from the western part of the region where fruit, dairy, and livestock farming are common to the semiarid east where farmers specialize in grain crops.
Grain crops are presently the main crops of the Horse Heaven Hills area, but recent irrigation development from deep wells and future planned development for both deep wells and high-lift irrigation projects from the Columbia River make it a potential area for both vegetable (especially potatoes) and specialty crops. On the bottom lands and bench lands of the White Salmon-Klickitat Valleys, there are vegetable farms which are irrigated. Most important crops include carrots, snap beans, tomatoes, cabbage, and lettuce.

**Touchet-Walla Walla Valleys**

The Touchet-Walla Walla Valley region consists of the valley bottom lands of the Touchet and Walla Walla Rivers and adjacent tributary creek valleys. Here, cropland is under irrigation during the summer season and is, therefore, distinguished from adjacent cropland on the hills which are under dry farming practices (land included as part of the Palouse Hill region). The widest and most important section of irrigated lowlands is between Walla Walla and Touchet. A second important lowland area lies between Waitsburg and Dayton.

Farms in this region vary in size, but most are under 100 acres. The majority of the farms in the upper Touchet Valley, between Waitsburg and Dayton, tend to be smaller than in other parts of the region.

The Touchet-Walla Walla area ranks second in the state in the production of canning and freezing peas. The large pea crop is responsible for placing Washington among the top states in the nation for processing peas. Asparagus is the second major vegetable of the area. A significant portion of the state asparagus acreage is in this region.

Market gardeners grow many other vegetables. Sweet corn is often planted as a second crop after green peas are harvested. All early onions of Washington come from this region. A large volume of carrots comes from this area—most of which are processed. Here, also, is a major spinach area of the state.

**The Spokane Valley**

The Spokane Valley is located in the east-central part of the state. Spokane, one of the larger cities in Washington, is the metropolis for an extensive farming, lumbering, and mining area known as the Inland Empire.

Spokane processors turn out large volumes of agricultural products including vegetables. Food processing is expanding in this urban area and includes canning and quick freezing of vegetables. A great variety of crops are produced in the urban area of the Spokane Valley and marketed to local fresh-market dealers or by roadside stands.
Yakima Valley

The Yakima Valley constitutes one of Washington’s foremost agricultural regions. The valley consists primarily of broad, alluvial plains and terraces formed by the Naches and Yakima Rivers, which are ringed by sagebrush-covered hills. Long vistas of irrigated lands and orchards extend from Naches southeastward to Benton City and fan outward up the small valleys and slopes of the Cascade Mountains and Yakima folds. Near Union Gap, the Yakima River slices through the Ahtanum Ridge and divides the Yakima Valley into the Upper and Lower Valley. The Upper Valley is devoted almost exclusively to tree fruit production, and the agriculture in the Lower Valley is highly intensified and diversified.

The Yakima Valley tops the state in a number of high-value vegetable and specialty crops. Most valuable is hops. Hops are mainly concentrated in the Moxee area but are found in many parts of the Lower Valley. Leading commercial vegetables grown include asparagus, sweet corn, green peas, tomatoes, beans, cantaloupes, and watermelons. Sugar beets and mint are important crops in the Lower Valley.
APPENDIX

SPECIFIC CLIMATOLOGICAL INFORMATION

Mean Date of Last Occurrence of 32°F in Spring
Data up to 1961, Washington

Mean Date of First Occurrence of 32°F in Fall
Data up to 1961, Washington

Heat Units (Units of 100, based on 50°F,
1 April-31 October), Data 1964-1973, Washington

Extreme Maximum Temperature (°F) 10-Year
Return, Data Up to 1965, Washington

Mean Annual Precipitation (inches) 1930-1957

1Source: M. Ledwitz and E. Robinson, Air Pollution
Research, College of Engineering, Washington State
University.