

Agricultural Workforce in Washington State 2000



Prepared by Loretta Payne, *Economic Analyst*
Economic and Policy Analysis Unit



Labor Market and
Economic Analysis Branch
Greg Weeks, *Director*

Washington State
Employment Security

Sylvia Mundy, *Commissioner*

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FOREWORD

The Employment Security Department collects employment and wage data on agricultural employment to assist in the recruitment of farm workers. A shortage of farm workers at harvest time can result in the loss of millions of dollars to farmers and the state economy. Conversely, a surplus of workers can be expensive to the public if workers and their families are stranded far from home without jobs or funds to support themselves. Clearly, it is important to be able to estimate how many workers will be needed for a crop activity.

A major source of agricultural farm labor data is the department's Unemployment Insurance (UI) tax records. Since 1990, most agricultural employment has been covered by the Employment Security Act. Under this act, employers are required to report employment and wages quarterly for UI tax purposes. Although data compiled from the tax records include employment and wage data for virtually all hired agriculture workers (which are essential to measure the impact of agriculture on the state and in local areas), it does not include information on employment in specific activities such as apple harvesting. Such detailed information is essential

to plan recruitment, or public and private programs to deal with the influx of thousands of temporary farm workers and their families. To obtain this information, the department conducts a monthly survey—the *In-Season Farm Labor Survey*—in which approximately 600 growers voluntarily participate. This monthly survey provides estimates of the number of seasonal employees working in specific jobs such as asparagus cutting in south central Washington (Klickitat and Yakima counties). Seasonal agricultural employees are individuals who are employed on any one farm for less than 150 days.

Data contained in this report are intended to assist agricultural employers and employer associations in assessing their labor requirements. They are also intended to assist economists in estimating the impact of seasonal farm work on Washington's economy. Finally, for state and local officials and social service agencies, these data are intended to provide a basis for estimating the impact of the farm workers population on their existing and proposed programs and facilities and will help them plan accordingly.

INTRODUCTION

To describe the agriculture economy and the labor force conditions within that economy is a daunting task. One might hope that high levels of production would be a positive indicator, but by now most people realize that high agriculture production can mean low prices and even lower profits. Agriculture, like most industries, is highly affected by international markets and other issues related to increasing globalization. But, unlike other industries, agriculture producers worldwide have been less proactive in attempting to influence issues, which drive down market prices. Also, agriculture production is influenced by a wide variety of physical factors—climate, pests, disease, and natural disasters.

U.S. agriculture production is the most efficient and productive in the world. Given a wide variety of agro-ecological zones and abundant natural resources, the U.S. is able to grow a wide diversity of crops in optimal growing conditions. As consumers, Americans enjoy the cheapest and highest quality food in the world. The United States can also afford to serve as a buffer to poorer nations during times of famine and disaster. It would be naïve to not protect our capacity to feed ourselves and others. Even the most agriculturally unproductive countries in the world protect their limited capacity to produce food, for the purpose of their national security.

On the other hand, farmers must also be wise business people. Despite the 1996 *Freedom to Farm Act*, designed to gradually do away with massive federal farm subsidies and production controls, agriculture subsidies have continued to increase in the form of emergency payments. As agriculture production continually outgrows demand, prices and revenues decline. Farmers have tended to offset their individual losses by increasing production, which further aggravates the situation. The most exciting issues in Washington agriculture this

year relate to recent farmer initiatives related to controlling production and raising commodity prices, especially for fresh fruits.

The purpose of this report is to describe Washington's agriculture labor force, which, in the short run, may or may not be significantly affected by overall agriculture production and income. For example, apples, which are the most labor-intensive crop in Washington, achieved a record production of over 3 million tons in 1998. From 1997 to 1998, total apple production increased 22 percent, while the total value of production decreased 15 percent. Regardless of the decline in economic value, total agriculture employment increased 4.8 percent. Some farmers may have left lower quality or less profitable apples on the trees rather than pay the labor costs, but for the most part farmers are the eternal optimists who naturally hate to see the fruits of their labor go to waste.

Fortunately, regardless of the complexity of the agriculture economy things seem to have improved since 1998. Between 1998 and 1999, production increased by only one percent on average, with a corresponding increase in the value of production of 9 percent. The following year, 1999 to 2000, overall production increased 12 percent with a corresponding 7 percent increase in the value of production.

This report is broken down into five sections:

1. agriculture exports and production;
2. agriculture employment;
3. hours and earnings;
4. unemployment claimants and labor demographics; and
5. future outlook and developments related to agriculture employment.

AGRICULTURE PRODUCTION

Agriculture is unique as an industry in that the primary input is land. Although, much less land is needed to produce the same quantity of food than years ago, land is still a fundamental requirement. In 1997, Washington ranked 19th in the U.S. for total cropland (7.91 million acres) and ranked 12th for acres of irrigated cropland (1.7 million acres). *Figure 1* shows the number of acres of Washington's major crops, which account for only about half of total acreage. Although official 2000 data were not yet available for potatoes and hops, other information indicates that potato acreage increased by 7,000 acres in 2000. Land planted to wheat, which accounts for over 60 percent of the acreage, declined 6.7 percent from 1995 to 1999. In contrast, land planted to apples and potatoes increased by 9 and 16 percent, respectively.

Official data indicate that bearing cherry acreage has not increased since 1997. According to the Washing-

ton Fruit Commission, total cherry acreage was 21,164 acres in 1997 and according to Mike Gempler (Washington Growers League) cherry production is expected to increase 50 percent by 2004.

In 1998, there were 40,000 farms in Washington with an average size of 523 acres. Over 60 percent of these farms are less than 100 acres in size and another 20 percent are between 100 and 500 acres. Despite many people's perception of mega farms under corporate ownership, only 5.7 percent of the farms in Washington are over 2,000 acres, and 89.6 percent of all farms were owned by individuals or family corporations in 1997. On the other hand, the percentage of family owned farms did decline from 89.8 percent in 1992—a loss of about 1,200 farms.

Figure 1 Acreage of Major Crops in Washington State, 1995-2000

	Acreage (harvested)						% Chg 99-00
	1995	1996	1997	1998	1999	2000	
Total	4,056,961	4,231,328	4,084,460	4,080,383	3,796,176		2.3%
Apples	158,000	164,000	170,000	172,000	172,000	172,000	0.0%
Sweet Cherries	16,400	17,200	18,000	18,000	18,000	18,000	0.0%
Grapes (all)	34,000	35,000	37,000	39,000	41,000	44,000	7.3%
Winter Pears	13,000	13,000	13,200	13,200	13,200	13,200	0.0%
Bartlett Pears	11,200	11,200	11,200	11,200	11,200	11,200	0.0%
Peaches	2,500	2,500	2,500	2,500	2,500	2,500	0.0%
Apricots	1,200	1,200	1,200	1,200	1,200	1,200	0.0%
Wine Grapes				15,000	17,000	20,000	17.6%
Potatoes	147,000	161,000	152,000	165,000	170,000		
Total Vegetables	200,800	176,750	201,780	214,110	209,600	200,600	-4.3%
Green Peas	57,300	42,200	53,700	55,100	52,300	51,300	-1.9%
Asparagus	23,000	23,000	23,000	22,000	22,000	22,000	0.0%
Hops	30,261	31,678	31,080	26,573	25,076		
Red Raspberries	5,900	6,300	8,500	9,000	9,500	9,500	0.0%
Blueberries	1,400	1,300	1,300	1,500	1,600	1,700	6.3%
Wheat (1,000 bu.)	2,595,000	2,745,000	2,580,000	2,565,000	2,290,000	2,420,000	5.7%
Hay (1,000 Tons)	760,000	800,000	780,000	750,000	740,000	770,000	4.1%

Source: Washington State Department of Agriculture

Production

The *exciting* thing about agriculture is the sometimes-erratic correspondence between inputs (land in particular) and output. Preliminary estimates of production for Washington's primary crops are shown in *Figure 2*. While sweet cherry acreage remained the same from 1999 to 2000, total production increased 41.8 percent. Although some of that output might be the result of newly producing trees, not yet documented, most of it was due to great weather conditions. The year 2000 was a great year for most of the crops. There was a good snowpack in the winter, lots of sunshine, and timely spring rains. The only crop to show a significant decline in production was Bartlett pears, with a 19 percent decline.

With continuously declining wheat prices it is difficult to explain the 5.7 percent increase in wheat acreage from 1999 to 2000. On top of the increase in acreage,

climatic factors worked together to bring about a 32.8 percent increase in production. Fortunately for wheat farmers the unusually high increase in production corresponded with the same increase in the value of production, as shown in *Figure 3*. International wheat prices must have held their own. In contrast, red raspberries had a 4 percent increase in production and a 57 percent decline in the value of production. Like wheat, raspberry prices are highly influenced by world demand and production. With tentative "peace" in the former area of Yugoslavia, Serbian farmers have renewed their production of raspberries. At the same time, Washington raspberry acreage increased 37 percent from 1995 to 2000.

Milk, Washington's second most valuable commodity, declined in value by 13 percent in 2000, despite a

Figure 2 Total Production of Crops in Washington State, 1995-2000

	Production (utilized)						% Chg 99-00
	1995	1996	1997	1998	1999	2000	
	1,000 Tons						
Apples	2,375	2,750	2,500	3,050	2,500	2,850	14.0%
Sweet Cherries	70	67	93	98	67	95	41.8%
Grapes (all)	326	144	319	220	265	265	0.0%
Winter Pears	240	195	250	230	220	240	9.1%
Bartlett Pears	180	105	205	160	210	170	-19.0%
Peaches	22	5.5	23	26	26	33	27.5%
Apricots	6.5	3.0	7.1	5.3	5.5	6.5	18.2%
Wine Grapes	60	35	62	70	70	90	28.6%
	1,000 Cwt.						
Potatoes	80,850	94,990	88,160	93,225	95,200	108,000	13.4%
Total Vegetables	1,211,754	992,081	1,128,025	1,168,872	1,171,110	1,157,702	-3.4%
Green Peas	2,372	1,646	2,094	2,199	1,969	2,201	11.8%
Asparagus	851	828	828	792	704	748	6.3%
	1,000 Lbs.						
Hops	59,101	57,640	55,816	44,719	49,650	52,260	5.3%
Red Raspberries	52,510	40,950	59,500	60,300	69,350	72,150	4.0%
Blueberries	6,300	8,190	8,710	10,700	11,080	12,410	12.0%
Milk	3,156,031	3,258,961	3,291,614	3,296,948	4,275,387	4,420,000	3.4%
Wheat (1,000 bu.)	123,770	182,670	165,120	157,425	124,140	164,880	32.8%
Cattle & Calves	1,310	1,270	1,220	1,210	1,170	1,210	3.4%
Hay (1,000 Tons)	3,278	3,140	3,084	3,156	3,059	3,249	6.2%

Source: Washington State Department of Agriculture

3.4 percent increase in production. The total number of dairy farms declined 13 percent, from 1990 to 1999, ending at 591 farms. During the same period, the number of workers employed on dairy farms increased 12 percent, to a total of 3,531 workers. The largest number of dairy farms is in Whatcom County (167) despite a decline of 11 percent. At the same time the number of dairy units in Yakima County has increased 19 percent, to 68 units. Interestingly, employment on dairy farms in Yakima increased over 100 percent from 1990 to 1999 with an unusually high average of 12 workers per farm. The statewide average is 6 workers per farm.

Fortunately, apples, Washington's most valuable commodity increased 8 percent to over \$900 million in 2000. Apples are not only Washington's most valuable crop but also its most labor-intensive. *Figure 4* shows the total number of farms, employees, total wages and average wage for deciduous fruit tree growers by county.

The table also shows the changes from 1990 to 1999 for these same units. The fact that the number of farm units has declined 13 percent and that the number of employees declined only 3 percent would seem to confirm the perception that farms are becoming fewer and larger. The 8 units in Walla Walla have an especially high numbers of employees.

What is even more interesting is that despite the decline in farm units and workers, total and average wages have increased significantly, especially where the number of farm units and workers are increasing (Grant, Franklin, Adams, and Walla Walla). Washington ranks 3rd in the country for the production value of fruits, nuts, and berries; this is due primarily to apple production. As a result, Washington agriculture is comparatively labor-intensive. Although ranking 19th for total cropland, Washington ranked 4th for expenses for hired farm labor.

Figure 3 Value of Major Crops in Washington State, 1995-2000

	Value of Production						% Chg 99-00
	1995	1996	1997	1998	1999	2000	
Total	\$4,624,289	\$4,483,110	\$4,309,800	\$4,088,985	\$4,142,389	\$4,414,861	6.6%
Apples	\$1,021,750	\$912,700	\$821,400	\$700,000	\$849,600	\$917,550	8.0%
Sweet Cherries	\$106,519	\$118,940	\$132,694	\$128,801	\$115,860	\$154,725	33.5%
Grapes (all)	\$73,676	\$57,744	\$124,410	\$107,004	\$114,480	\$127,460	11.3%
Winter Pears	\$76,730	\$86,250	\$69,900	\$61,430	\$74,265	\$72,720	-2.1%
Bartlett Pears	\$41,436	\$39,518	\$53,770	\$46,456	\$47,874	\$42,010	-12.2%
Peaches	\$13,994	\$5,100	\$19,335	\$26,776	\$22,656	\$24,911	10.0%
Apricots	\$6,659	\$4,259	\$5,335	\$3,332	\$4,674	\$4,730	1.2%
Wine Grapes	\$39,240	\$33,180	\$60,264	\$64,510	\$63,700	\$80,910	27.0%
Potatoes	\$553,823	\$451,203	\$431,984	\$447,480	\$476,000	\$448,200	-5.8%
Total Vegetables	\$254,709	\$234,036	\$252,632	\$280,013	\$232,152	\$246,620	6.2%
Green Peas	\$30,246	\$20,408	\$25,342	\$26,921	\$22,588	\$24,638	9.1%
Asparagus	\$58,659	\$63,312	\$64,204	\$61,217	\$51,216	\$54,876	7.1%
Hops	\$99,290	\$93,935	\$89,306	\$73,457	\$79,937	\$95,113	19.0%
Red Raspberries	\$35,182	\$30,459	\$28,020	\$22,664	\$48,291	\$20,848	-56.8%
Blueberries	\$3,096	\$5,639	\$7,769	\$6,565	\$7,833	\$9,364	19.5%
Milk	\$688,194	\$792,277	\$732,423	\$846,834	\$824,715	\$715,904	-13.2%
Wheat (1,000 bu.)	\$742,500	\$755,680	\$560,608	\$414,218	\$345,299	\$458,568	32.8%
Cattle & Calves	\$449,708	\$407,123	\$468,580	\$458,719	\$454,222	\$560,729	23.4%
Hay (1,000 Tons)	\$328,878	\$371,347	\$361,824	\$312,588	\$307,027	\$354,985	15.6%

Source: Washington State Department of Agriculture

Figure 4 Total Number of Fruit Tree Growers, Employees, Wages, and Average Wage by County

	1999				Change from 1990 to 1999			
	Units	Average Employment	Total Wages	Average Wage	Units	Average Employment	Total Wages	Average Wage
Total	3,081	29,366	\$349,342,661	\$12,001	-13%	-3%	64%	74%
Yakima	1,071	10,766	\$133,253,412	\$12,377	-20%	-13%	52%	75%
Chelan	766	4,483	\$53,516,980	\$11,938	-17%	-21%	30%	64%
Okanogan	426	3,647	\$37,855,132	\$10,380	-18%	-3%	51%	56%
Douglas	357	2,004	\$22,258,606	\$11,107	-6%	-21%	15%	47%
Grant	162	2,906	\$34,396,127	\$11,836	36%	85%	182%	52%
Benton	131	1,604	\$19,473,407	\$12,141	-9%	-20%	85%	132%
Franklin	96	1,682	\$17,573,846	\$10,448	43%	98%	223%	63%
Adams	42	563	\$7,084,837	\$12,584	20%	-3%	167%	177%
Klickitat	22	285	\$3,710,779	\$13,020	-4%	23%	71%	39%
Walla Walla	8	1,426	\$20,219,535	\$14,179	33%	111%	198%	41%

Source: Employment Security Department

Exports

So what drives Washington's agriculture production? Primarily export demand. There are two different procedures for calculating the value of exports from individual states. One method is to divide the total U.S. exports of a particular commodity by the percentage of that commodity produced in a particular state. This process does not lead to very accurate estimates for a state like Washington, which exports the majority of its production. The other method is based on actual shipping reports of Washington commodities exported from the U.S., as shown in *Figure 5*. Using the first method, total estimated value of Washington exports in 1999 was \$1.78 billion, compared to \$3.25 billion using the

actual shipping reports. (Year 2000 data are not available for the first method.)

The total value of Washington exports declined 34 percent from 1996 to 1999, before increasing 12 percent in 2000. Cereals, primarily wheat, are the largest export commodity and showed the greatest rate of decline, 55 percent from 1996 to 1999. Fresh fruits, which would include apples, cherries, pears, grapes, etc., increased 7 percent for the same period and another 12 percent in 2000. Exports of preserved food (processed fruits and vegetables) increased 12 percent from 1996 to 1999, and another 5 percent in 2000. Vegetable exports increased 13 percent in 2000.

Figure 5 Actual Exports of Washington State Commodities, 1996-2000

	1996	1997	1998	1999	2000	% Chg. 1996-99	% Chg. 1999-00
Total Exports	\$4,930.2	\$4,451.4	\$3,146.2	\$3,255.2	\$3,655.1	-34%	12%
Cereals	\$2,254.7	\$1,786.8	\$949.6	\$1,017.4	\$970.0	-55%	-5%
Fish and Seafood	\$571.5	\$481.0	\$400.2	\$418.1	\$499.6	-27%	19%
Misc. Grain, Seed, & Fruit	\$627.5	\$645.1	\$300.5	\$264.4	\$489.8	-58%	85%
Edible Fruit and Nuts	\$351.5	\$399.0	\$362.2	\$376.3	\$409.2	7%	9%
Preserved Food	\$230.4	\$223.8	\$230.4	\$258.2	\$271.6	12%	5%
Meat	\$227.1	\$225.0	\$223.2	\$208.9	\$248.6	-8%	19%
Prepared Meat, Fish etc.	\$161.9	\$151.4	\$129.9	\$172.5	\$142.4	7%	-17%
Vegetables	\$112.9	\$105.6	\$110.8	\$119.9	\$135.1	6%	13%
Food Waste: Animal Feed	\$74.7	\$109.0	\$108.8	\$95.4	\$119.9	28%	26%
Baking Related	\$29.2	\$27.2	\$33.2	\$45.1	\$57.4	54%	27%
Lac;Vegetable Sap, Extract	\$38.5	\$39.0	\$42.0	\$38.1	\$46.7	-1%	23%
Spices, Coffee, & Tea	\$21.5	\$23.0	\$31.9	\$31.4	\$40.0	46%	27%
Dairy, Eggs, Honey etc.	\$29.0	\$43.5	\$41.5	\$23.5	\$35.9	-19%	53%
Live Trees and Plants	\$26.1	\$30.7	\$27.7	\$32.1	\$35.4	23%	10%
Beverages	\$46.3	\$43.8	\$42.3	\$45.4	\$31.6	-2%	-30%
Misc. Food	\$35.7	\$26.4	\$28.4	\$28.0	\$31.3	-22%	12%
Fats and Oils	\$34.7	\$34.1	\$33.7	\$35.4	\$27.3	2%	-23%
Live animals	\$10.7	\$9.9	\$11.1	\$15.2	\$21.4	42%	41%
Milling, Malt, Starch	\$23.0	\$26.3	\$21.5	\$15.6	\$20.4	-32%	31%
Other of Animal Origin	\$19.6	\$13.4	\$13.4	\$10.0	\$12.8	-49%	28%
Sugars	\$3.7	\$7.4	\$3.9	\$4.3	\$8.7	16%	102%

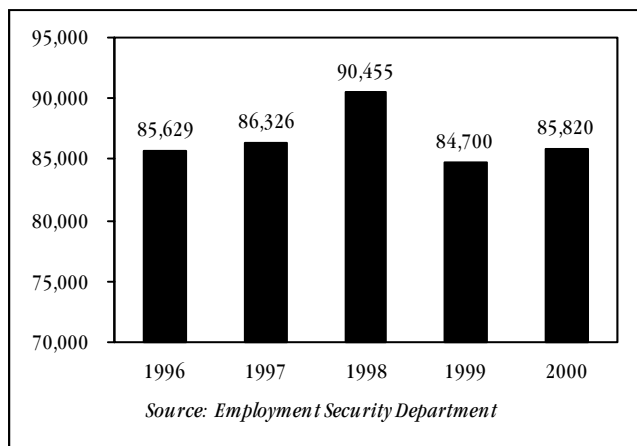
Source: Global Trade Information Service from the U.S. Dept. of Commerce. Compiled from Shippers Export Declarations.

AGRICULTURE EMPLOYMENT

Agriculture is a major source of employment in Washington. Statewide, agriculture directly employs 3.3 percent of the population and another 12 percent in food processing, not to mention transportation and marketing of agriculture commodities. Total direct agriculture employment, including farm operators, unpaid family workers, year-round, and seasonal workers for 1996 to 2000 is shown in *Figure 6*. The figures shown do not double count those workers who held more than one agriculture job during the year.

Cherries and apples, the two most labor-intensive crops in Washington, had very high levels of production in 1998, which explains the unusually high level of employment for that year. Apple production was the same in 1999 as in 1997, but cherry yields were 28 percent less, which would account for the lower levels of employment in 1999. In 2000, apple and cherry production was 14 and 42 percent higher than in 1999, which would again account for the increase in labor. Despite the correlation between production and labor, it should be noted that the labor response to production is not proportional to the changes in production. For example, the large increases in production in 2000 corresponded with only a 1.3 percent increase in total agriculture employment.

Figure 6
Total Agriculture Employment
Washington State, 1996-2000



Anecdotal information indicated that there was a shortage of available labor in 2000. Laborers ended up working longer hours to make up for the shortage of workers. The economy was good in both the U.S. and in Mexico and potential laborers likely had other employment opportunities.

Area Employment

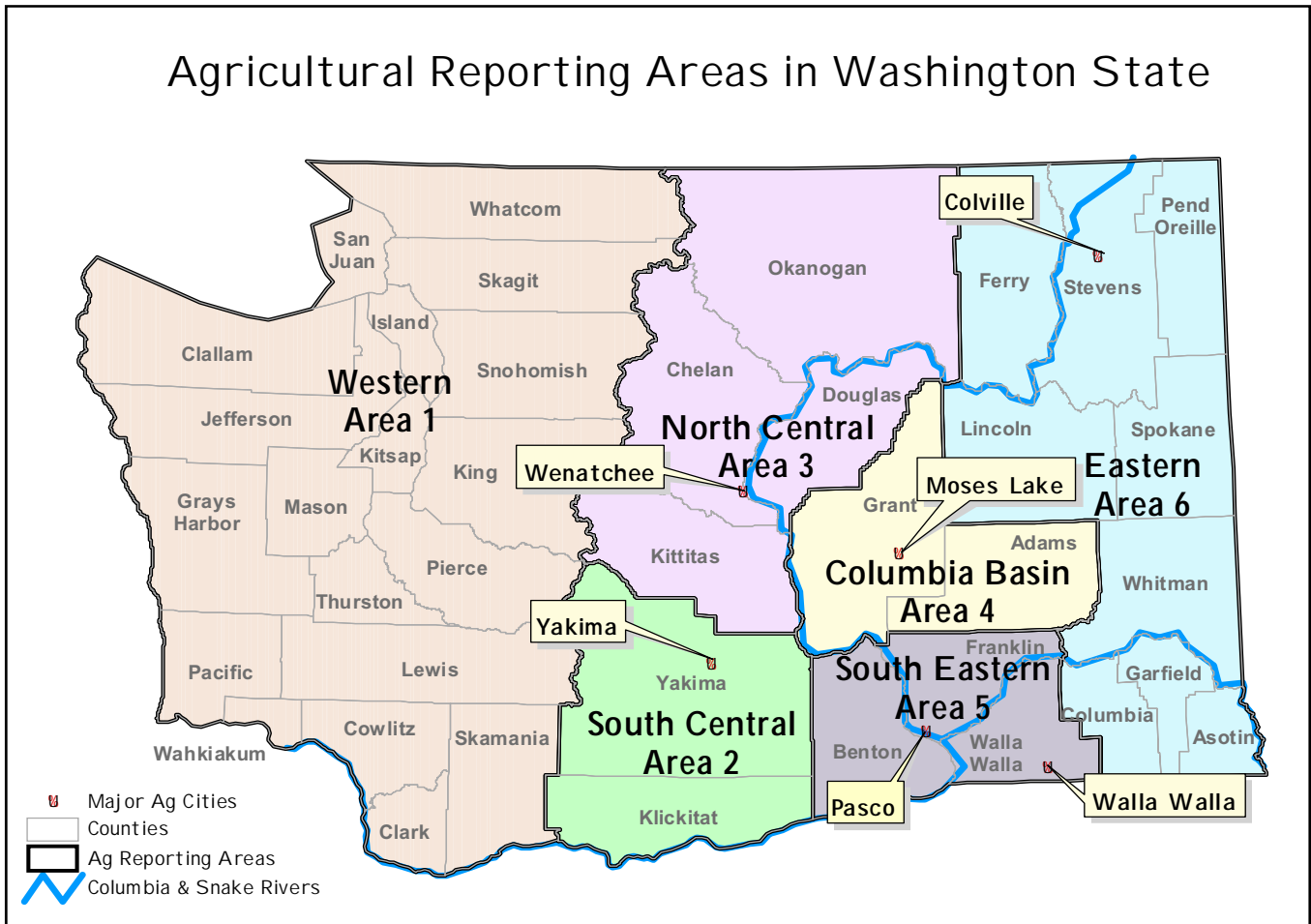
Other than dairy, poultry, and berry production most agriculture production takes place in Eastern Washington, where warmer summer climate, fertile soil, and irrigation facilities combine to bring about some of the highest yields in the nation for wheat, fruits, vegetables, and other crops. *Figure 7* shows the agriculture survey reporting areas, to be discussed later under seasonal employment. *Figure 8* shows the share of total statewide agriculture based in the particular county or MSA. *Figure 9* shows the percentage of county employment in agriculture and the percentage of state agriculture employment within the particular county. Even though the Yakima MSA (Yakima and Klickitat counties) has the highest number of people employed in agriculture (20,680), Adams County has the highest percentage of its population employed in agriculture (32.9 percent). Although Western Washington accounts for 20 percent of state agriculture employment, only 0.8 percent of Western Washington's population is

employed in agriculture. Obviously, issues which affect agriculture (dams, drought, migrant labor issues) are going to be of more concern to those in Eastern Washington who account for only 25 percent of the total state population.

Appendix I provides monthly employment data for all counties and metropolitan statistical areas. Total agriculture employment ranged from a low of 58,020 in January to a peak of 129,710 in July, demonstrating the extremely seasonal nature of agriculture employment. As shown in *Figure 10*, there was very little difference in the total monthly agriculture employment between 1999 and 2000.

Figure 11 shows the four major agriculture producing areas, all of which had more than 10,000 workers during peak employment, including: Grant County, Douglas and Chelan Metropolitan Statistical Area (MSA), Tri-Cities MSA, and the Yakima MSA. Although the

Figure 7 Map of Agricultural Reporting Areas



Counties Within Agricultural Reporting Areas

Area 1 = Clallam, Clark, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, Whatcom

Area 2 = Klickitat, Yakima

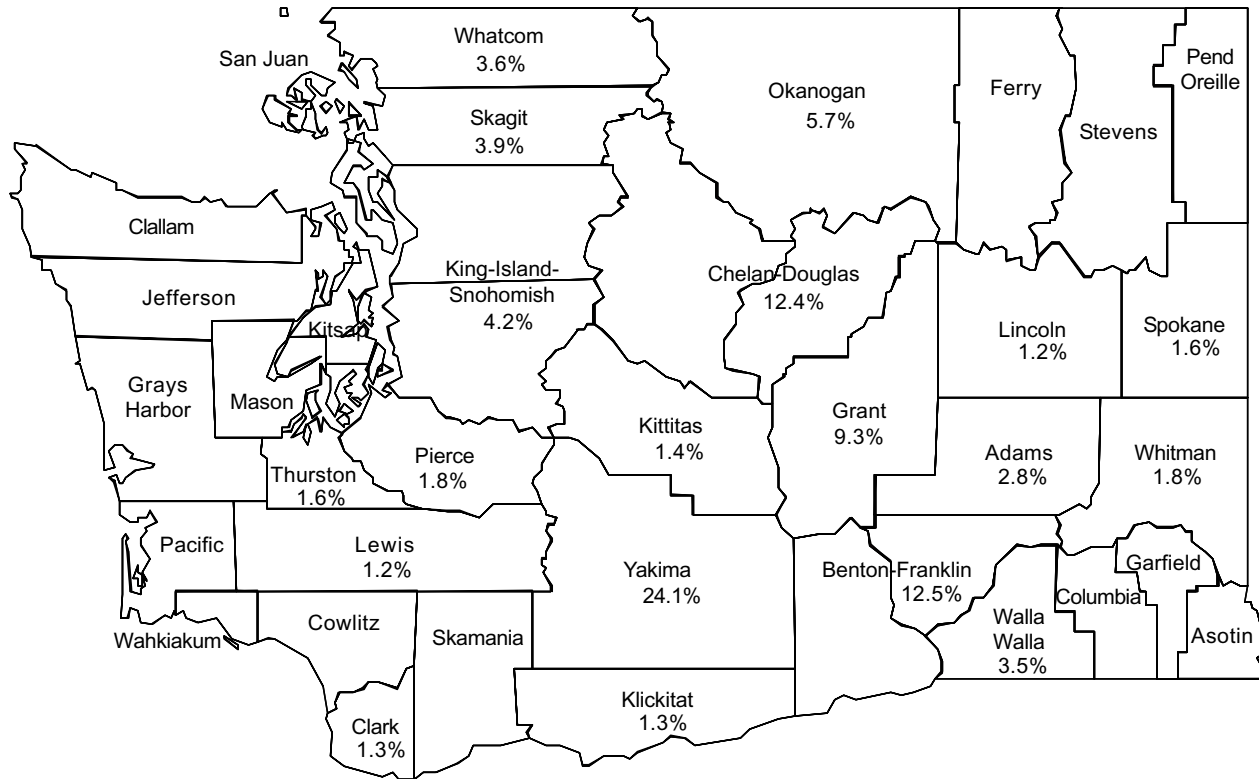
Area 3 = Chelan, Douglas, Kittitas, Okanogan

Area 4 = Adams, Grant

Area 5 = Benton, Franklin, Walla Walla

Area 6 = Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, Stevens, Whitman

Figure 8 County Percentage of Total Agricultural Employment* Washington State, 2000



*Percentage not shown for areas with less than 1.0 percent of state total.

Source: Washington State Employment Security Department

combined share of people employed in agriculture in the Tri-Cities' MSA is 12 percent, the rate for Franklin County alone is 23 percent.

There were only two areas which experienced significant declines in employment from 1999 to 2000, the Chelan-Douglas MSA and Okanogan County (see Figure 12). Both of these areas experienced declines of more than 2,000 workers during their month of peak employment, July and October, respectively.

Figure 9 Total Employment and Agricultural Employment, Washington State and Selected Areas, 2000

Area	Total Employ.	Agricultural Employ.	% of Total County Employ.	% of Total State Agri. Employ.
Washington	2,887,500	85,820	3.0%	100.0%
Adams	7,420	2,440	32.9%	2.8%
Okanogan	18,580	4,890	26.3%	5.7%
Lincoln	4,330	1,060	24.4%	1.2%
Grant	33,380	7,970	23.9%	9.3%
Chelan & Douglas MSA	49,070	10,660	21.7%	12.4%
Yakima MSA	97,200	20,680	21.3%	24.1%
Klickitat	7,800	1,120	14.4%	1.3%
Walla Walla	24,090	3,030	12.6%	3.5%
Benton & Franklin MSA	87,700	10,700	12.2%	12.5%
Kittitas	14,020	1,160	8.3%	1.4%
Whitman	19,050	1,560	8.2%	1.8%
Other Eastern	34,760	1,750	5.0%	2.0%
Western	2,293,250	17,420	0.8%	20.3%
Spokane	196,900	1,370	0.7%	1.6%

Note: Total employment and agricultural employment have been adjusted to eliminate the effect of multiple job holding. Detail may not add to total because of rounding.

Source: Employment Security Department

Figure 10
Total Agricultural Employment
in Washington State, 1999 and 2000

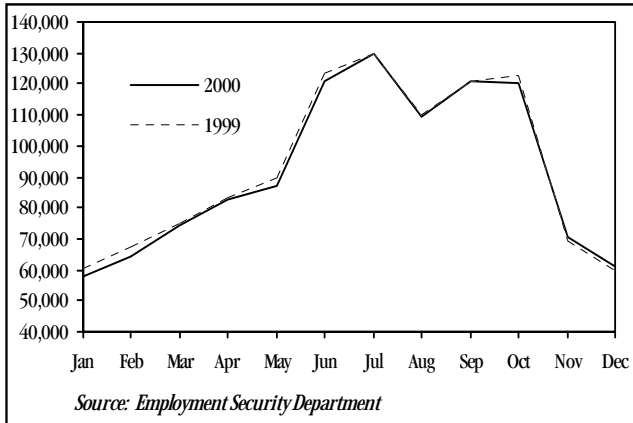


Figure 11
Total Agriculture Employment in Areas
with Peak Employment over 10,000 in 2000

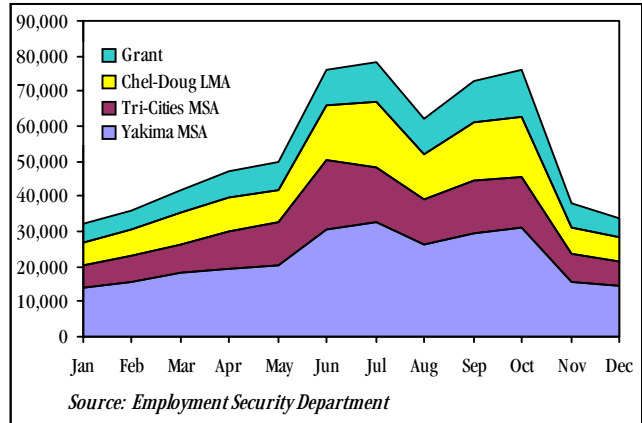
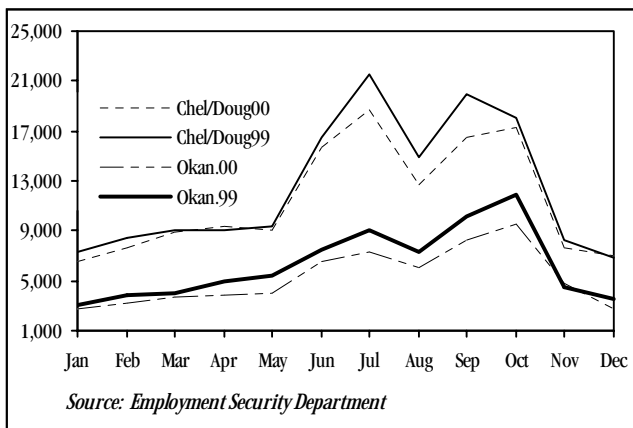


Figure 12
Areas with Decline in Peak Employment
of More than 2,000, 1999 and 2000



Farm Industry Employment

Before 1990, agriculture employers were not required to pay into the unemployment insurance program. In 1990, however, virtually all agriculture was brought under coverage. Data collected from the unemployment insurance program has fairly reflected the specific agriculture industries in which workers are employed. As shown in *Figure 13*, agriculture employment data are broken down by different crop categories, livestock, and services. Fruit and vegetable processing is also shown to demonstrate a primary nonagriculture industry directly related to agriculture production.

After declining 8.1 percent in 1999, total agriculture employment made a partial comeback of 1.2 percent in 2000. The increase was driven by a 1.1 percent

expansion in deciduous fruit tree employment (1,038 workers), which accounted for 43 percent of agriculture employment in 2000. *Figure 13* also shows the rate of change from 1999 to 2000, and the longer-term change from 1990 to 2000. For example, although grape employment declined 2.6 percent in 2000, it has experienced an overall growth of 53 percent since 1990. At the same time, wheat/grain employment has declined almost 24 percent since 1990.

Crops like wheat and potatoes are not particularly labor-intensive and become less so all the time. For example, despite a 15 percent increase in acreage planted and production harvested since 1995, potato employment increased only 0.3 percent for the same period.

Figure 13 Number of Hired Agriculture Workers by SIC Code: 1990, 1995-2000

	Covered Employment*						(Preliminary) Change		
	1990	1995	1996	1997	1998	1999	2,000	1999-2000	1990-2000
Total**	65,390	67,128	69,432	70,160	74,485	68,415	69,265	1.2%	5.9%
Agricultural Production, Crops	54,263	55,072	57,312	56,773	59,661	54,110	54,696	1.1%	0.8%
Deciduous Fruit Trees	30,966	32,008	33,270	32,779	35,080	30,000	31,038	3.5%	0.2%
Ornamental Floricult/Nursery Prods	4,084	4,628	4,665	4,744	4,935	5,153	5,184	0.6%	26.9%
Field Crops, Exc. Cash Grains	3,723	4,130	4,424	4,410	4,249	3,740	3,681	-1.6%	-1.1%
General Farms & Other	2,701	3,220	3,508	3,417	3,606	3,501	3,114	-11.1%	15.3%
Vegetables and Melons	4,832	3,532	3,652	3,271	3,244	3,388	3,159	-6.8%	-34.6%
Grapes	1,374	1,447	1,554	1,723	1,857	2,160	2,103	-2.6%	53.1%
Wheat, Corn, Other Cash Grains	2,692	2,214	2,275	2,309	2,274	2,046	2,053	0.3%	-23.7%
Irish Potatoes	1,963	1,679	1,796	1,791	1,968	1,821	1,684	-7.5%	-14.2%
Berry Crops	1,928	1,854	1,817	1,963	2,034	1,813	2,058	13.5%	6.7%
Ag Production, Livestock	5,589	5,560	5,545	5,691	5,664	5,738	5,793	1.0%	3.7%
Dairy Farms	3,207	3,344	3,392	3,480	3,429	3,540	3,533	-0.2%	10.2%
Agricultural Services**	5,538	6,496	6,575	7,696	9,160	8,567	8,776	2.4%	58.5%
Food Processing (Fruits, & Veggies.)	13,250	13,666	13,310	13,628	13,510	13,815	13,797	-0.1%	4.1%

*Covered agricultural employment includes nearly all hired workers.

Major exceptions are school youth, certain family members, and most corporate officers.

**Excludes SIC 074, 075, and 078; veterinary, landscape, lawn-garden, and tree services.

Source: *Employment Security Department*

Seasonal Employment

Another source of information on agriculture employment is the In-Season Farm Survey, which relies on the voluntary participation of 600 growers, who contribute data on a monthly basis. These data include only seasonal employment, those workers who worked less than 150 days per year for that particu-

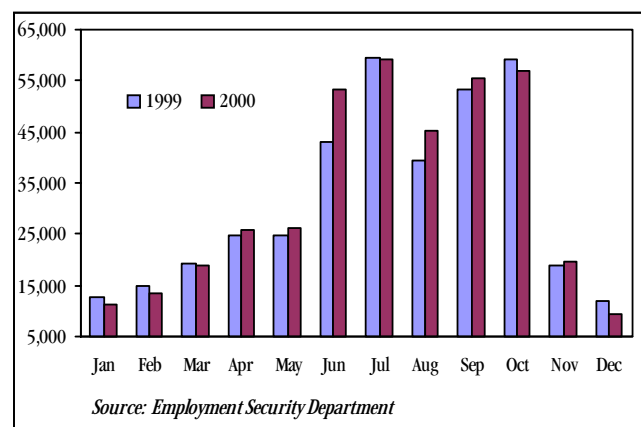
lar employer, and are broken down by specific crops and activities within the six different reporting areas, as shown earlier in *Figure 8*. All of the monthly seasonal data are shown in **Appendix II**, but this section will focus on the primary labor-intensive crops and the labor employed in the different regions.

Cherries and Apples: Production and Employment Increases

The two most seasonally labor-intensive crops in Washington are apples and cherries. As shown in *Figure 14*, there was little change in average seasonal employment from 1999 to 2000, except that the normal sudden increase in June employment was 53,000 in 2000 compared to 43,000 in 1999. This was due predominately to early maturing of cherries, as shown in *Figure 15*. There was also an increase in apple production employment, due, to the 14 percent increase in production, but spread more evenly between May and October (*see Figure 16*).

As can be seen in *Figure 17*, most apple production is done in the North and South Central areas of Washington. South Central includes Yakima and Klickitat counties. North Central includes Kittitas,

Figure 14
Total Seasonal Labor, 1999 and 2000



Chelan, Douglas and Okanogan counties. Each area accounted for about 15,000 workers employed in October for the apple harvest, out of a state total of 45,000. The remaining workers were employed in the South Eastern area (9,314 in October) and the Columbia Basin Area (8,053 in October). By comparing *Figures 14 and 16*, one can see that a predominant share of total seasonal employment is accounted for by apple production, 50 percent on average and 80 percent in October. The primary difference between the two graphs is for the months June through August, when vegetable and cherry production employment creates an additional demand for labor.

Total cherry production employment peaked in July at 14,570. The South and North Central areas are also the primary areas for cherry production (*see Figure 18*), which creates a sudden high short-term de-

mand for agriculture labor, although the demand in the South Central area seems to be less extreme and more spread out. Cherry production employment peaked in July at 7,375 in the North Central area and 4,419 in the South Central. The South Eastern area had the 3rd highest level of cherry employment, which peaked in June at 2,653 workers.

Figure 19 shows the total agriculture seasonal employment for the four areas, which have peak seasonal employment of at least 10,000. Only two areas are excluded; Western Washington has peak employment in July of just under 10,000, while the Eastern area has peak employment in August of about 1,000. The North and South Central Areas have the highest overall levels of seasonal employment, followed by the Southeastern Area and the Columbia Basin.

Figure 15
Total Cherry Production Labor, 1999 and 2000

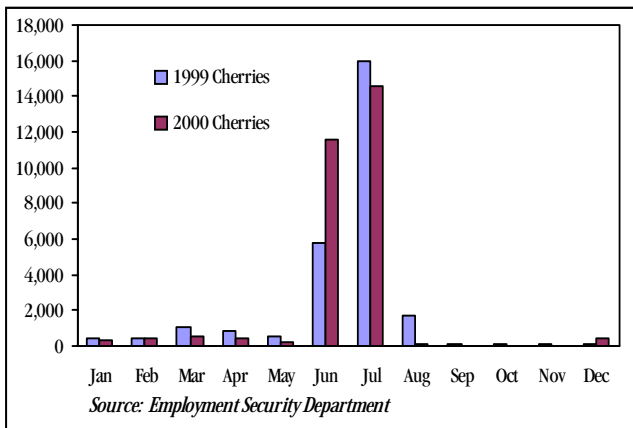


Figure 16
Total Apple Production Labor, 1999 and 2000

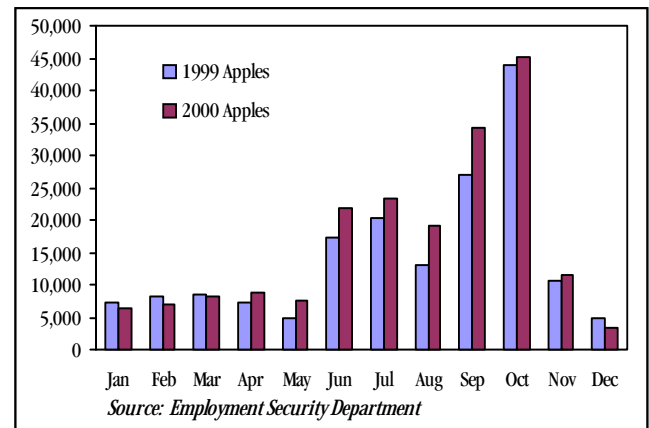


Figure 17 Apple Production by Area, 2000

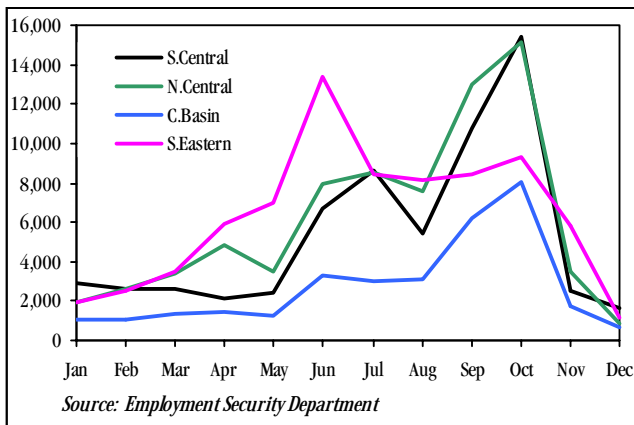


Figure 18
Cherry Production Employment, North Central, South Central, and South Eastern Areas, 2000

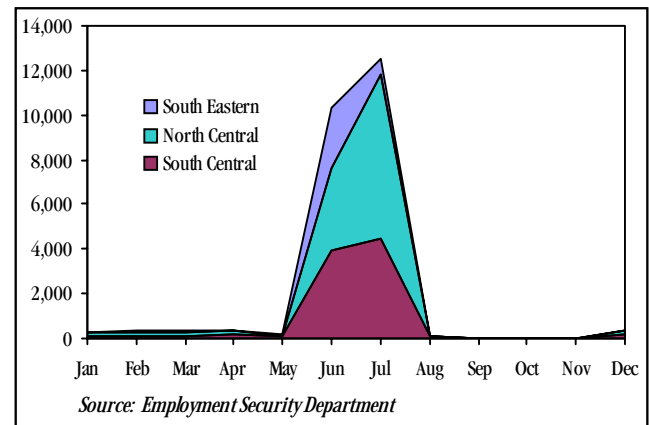
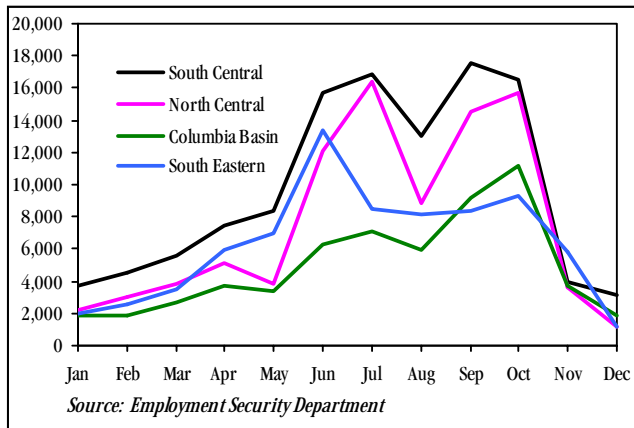


Figure 19
Total Seasonal Labor, North and South Central, Columbia Basin, and South Eastern Areas, 2000



South Central: Wide Diversity of Crops

Beyond apples and cherries, the makeup of agriculture production in the North and South Central areas diverge significantly. The South Central area has a wide diversity of relatively labor-intensive crops beyond apples and cherries, including: hops, asparagus, grapes, pears, and other tree fruit (see Figure 20). Labor demand for grapes and other tree fruit production is spread out throughout most of the year, in contrast to asparagus labor, which peaks at 2,000 to 3,000 from April through June. The South Eastern area employs a similar number of asparagus workers during the same months.

In the South Central area pear production employment averaged around 840 workers in both 1999 and 2000, but the peak season was more sudden and shorter in 2000. In 1999, there was a steady increase in the number of employed workers from almost 1,200 in July to about 3,400 in September. In 2000, the number of workers leaped from about 500 in July to 3,800 in August and then declined to 2,500 in September. (see Figure 21).

Other crops grown in the South Central area include: onions, potatoes, miscellaneous vegetables, and other seasonal workers, each of which add a further peak labor demand for about 500 workers.

Figure 20
Total Major Labor-Intensive Crops (Excluding Apples and Cherries), South Central Area, 2000

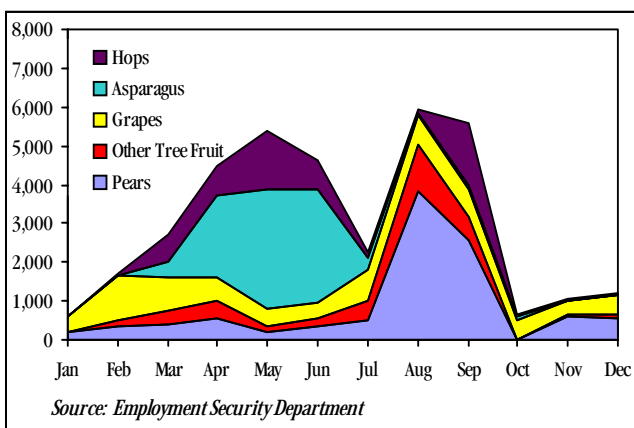
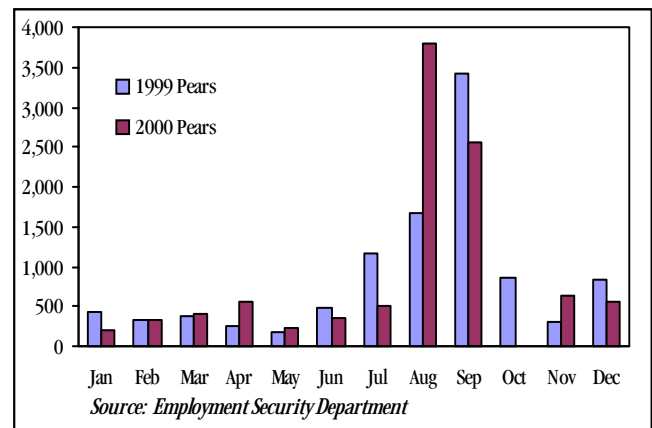


Figure 21
South Central Pears, 1999 and 2000



North Central: Pear Employment Declines in 2000

In contrast to the wide variety of labor-intensive crops grown in the South Central area, the only other labor-intensive crops besides apples and cherries in the North Central area are pears and “other tree” fruits. The average number of people employed in pear production in the North Central area declined from 600 in 1999 to 250 in 2000, with peak September harvest employment declining dramatically from 2,686 in 1999 to 820 in 2000 (see Figure 22). This correlates with the 19 percent decline in Bartlett pear output. The average number of “other fruit” tree workers was about 145 in both years, although 2000 peak employment occurred in September with 648 workers, compared to 540 workers in August 1999.

As these figures show, each crop creates a different kind of demand for labor, but most of the demand occurs during the summer months. Grapes on the other hand, require a modest amount of labor throughout most of the year, with an annual average of about 1,200 workers statewide. Unlike apples and cherries, grapes are machine harvested and therefore do not require nearly as much labor. Most grapes are grown in the South Central and South Eastern areas (see Figure 23).

Figure 22
North Central Pears, 1999 and 2000

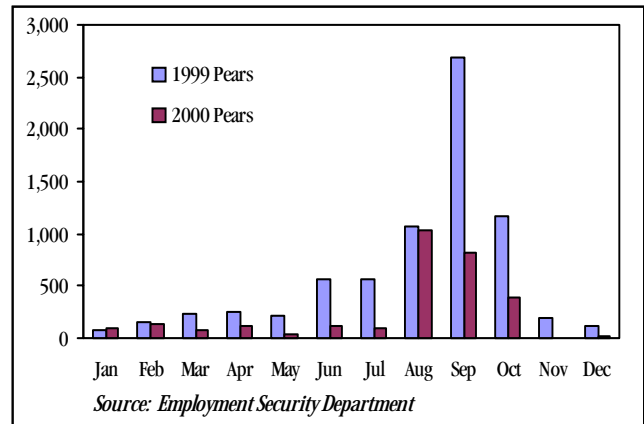
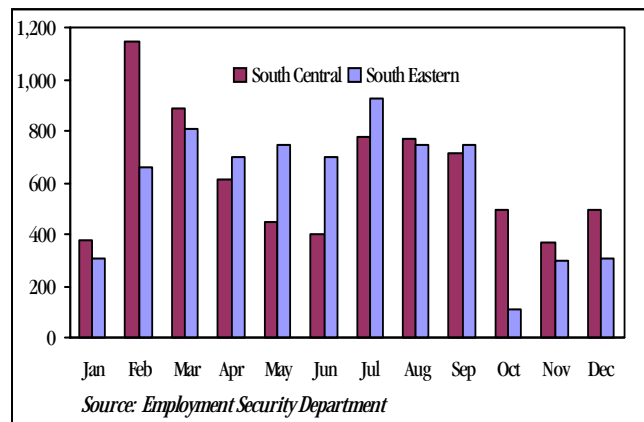


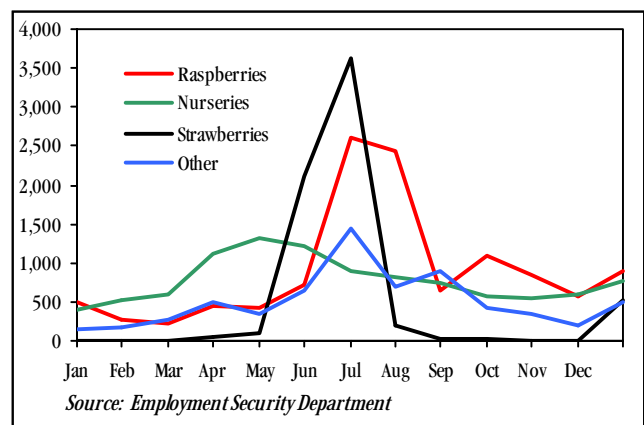
Figure 23
Grape Production Employment, South Central and South Eastern, 2000



Western Washington: Strawberries and Raspberries

The average agriculture labor demand in Western Washington is about 4,100 with a peak of almost 10,000 in July, primarily due to the harvest of strawberries (3,618 workers) and raspberries (2,607 workers). Other labor-intensive activities include nurseries, bulb, potato, cucumber, rhubarb, miscellaneous vegetables, and other seasonal production. Figure 24 shows all the Western Area crops, which have average annual seasonal employment over 500 workers.

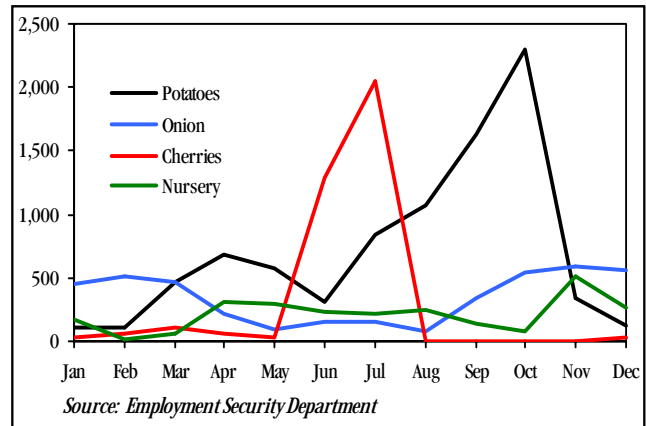
Figure 24
Major Labor-Intensive Crops in Western Area



Columbia Basin: Number One for Potato Employment

The Columbia Basin area includes Grant and Adams counties. The primary labor-intensive crops in this area are apples, cherries, potatoes, and onions. Although the Columbia Basin area is behind the North and South Central areas for apple and cherry employment, it is first with respect to potato workers and second (behind the South East) for onion workers. The average number of seasonal workers for potatoes is 712 and 345 for onions. *Figure 25* shows the seasonal employment in the Columbia Basin for cherries, onions, potatoes, and nursery workers.

Figure 25
Major Labor-Intensive Crops in Columbia Basin

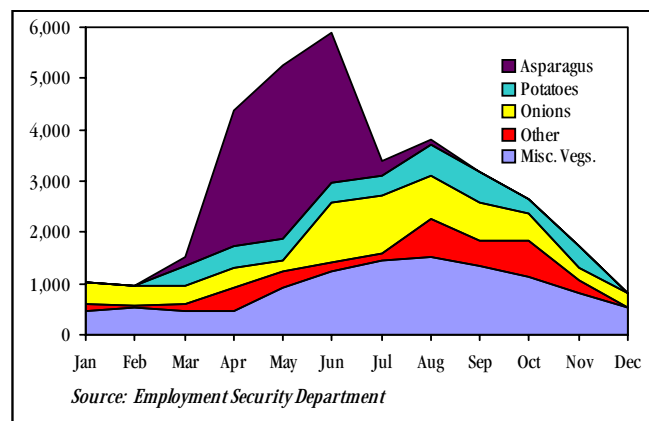


Southeastern Area: Number One for Onion Workers

Apples and cherries are also grown in the South Eastern area of Benton, Franklin, and Walla Walla counties. As was seen in *Figure 17*, the South Eastern Area has the 3rd highest employment for apple production, with a peak rate of 13,395 workers in June 2000. Cherry employment is also the 3rd highest in the South Eastern area and somewhat earlier than the central areas (see *Figure 18*). The Southeast is also a primary area for grape production (see *Figure 23*). Between 2,600 and 3,400 people are employed from April through June for asparagus production. Comparatively, in the South Central area between 2,100 and 3,100 are employed in asparagus production.

In addition to displaying the other predominant labor-intensive (non-tree fruit) crops in the South Eastern area, *Figure 26*, also demonstrates how vegetable crop labor demand tends to be more year-long in nature, except for asparagus which is very intensive from April through June. The South Eastern area is first for employment of onion workers and miscellaneous vegetables and second for potatoes.

Figure 26
Major Labor-Intensive Crops in South Eastern Area



The Eastern area is comprised of nine counties and is known primarily for dry-land wheat and grain production, employing an average total of 355 seasonal workers, with a peak of 1,090 in August. Wheat and grain production is not seasonally labor-intensive.

HOURS AND EARNINGS

As shown in *Figure 27*, the average annual earnings of agriculture workers (\$17,739) is only 46 percent of the annual average salary for total covered private employment (\$38,818). Covered employees are those for whom their employers pay into the Unemployment Insurance program, which represents about 85 percent of all workers. The largest group of non-covered workers is the self-employed, which includes many farm operators.

Average earnings among agriculture workers are relatively low for a variety of reasons. While there are many professionally and technically trained managerial workers in agriculture with wages comparable to those in non-farm industries, formal training is not required for the majority of the workers in agriculture. The only job requirement for most farm jobs is the physical ability and willingness to do manual labor. As with similar jobs in other industries, there is generally a plentiful supply of these workers, and the wage rate needed to attract and retain them is relatively low.

In addition, most agricultural jobs are highly seasonal. Seasonal jobs account for approximately 30 percent of total agriculture employment. Many jobs, especially cherry harvesting, last only a few weeks during harvest periods. Workers must then move on to succeeding harvests or to other seasonal farm work, but usually there is a period in which they are unemployed. Moreover, even during major harvests, they often work less than 8-hour days or full weeks. The

Figure 27
Average Annual Earnings for Covered Agriculture and Total Private Employment

Industry	Annual Average
Total Covered Private Employment	\$38,818
All Agriculture Workers	\$17,739
Agricultural Production - Crops	\$14,552
Irish Potatoes	\$20,591
General Farms, Primarily Crop	\$19,587
Ornamental Floriculture/Nursery Products	\$19,292
Field Crops, Except Cash Grains, Nec	\$18,113
Cash Grains	\$16,994
Vegetables and Melons	\$14,735
Grapes	\$14,274
Deciduous Tree Fruits	\$12,564
Berry Crops	\$10,763
Agricultural Production - Livestock	\$21,105
Dairy Farms	\$21,572
Agriculture Services	\$20,650
Soil Preparation Services	\$27,484
Crop Services	\$19,139
Farm Labor and Management Services	\$15,327

Source: Employment Security Department

number of hours they work depends on crop conditions, the specific activity (planting, irrigation, harvesting, or sorting, grading/packing), size of crop, and weather conditions.

Migrant Labor

The third factor, which may or may not affect the actual cost of agriculture labor is the source of that labor. Unemployment Insurance Claims demographic data (discussed in a later section), indicates that approximately 82 percent of agriculture workers in Washington are Hispanic. According to the National Agriculture Workers Survey (NAWS) of 1997-98, 77 percent of all farm workers in the United States are Mexican born. In 1997-98, 52 percent of those interviewed had no legal authorization to work in the U.S., while 22 percent of the workers were citizens and another 24 percent were legal permanent residents. Similarly, only 58 percent of the workers claimed the U.S. as their home base.

Assuming that approximately 50 percent of the agriculture workers have no legal authorization, what is the

impact of their status on their earnings? Labor advocacy groups would suggest that illegal workers are more likely to be taken advantage of and paid below minimum wage. What we do know is that most agriculture workers are from Mexico or Central America, where low salaries and poverty level incomes cannot compete with U.S. agriculture wages, even if they are low compared to other industries. Although agriculture employers are compelled to pay at least the minimum wage, like other employers, they are not going to pay workers beyond what the free market demands, especially as their own incomes decline due to falling commodity prices.

Is there a labor shortage? What is a labor shortage? Farm owners would say that there is indeed a worker shortage—not enough workers at the right place at the

right time for the right price. Some labor advocates would say that there are already sufficient available workers living within the state, legal and otherwise, and that there is no need to increase immigration of agriculture workers. They believe that further immigration will only bring down wages. One more piece of information from the NAWS adds further complexity to the question. According to the survey, Mexican born workers spent their time as follows: 48 percent working in the U.S., 29 percent abroad, 15 percent not working, and 6 percent in non-farm work. Comparatively, U.S. born workers spent 46 percent of their time working, 33 percent of their time not working, 12 percent in non-farm work, and 6 percent of their time abroad. Both groups spent less than 50 percent of their time working.

While one might assume that, in general, agriculture workers are unemployed during the winter months, it should be noted that during the month of July (time of peak agriculture employment) only 56 percent of the respondents' time was spent employed in agriculture. On average, 20 percent of the workers were abroad,

15 percent were in the U.S. but not working, and another 9 percent were employed with non-farm work. It would seem that despite the willingness of agriculture workers to follow the jobs, they do not have sufficient or timely enough information to do so.

Of those people who had legal status, 40 percent were citizens by birth and another 33 percent had gained legal status under the Special Agriculture Worker (SAW) Program in 1986. Some people believe that if illegal agriculture workers are given amnesty and the right to live in the U.S. that they will leave the agriculture work force. According to these statistics 16 percent of the present agriculture workforce was given amnesty 15 years ago, and yet they remained in the agriculture workforce.

More in-depth qualitative information is needed on the issues which influence the decision making process of agriculture workers, in order to better predict labor availability and the response to labor demand.

Agriculture Employment: Crops, Livestock, and Services

Within the agriculture division there are three different types of employment: crops, livestock, and services. About 79 percent of the people employed in agriculture are employed in crop production, with the lowest average salary of \$14,552 (*see Figure 27*). As one might expect, crops which involve higher levels of seasonal employment for harvest (vegetables/melons, grapes, tree fruit, and berries) have lower average earnings than the less labor-intensive crops, which employ fewer people, but which provide more year-round full-time employment.

Livestock, and especially dairy, employment also tends to be more year-round than seasonal and therefore provides a higher annual salary, over \$21,000. Interestingly, dairy employment increased 12 percent (372 jobs) from 1990 to 1999, despite a 13 percent decline in the number of dairy farms. Soil preparation and crop services employment are more specialized jobs, employing people with more experience, and covers a variety of crops, allowing for more full-time employment. Soil preparation pays the highest agriculture salary of \$27,484 and crop services pays \$19,139.

Earnings of Individual Farm Workers

Average annual industry earnings represents the total earnings of all workers in that industry divided by the average monthly number of workers employed in the industry during the year. The total number of individual workers, however, is significantly greater than the average number because of turnover and because many workers are only employed for part of the year. Agriculture, of course, is highly seasonal and many individual jobs last only a few weeks, and most workers

are not able to work year-round in agriculture. Consequently, the total number of workers who are employed in agriculture during a year is considerably greater than the monthly average.

An average of 69,265 workers was employed in agriculture in 2000, but the number of individual workers for that year totaled 151,740. And while annual earnings in agriculture averaged \$17,739 in 2000, the average for individual workers was \$8,782. *Figure 28*

Figure 28 Average Hours, Earnings, and Number of Employers, Washington State, 1995 to 2000

	1995	1996	1997	1998	1999	2000	% Chg. 99-2000
All Agriculture Workers	149,650	154,870	155,980	161,423	152,474	151,740	-0.5%
Average Annual Hours	777	788	835	849	859	891	3.7%
Average Annual Earnings	\$6,411	\$6,606	\$7,294	\$7,649	\$8,018	\$8,782	9.5%
Over \$10,000				43,349	42,810	48,575	13.5%
Average Hourly Earnings	\$8.25	\$8.38	\$8.74	\$9.01	\$9.33	\$9.86	5.6%
Average # of Employers				2.62	2.53	2.59	2.4%
Workers in Agriculture Only	105,770	110,620	108,870	113,591	106,744	105,170	-1.5%
Average Annual Hours	658	664	705	720	728	745	2.3%
Average Annual Earnings	\$5,383	\$5,503	\$6,116	\$6,418	\$6,697	\$7,272	8.6%
Over \$10,000				25,292	24,834	27,612	11.2%
Average Hourly Earnings	\$8.18	\$8.29	\$8.68	\$8.91	\$9.20	\$9.76	6.1%
Average # of Employers				2.08	2.01	2.05	2.0%
Worked in Ag. & Non-Ag Industries	43,880	44,250	47,110	47,832	45,730	46,570	1.8%
Average Annual Hours	1,062	1,097	1,136	1,154	1,165	1,220	4.7%
Average Annual Earnings	\$8,890	\$9,361	\$10,017	\$10,574	\$11,102	\$12,194	9.8%
Over \$10,000				18,057	17,976	20,963	16.6%
Average Hourly Earnings	\$8.37	\$8.53	\$8.82	\$9.16	\$9.53	\$10.00	4.9%
Average # of Employers				3.88	3.74	3.8	1.6%

Source: Employment Security Department

shows the total number of agriculture workers, average annual earnings, hours, and hourly earnings, as well as, the average number of employers, and the number of workers who earned over \$10,000. The data are also broken down by workers who worked in agriculture only and those who worked in nonagriculture jobs, as well. The table also shows the percentage change between 1999 and 2000.

Interestingly, while the total number of individual agriculture workers declined 0.5 percent in 2000, the total number of workers increased 1.2 percent. As one would expect with fewer workers and increased production, workers ended up working more hours. Not only did the average annual hours increase 3.7 percent, but the average annual earnings increased 9.5 percent. Even better, the number of workers who earned over \$10,000 increased 13.5 percent. The increase in earnings was not driven only by increased hours; the average hourly wage also increased by 5.6 percent. There were similar improvements for both those who worked in agriculture only and for those who also worked in other industries.

The average number of employers (2.6 for agriculture only), somewhat dispels the image of workers changing employers every few weeks. Assuming a 35 hour work week, the 891 annual hours means that on average these workers are employed about 5.7 months during the year, spending about 2.2 months with each employer. Those who are able to find employment in nonagriculture industries in addition to their agriculture employment, average about 2 months more of employment, than those who could not. And, although they have higher annual earnings, their average hourly earnings are about the same (\$10.00 per hour).

Figure 29 shows the average annual hours and earnings of those workers who found employment in both agriculture and nonagriculture jobs, broken down into these two types of employment. Those people who held both agriculture and nonagriculture jobs during the year, spent 42 percent of their working hours in agriculture with an hourly average wage of \$8.75. The additional hours in nonagriculture jobs enabled them to work 64 percent more hours than those who worked in agriculture only, which allowed them to have an annual income 68 percent greater.

Despite the higher overall income, it is interesting that these people earned a lower agriculture wage than those who worked in agriculture only. One can only speculate on the reasoning behind this. Either they could not obtain higher paying agriculture jobs and so were compelled to work in other industries, or perhaps they only worked in agriculture when they could not find a significantly better nonagriculture job, and being later to apply they obtained the lower paying jobs. Regardless, their average hourly nonagriculture wage was less than one dollar more than the agriculture average, making their overall average the same as those who worked in agriculture only.

Figure 29
Average Annual Hours and Earnings of Workers Employed in Both Agriculture and Nonagriculture Jobs, Washington State, 2000

Industry	Average Annual Hourly	Average Annual Earnings	Average Annual Earnings
Total	1,220	\$10.00	\$12,194
Agricultural	515	\$8.75	\$4,506
Nonagricultural	706	\$10.89	\$7,687

*Excludes SIC 074, 075, 078; veterinary, landscape, lawn-garden, and tree services

Source: *Employment Security Department*

Jobs Held in Agriculture and Nonagriculture Industries

Figure 30 shows the individual industries in which agriculture workers were employed, broken down again by those who worked in agriculture only and those who were also employed in nonagriculture jobs. It should be kept in mind that these figures refer to jobs, not people. Notice that only 80 percent of the jobs which were occupied by those who worked in both agriculture and nonagriculture jobs are accounted for by the individual industries; the other 20 percent are spread out in small numbers among many different industries, all of which cannot be shown. Almost 100 percent of the jobs held by those who worked in agriculture only, are accounted for by the industries presented.

A great deal can be learned from this table. On the one hand, we can just look at the differences in the industries occupied by the two different groups of people. But we also look at the differences in earnings obtained by the two different groups, within the same industries. For those people who worked in nonagriculture indus-

tries, approximately 30 percent of their jobs were in nonagriculture industries; 8 percent were in retail trade and another 6.5 percent in wholesale fruit and vegetable trade. The largest share of agriculture jobs were in crop production (39 percent), with by far the largest share (17 percent) in deciduous fruit tree production. Agriculture services, accounted for 8.4 percent of the jobs, with most of these (8,007 jobs) in crop preparation.

For those working in agriculture only, the relative shares of jobs was very similar to those who also worked in nonagriculture industries, with the largest share of jobs being in: fruit trees (42 percent), crop preparation (9 percent), field crops (6 percent), vegetables and melons (6 percent) and so on. As mentioned earlier, wages received by those who worked in agriculture only were generally higher than for those who also worked in nonagriculture jobs. For example, the average wage for crop production was 17 percent higher.

Figure 30 Number of Agriculture Workers and Average Earnings by SIC Code, Washington, 2000

SIC CODE		Workers Employed in Ag. And Non-Ag Jobs				Workers Employed in Agriculture Only			
		% of Total Jobs	# of Jobs	Annual Average Earnings	Hourly Avg. Earnings	% of Total Jobs	# of Jobs	Annual Average Earnings	Hourly Avg. Earnings
	Total	80.2%	133,303	\$4,259	\$9.99	99.0%	140,596	\$5,439	\$9.76
	Total Workers		46,570				105,170		
01	Agricultural Production, Crops	39.0%	51,927	\$2,743	\$8.96	80.6%	113,283	\$6,379	\$10.50
0175	Deciduous Fruit Trees	17.5%	23,394	\$3,296	\$8.50	42.3%	59,442	\$4,653	\$8.87
0139	Field Crops, Exc. Cash Grains	3.2%	4,280	\$2,693	\$8.32	6.2%	8,697	\$4,689	\$9.19
0161	Vegetables and Melons	3.1%	4,114	\$2,538	\$8.58	5.9%	8,247	\$3,447	\$9.22
0191	General Farms & Other	2.8%	3,673	\$2,502	\$8.48	5.8%	8,182	\$5,108	\$9.98
0181	Ornamental Floriclct/Nursry Prods	4.1%	5,463	\$4,093	\$8.75	5.5%	7,667	\$8,775	\$10.77
0171	Berry Crops	2.0%	2,699	\$2,097	\$8.00	4.0%	5,668	\$2,454	\$8.28
0172	Grapes	1.9%	2,577	\$2,849	\$9.03	4.0%	5,562	\$6,498	\$11.19
0134	Irish Potatoes	1.6%	2,127	\$2,727	\$8.63	2.8%	3,972	\$5,338	\$10.63
0111	Wheat	1.7%	2,230	\$2,461	\$10.26	2.5%	3,504	\$5,325	\$10.75
0179	Fruits and Tree Nuts	0.3%	463	\$1,042	\$8.02	0.6%	882	\$1,914	\$8.27
0119	Cash Grains, NEC	0.3%	356	\$2,383	\$9.67	0.4%	588	\$4,814	\$9.95
0115	Corn	0.2%	269	\$1,957	\$8.65	0.3%	411	\$3,249	\$10.01
0182	Food Crops grown under cover	0.2%	230	\$5,185	\$9.24	0.3%	360	\$15,276	\$10.54
0133	Sugar Beets	0.0%	41	\$2,882	\$10.83	0.1%	93	\$3,904	\$10.17
0173	Tree Nuts	0.0%	11	\$2,435	\$9.51	0.0%	8	\$20,246	\$19.69
02	Ag Production, Livestock	1.9%	2,555	\$3,411	\$8.96	4.0%	5,604	\$8,541	\$9.94
0241	Dairy Farms	1.3%	1,725	\$5,908	\$10.38	2.9%	4,072	\$13,322	\$11.57
0212	Beef Cattle, Except Feedlots	0.3%	421	\$2,569	\$9.22	0.5%	761	\$6,592	\$10.22
0211	Beef Cattle Feedlots	0.2%	280	\$2,572	\$8.09	0.4%	573	\$7,505	\$10.18
0214	Sheep and Goats	0.1%	120	\$1,937	\$10.48	0.1%	190	\$2,825	\$9.52
0219	Gen Livestock, exc. dairy & poultry	0.0%	8	\$3,640	\$7.46	0.0%	5	\$6,973	\$8.05
0213	Hogs	0.0%	1	\$3,840	\$8.13	0.0%	3	\$14,026	\$10.12
07	Agricultural Services**	8.4%	11,132	\$3,745	\$10.81	14.4%	20,276	\$6,608	\$11.74
0723	Crop Prep. For Market	6.0%	8,007	\$3,578	\$8.77	9.3%	13,117	\$7,860	\$10.26
0762	Farm Management Services	1.2%	1,626	\$1,657	\$8.20	2.9%	4,049	\$2,785	\$9.00
0761	Farm Labor Contractors/Crew leaders	0.7%	983	\$1,269	\$8.04	1.6%	2,312	\$1,603	\$8.44
0721	Crop Planting, Cult, & Protecting	0.3%	344	\$5,209	\$13.09	0.4%	536	\$9,160	\$16.98
0722	Crop harvesting, by machine	0.1%	132	\$2,359	\$10.07	0.1%	193	\$3,449	\$9.73
0711	Soil Preparation Services	0.0%	40	\$8,398	\$16.69	0.0%	69	\$14,789	\$16.03
	Nonagriculture Employment	31.0%	41,291	\$5,541	\$10.82				
52-59	Retail Trade	8.2%	10,977	\$4,444	\$8.55				
5148	Wholesale Fresh Fruit and Vegetables	6.5%	8,666	\$3,097	\$8.57				
15-17	Construction	3.6%	4,813	\$6,278	\$13.91				
7363	Temporary Help Agencies	3.4%	4,471	\$2,226	\$8.67				
2033	Canned Fruits and Vegetables	2.3%	3,077	\$4,036	\$9.13				
2037	Frozen Fruits, Vegetables & Juices	1.9%	2,562	\$5,351	\$9.77				
42	Trucking & Warehousing	1.6%	2,144	\$5,330	\$11.93				
82	Education Services	1.5%	2,064	\$12,180	\$17.88				
24	Lumber and Wood Products	1.0%	1,395	\$7,640	\$11.21				
83	Social Services	0.8%	1,122	\$4,823	\$8.61				

**Excludes SIC 074, 075, and 078; veterinary, livestock, landscape, lawn-garden, and tree services.

Source: Employment Security Department

Turnover Among Agriculture Workers

Turnover among agriculture workers in Washington is high. As shown in *Figure 31*, only 55.3 percent of the people who were employed in agriculture in 1999 were again employed in agriculture in 2000. Of those who no longer worked in agriculture in 2000, almost 12 percent were instead employed in other industries. Thirty-three percent of the original 152,474 workers either no longer worked in Washington in 2000, or worked in jobs where unemployment insurance was not paid.

We can only guess as to the cause of the high rate of turnover. On the one hand, while it is relatively easy for unskilled workers, even those unable to speak English well, to find seasonal employment in agriculture, wages are low and working time often is too short to earn an acceptable living. However, since only 12 percent became employed in Washington nonagriculture industries, where did the remaining 50,000 workers go? Perhaps they continue to work in agriculture in another state, or they decided to return to Mexico, or perhaps they are no longer using the social security number that they used in 1999. We can only speculate.

Figure 31

Labor Turnover in Agriculture Employment

Agriculture Workers	Number	Percent
Total Workers in 1999	152,474	
Worked in Agriculture in 1999 and 2000	84,339	55.3%
Worked in Agriculture in 1999, but not 2000	68,135	44.7%
Worked in Ag.in 1999, but in Nonag Industries in 2000	18,182	11.9%
Those who no longer worked in the state in 2000	49,953	32.8%

Source: Employment Security Department

Figure 32 shows the industries where the 18,000 people who left the agriculture sector but continued to work in Washington, found their employment. They are shown to have worked in 27,351 jobs, 22 percent of which were in retail trade, with an average salary of \$5,904. Retail trade was followed by services (11.4 percent), food processing (9.8 percent), and business services (9.7 percent), all of which had lower than average total earnings. Mining, which accounted for the smallest number of jobs, paid the highest average total earnings of \$17,740.

Figure 32 Jobs and Earnings of Former 1999 Agriculture Workers

SIC Code		Total Workers 18,182		Annual Average Earnings
		# of Jobs	% of Jobs	
	Total of All Industries	27,351	100.0%	\$10,525
52-59	Retail Trade	6,037	22.1%	\$5,904
70, 72, 75-79, 81, 83-89	Services (excluding: Business, Education & Health)	3,116	11.4%	\$7,228
20	Food Processing	2,671	9.8%	\$9,857
73	Business Services	2,661	9.7%	\$4,697
15-17	Construction	2,388	8.7%	\$9,391
22,23,25-41,43-49	Other Manufacturing	2,296	8.4%	\$12,345
51	Wholesale Trade - Nondurable	2,130	7.8%	\$8,793
82	Education Services	993	3.6%	\$12,784
80	Health Services	988	3.6%	\$10,544
42	Trucking & Warehousing	758	2.8%	\$10,591
07	Agricultural Services	647	2.4%	\$8,114
24	Lumber and Wood Products	632	2.3%	\$11,447
60-67	Finance, Insurance and Real Estate Division	617	2.3%	\$15,499
91-97	Public Administration	573	2.1%	\$14,742
50	Wholesale Trade - Durable	532	1.9%	\$12,752
08-09	Forestry, Fishing, Hunting, & Trapping	268	1.0%	\$6,496
10-14	Mining	44	0.2%	\$17,740

Source: Employment Security Department

UNEMPLOYMENT CLAIMS

Many industries in Washington are highly seasonal, and few are more seasonal than agriculture. December and January normally mark the low point for seasonal jobs in the state. Thousands of temporary sales workers are terminated following the December holidays. Hotels, motels, amusement parks, and other tourist related businesses are at their annual lows. Outdoor work in logging and construction is generally precluded by weather conditions. Agriculture, of course, is at its low point with harvest work completed by December and most fieldwork not possible until the return of spring weather. Employment in agriculture-related industries such as food processing and wholesale fruit and vegetable operations are also at their annual lows.

Figure 33 shows that unemployment claims for state regular entitlement unemployment compensation from continuing claimants totaled 119,057 in January 2000, while claims from workers last employed in agriculture numbered 9,056. Winter seasonal work in agriculture was largely limited to pruning fruit trees and berry and grape plants. A few hundred other workers were sorting, grading, and packing fruit, potatoes, and onions, planting nursery bedding plants, and repairing equipment.

By April the return of spring weather expanded employment opportunities throughout the economy but

especially in outdoor industries such as agriculture, construction, and logging. From January to April, total claims fell 21 percent and agriculture claims fell 38 percent. With the return of spring weather, fieldwork, including planting and cultivation, was well underway throughout the state. There was an increase of 7,000 seasonal jobs between March and April; 5,000 of these jobs were in asparagus production and another 1,000 were in nursery work.

From April to July, agriculture UI claims decreased another 46 percent (2,617 fewer claims), compared to 26 percent for all industries. The drop in claims corresponded with 14,000 new jobs in apple thinning and harvesting, 14,000 in cherry production, about 5,000 in strawberry and raspberry harvesting, 1,000 jobs for onion workers, and another 3,000 jobs for miscellaneous vegetable and other seasonal workers. During the same period, jobs in asparagus production declined from 6,000 in June to 600 in July. In total, there was an increase of about 47,000 agriculture jobs from April to July.

August appears to be the one summer month when UI claims rise (43 percent), before continuing the steady decline through October. The increase was due to the 24 percent decrease in seasonal jobs, from 59,000 in July to 45,000 in August, due to the end of the cherry

Figure 33 Unemployment Claims for Agriculture and All Other Industries, Washington, 1998-2000

	1998		1999		2000		% Chg.	% Chg.	% Chg.	% Chg.
	All Industries	Ag. Only	All Industries	Ag. Only	All Industries	Ag. Only	98-99 All	98-99 Ag.	99-00 All	99-00 Ag.
January	1,131,349	74,941	1,150,412	77,647	1,064,537	65,074	1.7%	3.6%	-7.5%	-16.2%
February	128,050	11,041	132,741	10,935	119,057	9,056	3.7%	-1.0%	-10.3%	-17.2%
March	107,357	8,294	115,938	8,306	105,617	7,512	8.0%	0.1%	-8.9%	-9.6%
April	101,080	6,775	108,261	7,159	98,470	5,887	7.1%	5.7%	-9.0%	-17.8%
May	95,920	6,422	104,213	6,844	94,372	5,649	8.6%	6.6%	-9.4%	-17.5%
June	90,026	5,117	99,010	5,745	77,369	3,989	10.0%	12.3%	-21.9%	-30.6%
July	79,828	3,134	88,759	4,876	74,698	3,205	11.2%	55.6%	-15.8%	-34.3%
August	79,944	3,104	88,953	4,500	70,307	3,032	11.3%	45.0%	-21.0%	-32.6%
September	83,762	4,801	78,997	5,240	74,830	4,325	-5.7%	9.1%	-5.3%	-17.5%
October	71,557	2,597	70,996	3,395	74,303	2,673	-0.8%	30.7%	4.7%	-21.3%
November	82,976	4,155	77,477	4,293	72,707	2,670	-6.6%	3.3%	-6.2%	-37.8%
December	96,837	8,827	87,359	8,002	88,940	7,426	-9.8%	-9.3%	1.8%	-7.2%
December	114,012	10,674	97,708	8,352	113,867	9,650	-14.3%	-21.8%	16.5%	15.5%

Source: Employment Security Department

harvest (14,000 jobs) and a decline in apple work (4,000 jobs). On the other hand, there were 4,500 new jobs for pear workers and almost 1,000 new jobs for grain workers. All industry claims also increased in August but only by 6 percent.

From August to October UI claims decreased by 38 percent for agriculture and by 3 percent for nonagriculture. Seasonal jobs increased overall by almost 12,000, despite the following job losses: pears (almost 5,000 jobs), other tree fruit workers (1,500 jobs), grape workers (900 jobs), blueberry and raspberry workers (2,600 jobs), wheat/grain workers (1,300 jobs), and cucumber workers (1,200 jobs). These declines were offset completely by 20,000 more jobs for the apple harvest.

As fall turned to winter, from October to December, UI claims for agriculture increased 261 percent (7,000 more claims), compared to 57 percent for all industry claims. Seasonal agriculture employment declined from 56,952 in October to 19,797 in November, and then to 9,510 in December, a total decline of over 45,000 jobs, 93 percent of which was due to the decline in apple production employment. Interestingly, despite the dra-

matic decline in agriculture employment, agriculture unemployment claims increased by only 7,000. What happened to the other 38,000 newly unemployed workers? They may have moved on or returned to California and/or Mexico. We do not know.

Figure 33 also shows unemployment claims for 1998 and 1999, and how the rate of claims has increased or decreased from year to year. Overall, claims increased from 1998 to 1999, by 1.7 percent for all industries and by 3.6 percent for agriculture only. The number of claims then decreased from 1999 to 2000 by 7.5 percent for all industries and by 16.2 percent for agriculture claims, an average of 1,000 fewer claims each month. The monthly percentage changes show the months in which the most pronounced changes are likely to occur. For example, there were 55 percent more claims in June 1999 than in June 1998. In 2000, there were 34 percent fewer June claims than in 1999. The figures are similar for July. These are the months when a shortage of labor is going to hurt farmers the most, or when an unexpected shortage of jobs is going to hurt workers the most.

Farm Workers Demographics

The characteristics of farm workers are available for those who filed for unemployment compensation. Not all farm workers, of course, file for Washington unemployment benefits. Some migrant farm workers file for benefits against other states in which they had earnings. In addition, approximately 50 percent of all 2000 agricultural workers who worked in the state did not have the required 680 hours of employment to qualify. Of those who worked in agriculture only, 60 percent worked less than the required 680 hours. Nonetheless, the information from filed claims does give us an idea of the demographics of agriculture workers.

Figure 34 shows the three different agriculture industries in which workers were employed, broken down by their age and gender. Of the total 10,186 workers who filed claims in January 2001, 85 percent had worked in crop production, 2 percent in livestock, and 13 percent in agriculture services. Even though livestock workers account for 8 percent of those employed in agriculture, they account for only 2 percent of the claims. The 80 percent who are employed in crop production make up the difference as they account for 85 percent of the claims and are a much larger group of people.

While 28 percent of the people who filed claims were women, 48 percent of the claimants who had worked in agriculture services were female. Women also ac-

Figure 34
Unemployment Claims by Job Type and Age
Washington State, January 2001

Age Group	Crops	Livestock	Ag. Services	All Ag. Workers	Age Group
Total	8,667	202	1,317	10,186	% of Total
	85%	2%	13%	100%	
% Female	25%	15%	48%	28%	
<18	4			4	0%
18 - 29	1,617	39	283	1,939	19%
30 - 39	2,823	64	434	3,321	33%
40 - 49	2,397	59	330	2,786	27%
>49	1,826	40	270	2,136	21%

Source: Employment Security Department

Figure 35
Unemployment Claims by Ethnic Group and Job Type, Washington State, January 2001

Race/Ethnic Group	Crops	Livestock	Ag. Services	Total	Group as % of Total
	8,667	202	1,317	10,186	100.0%
Hispanic	7,307	82	929	8,318	81.7%
White	1,218	118	365	1,701	16.7%
Asian	44		5	49	0.5%
Native American	34	1	6	41	0.4%
Unknown	36		5	41	0.4%
Black	28	1	7	36	0.4%
Whites %	14%	58%	28%	17%	

Source: Employment Security Department

counted for an unusually higher share of the livestock claimants (15 percent). The most predominant age group of the claimants were those 30 to 39 years old (33 percent), followed by 40 to 49 year olds (27 percent), over 49 (21 percent), and lastly those 18 to 29 years old (19 percent). There were no significant differences between age groups with respect to their type of employment.

Figure 35 shows the claimants by job type held, broken down by ethnic group. Hispanics account for 81.7 percent of all claimants, and whites accounted for 16.7 percent; the two together accounted for 98.4 percent of all claimants. Although whites accounted for less than 17 percent of all claimants, they accounted for 58 percent of those who had worked in livestock, and 28 percent of those who worked in agriculture services.

Figure 36 breaks down the claimant data even further, by age groups and education level. The education level of Hispanic workers is quite low; 72 percent of the Hispanic claimants had less than 8 years of education, compared to 6 percent of whites. Only 9 percent of Hispanic claimants had 12 years of education or more, in comparison to 69 percent of whites. There is much more similarity between Hispanic and White claim-

Figure 36
Demographics of Unemployment Claimants
Washington State, January 2001

Race/ Ethnicity	Education Groups (years)					
	Unknown	<8 years	9-11	12	>12	Total
White	111	97	322	764	407	1,701
Hispanic	150	6,023	1,321	703	121	8,318
Share of Total						
White	7%	6%	19%	45%	24%	100%
Hispanic	2%	72%	16%	8%	1%	100%
Age Groups						
	<18	18-30	31-40	41-50	>50	Total
White		306	356	471	499	1,632
Hispanic	4	1,529	2,193	1,655	1,202	6,583
Share of Total						
White	0%	19%	22%	29%	31%	100%
Hispanic	0%	23%	33%	25%	18%	100%

Source: Employment Security Department

ants with respect to their age. The biggest difference is for those over 50 years of age; 31 percent of White claimants were over 50 compared to only 18 percent of Hispanics.

SUMMARY AND AGRICULTURE WORKFORCE ISSUES

The usefulness of this report to agriculture employers, workers, or policy makers depends on the questions being asked. For workers, this report only confirms what they probably already know; agriculture is a relatively low paying industry, which offers little or no job security. Agriculture employment is also very seasonal and dominated by fruit tree production. Opportunity for employment is dependent on the level of seasonal production more than any other factor. On the other hand, average and total wages are increasing, despite the decline in farm profitability.

This report should help employers to be more aware of issues that may affect their ability to recruit and retain labor. Some areas of the state (for example, Yakima) may have comparative advantages by being able to offer a wider selection of employment, housing facilities, or higher paying jobs. The different areas may be competing for labor at critical times during the season (for example, cherry harvest) or different crops may be competing for labor, due to worker preference and pay (for example, asparagus verses cherries). It does appear that some of the smaller counties, (for example, Franklin County) are increasing wages in order to compete for labor. Although cherry pickers appreciate the higher Washington wages, it is difficult to estimate how long they will be willing to put up with the lack of housing. Ken Severn, President of the Fruit Commission, stated it well when he said “It probably isn’t an option to do nothing. We need to have the labor.”

The primary issues for policy makers and employers are 1) the availability of migrant labor, and 2) the availability of housing for seasonal migrant labor. Although this report attempts to reveal some of the available information on seasonal labor, it more effectively reveals what is not known. For example, what percentage of seasonal workers have legal authorization to work, and what percentage are actually migrant? Many of the questions and answers about agriculture labor are completely subjective. For example, is there a shortage or surplus of labor? It depends on whether you are a job seeker or an employer.

In the short run, agriculture employment does not appear to be significantly affected by the continuing decline in the profitability of agriculture production. Farmers have many fixed costs (land, trees, and equipment); unless they harvest, they earn nothing. For this reason they tend to harvest most of their production despite high labor costs and low commodity prices. However, in the long run, if total agriculture production begins to decline due to chronically low profits, there may eventually be a decline in demand for agriculture workers.

What is more likely to happen is that apple producers, for example, will continue to move away from red delicious apple production to more profitable apple varieties, cherries, or wine grapes. Increased cherry production will further heighten the demand for high numbers of workers for short-term employment, while shifting to grapes will decrease the overall need for workers.

Migrant Labor

We can safely presume that the need for “migrant” labor in the agriculture sector is not going to change. And yet, how much is really known about the issues facing migrant workers, which affect the availability of that labor? It is estimated that about 50 percent of the present agriculture workforce is in the U.S. illegally. Labor advocates seem to believe that undocumented farm workers should be given full legal rights to residency and/or citizenship. Others believe that full amnesty will encourage more illegal migration. Can the economy support people who are employed only 50 percent of the time? According to the National Agricultural

Worker Survey (NAWS), less than 17 percent of agriculture workers use needs based services, such as medicaid, WIC, food stamps, etc. Somehow, agricultural workers, about 45 percent of whom have children, are managing to survive despite poverty level incomes and little government support. Which is the greater risk, allowing greater immigration, which is impossible to stop anyhow, or neglecting a significant group within our population, legal or otherwise?

Regardless of one’s position, what are the critical issues for the workers? On average, Mexican born workers spend 30 percent of their time abroad. Do they

want to live in the United States full time or would they prefer to be able to migrate back and forth more easily? In discussing the visa issues, some illegal workers have said that they do not return to Mexico annually because of the danger involved in returning to the U.S.

According to the NAWS, 32 percent of agriculture workers have been in the U.S. for less than two years, while the next largest share of 27 percent have been in the U.S. for more than 15 years. Unfortunately, it is not known whether there is a higher share of legal residency among those who have lived in the U.S. for more than 15 years. Regardless, it should be noted that almost one-third of the agriculture workforce has been in the

U.S. for more than 15 years and yet they continue to work in agriculture, despite the low earnings. There seems to be little risk in losing a large share of agriculture workers to other industries by increasing the rate of legal authorization.

The NAWS study should be followed up with a more qualitative study in order to develop a rational immigration policy that will meet the needs of both agriculture employers and migrant workers. Migrant workers provide a valuable service to an important sector and their needs and desires need to be better understood in order to establish a rational and fair policy.

Housing

The availability of housing for migrant workers is a complicated and contentious issue. The most critical shortage of worker housing occurs during the cherry harvest. Although the cherry harvest takes place during June and July, it lasts only 1-2 weeks at any one farm. Most individual farmers cannot afford to provide the kind of housing that is mandated by the federal government. In order to begin work early in the morning cherry workers would rather stay in the orchards, but due to the strict requirements for housing, most farmers have stopped providing on-site housing for their workers.

In response to the lack of available housing, the state has stepped in to provide housing for migrant workers. During the 1999 legislative session, \$40 million was budgeted to provide housing for 10,000 farm workers over 10 years. The Department of Community Trade and Economic Development (DCTED), which coordi-

nates the emergency tent program, spent \$600,000 in 2000 to house 250 workers for 21 days. The original plan was for camps for 1,500 workers on public utility district (PUD) land but public agencies backed out at the last minute. Busse Nutley, director of the Office of Community Development within DCTED called the program “an experiment” to determine whether growers and pickers would use centrally located camps.

As the program is experimental, it would be advisable to follow up the initial experiences with a qualitative evaluation to determine if an annual tent program is the most sustainable and cost effective solution to a long-term problem. As the number of agriculture workers increases from about 60,000 in January to 130,000 in July, it is unlikely that cherry pickers are the only workers in need of housing.

FUTURE OUTLOOK

Like any industry, agriculture production cannot be profitable unless the quantity demanded of a particular product exceeds the quantity supplied. Also, like other industries, the agriculture economy is globalized, dependent on export demand and with very little control of worldwide supply. In anticipation of improved access to foreign markets, farmers are hopeful that China will eventually make it into the World Trade Organization. Farmers have also been encouraged that Congress has decided to eliminate sanctions on food and medicine to Iran, Sudan, Libya, Cuba, and North Korea. The actual impact of these “opening markets” is difficult to estimate and goes beyond the scope of this report.

The most exciting issue in Washington agriculture at this time is related to the new level of self-organizing among Washington fruit farmers, who are beginning to realize that they have to do something to influence the demand for and the supply of their product. According to the Washington CEO (May 2001), “Yakima apple growers specializing in the Jonagold variety are banding together in hopes of being able to negotiate better prices with retailers.” Washington Jonagold Growers Association members control 55 percent of the Jonagolds produced in the state, and they expect to sign up 75 percent of the growers before the 2001 harvest.

According to the April 2001 issue of Good Fruit Grower, the newly organized Washington Apple Growers Marketing Association and the Washington Pear Growers Association will attempt to establish minimum prices for their products. Another option for increasing fruit prices is to control excess production by using patented proprietary varieties which growers will be licensed to grow in limited quantities. Farmers have realized that they need to improve their ability to negotiate prices with the shrinking number of retailers.

Kent Mulinex, an assistant Professor of Horticulture at WSU and director of Wenatchee Valley College’s tree fruit production program, very effectively summarized the key issues in his recommendations at the Washington State Horticultural Association’s 96th annual meeting. Fruit producers need to:

- Stop competing among themselves; instead compete against the retailer.
- Connect with consumers.
- Adopt stringent standards for all apple varieties based on taste and internal quality, not color.
- Reduce all inputs not produced on the farm. Be more selective in using expensive technical aids.
- Produce quality, not quantity. Decomidify apples.
- Do away with all neurotoxin pesticides.
- Become more politically active to support the family farm.
- Develop farmer, packer, and marketer alliances.
- Encourage young people into the industry.

In 2001, as farmers continued to deal with declining profits they also had to face one of the worst droughts of the last 50 years. The impact of the drought was exacerbated by a somewhat unexpected energy crisis. Although the drought will eventually pass and the energy crisis may be resolved by building new energy supplies and through conservation, the long-term issue of saving salmon and the possible ultimate necessity of some dam removals on the Snake River, are not going to be easily or quickly resolved.

The 95 percent of the Washington population who are not employed in agriculture tend to be unfamiliar with the variety of issues which affect the agriculture sector (trade agreements, migrant labor laws, water allocations, insect pest and disease, technical research and the marketing of that research). It is easy to take the agriculture sector for granted when food is cheap, and American food is the cheapest in the world. Farmers need to build on the media exposure, which it received in 2000/01 and build on that rapport with the consumers. Urban consumers are interested in the safety of their food supply and are as overwhelmed by the

issues related to globalization and environmental degradation, as are farmers. Farmers seem to be newly aware of this need to connect with consumers; it will be interesting to see if they follow through.

Agriculture workers (including farmers) represent, on average 3.3 percent of the Washington work force. Another 1.6 percent are employed in food processing. It should be kept in mind that while the monthly average number of agriculture workers in 2000 was 85,820, there were actually 151,740 individual workers employed in agriculture in 2000. Labor availability affects

farm income and vice-versa. Seasonal farm worker and migrant farm worker issues need to be resolved in collaboration with both the farmers and the workers.

Hopefully, this report can be used as a starting point for looking at seasonal and geographical agriculture employment, and the trends in agriculture employment, in order to address the needs of all agriculture workers—employers and employees. The analysis in the report should stimulate discussion among all involved, beginning with that which is known and proceeding to exploring the unknown.

Appendix I - Total Agricultural Employment in Washington State, Statewide, and by Area (Benchmark: March 2000)

Agricultural Workforce

	Annual Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Washington	91,610	58,020	64,490	74,230	82,930	87,090	120,790	129,710	109,550	120,590	120,520	70,350	61,020
Yakima MSA	22,240	14,170	15,500	18,120	19,020	20,210	30,700	32,450	26,020	29,610	31,170	15,370	14,560
Richland-Kennewick-Pasco MSA	11,500	6,180	7,440	8,310	11,180	12,690	19,430	15,630	13,330	14,830	14,240	7,960	6,740
Chelan-Douglas LMA	11,440	6,600	7,690	8,970	9,440	9,080	15,610	18,760	12,730	16,510	17,260	7,680	6,930
Bellingham MSA	3,290	2,440	2,600	2,730	2,950	3,160	3,810	4,730	5,010	3,510	3,010	2,790	2,710
Seattle-Bellevue-Everett PMSA	3,870	3,090	3,460	3,740	4,220	4,610	4,640	4,340	4,350	3,970	3,650	3,270	3,140
Tacoma PMSA	1,690	1,300	1,410	1,750	1,690	1,760	2,020	2,160	2,060	1,920	1,570	1,340	1,250
Olympia PMSA	1,490	1,180	1,290	1,380	1,480	1,570	1,620	1,820	1,780	1,670	1,440	1,340	1,290
Spokane MSA	1,400	1,050	1,160	1,330	1,510	1,600	1,670	1,740	1,620	1,560	1,330	1,180	1,100
Bremerton PMSA	230	170	200	230	250	270	290	270	260	230	210	190	180
Grant	8,520	5,340	5,520	6,400	7,350	7,770	10,400	11,620	10,050	11,870	13,470	6,790	5,710
Okanogan	5,230	2,740	3,150	3,720	3,810	4,030	6,470	7,390	6,110	8,240	9,560	4,750	2,760
Skagit	3,600	2,370	2,380	3,070	3,310	3,030	3,590	4,780	5,670	5,600	4,020	2,780	2,590
Walla Walla	3,240	2,060	2,270	2,680	3,020	3,280	4,350	4,380	3,820	3,410	3,710	3,680	2,210
Adams	2,600	1,440	1,570	1,970	2,420	2,620	2,960	3,850	3,580	3,750	3,560	1,920	1,560
Whitman	1,590	1,200	1,320	1,460	1,610	1,720	1,830	1,950	2,090	1,900	1,500	1,310	1,250
Klickitat	1,190	850	940	940	1,120	1,080	1,460	1,670	1,550	1,620	1,300	980	740
Lincoln	1,080	790	910	960	1,100	1,190	1,280	1,310	1,500	1,240	1,000	880	840
Clark	1,150	750	900	970	1,120	1,210	1,710	1,870	1,400	1,160	1,010	960	760
Kittitas	1,220	730	830	1,060	1,500	1,150	1,300	1,390	1,330	1,560	2,050	950	780
Lewis	1,080	840	930	1,000	1,070	1,140	1,230	1,330	1,210	1,140	1,110	1,070	890
Cowlitz	640	450	400	540	590	500	800	1,040	950	760	670	480	450
Stevens	770	580	650	750	810	880	950	950	900	830	710	640	590
Grays Harbor	360	260	320	330	350	370	400	420	420	380	400	320	290
Columbia	290	190	220	250	290	310	330	380	410	330	290	240	230
Clallam	290	220	240	280	290	320	340	350	370	320	290	250	240
Garfield	250	180	200	220	250	270	290	310	360	270	220	200	190
Pacific	250	190	210	240	260	280	290	300	270	260	280	220	200
Asotin	180	130	150	180	200	190	210	230	210	200	170	150	150
Pend Oreille	150	120	130	140	150	170	180	180	170	160	130	120	120
Ferry	140	110	120	130	150	160	170	180	160	150	130	120	110
Mason	130	90	110	120	130	140	150	150	150	140	140	140	130
Jefferson	90	80	80	90	100	110	110	110	110	100	100	80	70
San Juan	80	60	70	80	90	90	100	100	90	90	80	70	60
Wahkiakum	80	60	70	80	80	90	90	100	90	80	70	60	60
Skamania	50	30	40	40	50	50	50	60	50	60	60	40	30

Indicated numbers include wage and salary employment as well as owners and unpaid family workers. The numbers have not been adjusted for multiple job holders (those who work for more than one employer during the reference period).

Source: Employment Security Department

**Appendix II - Employment of Seasonal Workers by Activity in Washington,
Statewide and by Agricultural Reporting Areas, 2000**

WASHINGTON STATE													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
State Totals	11,208	13,416	18,823	26,021	26,063	53,252	59,232	45,112	55,380	56,952	19,797	9,510	32,897
Apples, Total	6,333	7,058	8,125	8,834	7,475	21,816	23,322	19,238	34,156	45,136	11,478	3,254	16,352
Apple Pruning	6,015	6,518	5,972	2,273	1,580	1,223	519	1,129	617	334	111	1,882	2,348
Apple Thinning	0	0	579	2,155	2,939	18,300	17,780	5,523	16	0	17	0	3,942
Apple Harvest	0	0	0	0	0	0	1,889	8,519	30,747	40,891	8,955	0	7,583
Apple Sort, Grade, Pack	207	295	293	154	28	0	0	341	553	723	497	553	304
Other Apple Activities	111	245	1,281	4,252	2,928	2,293	3,134	3,726	2,223	3,188	1,898	819	2,175
Cherries, Total	324	401	498	432	162	11,564	14,570	83	18	43	22	404	2,377
Cherry Pruning	324	389	421	81	8	0	12	18	0	25	11	404	141
Cherry Harvest	0	0	0	0	0	9,685	12,006	0	0	0	0	0	1,808
Other Cherry Activity	0	12	77	351	154	1,879	2,552	65	18	18	11	0	428
Pears, Total	301	460	530	662	403	493	591	5,092	3,782	386	627	692	1,168
Pear Pruning	301	451	471	592	127	76	17	161	325	0	537	585	304
Pear Thinning	0	0	0	0	99	350	409	278	27	0	0	0	97
Pear Harvest	0	0	0	0	0	0	0	3,810	2,593	212	0	0	551
Other Pear Activities	0	9	59	70	177	67	165	843	837	174	90	107	217
Other Tree Fruit Workers	52	221	501	578	518	334	809	1,581	1,372	0	141	208	526
Grape Workers	676	1,811	1,694	1,311	1,193	1,100	1,706	1,511	1,461	605	669	803	1,212
Blueberry Workers	4	6	10	5	6	0	69	1,343	775	6	51	59	195
Raspberry Workers	496	277	226	454	433	731	2,607	2,445	637	1,100	848	566	902
Strawberry Workers	0	0	0	55	88	2,119	3,618	188	29	19	0	0	510
Bulb Workers	63	158	1,606	908	399	156	423	597	191	198	207	173	423
Hop Workers	4	18	842	850	1,722	845	145	90	1,722	24	62	52	531
Nursery Workers	692	718	981	1,918	2,015	1,810	1,354	1,280	1,075	822	1,080	864	1,217
Wheat/Grain Workers	56	30	115	303	444	343	616	1,485	247	137	94	56	327
Asparagus Workers	10	8	570	5,338	7,113	6,096	615	219	90	126	0	0	1,682
Cucumber Workers	0	0	0	0	6	0	139	1,218	947	31	0	0	195
Onion Workers	875	904	854	570	297	1,440	1,450	1,403	1,381	1,043	835	859	993
Potato Workers	291	207	935	1,242	1,095	752	1,883	2,146	2,543	2,907	1,079	410	1,291
Misc. Vegetable Workers	674	771	649	860	1,553	1,862	2,658	2,600	2,711	2,685	1,393	748	1,597
Other Seasonal Workers	357	368	687	1,701	1,141	1,791	2,657	2,593	2,243	1,684	1,211	362	1,400

AREA 1 - WESTERN													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	1,457	1,379	2,903	3,401	3,106	5,334	9,886	8,040	5,421	4,019	2,640	2,056	4,137
Blueberry Workers	4	6	10	5	6	0	69	1,343	775	6	51	59	195
Raspberry Workers	496	277	226	454	433	731	2,607	2,445	637	1,100	848	566	902
Strawberry Workers	0	0	0	55	88	2,119	3,618	188	29	19	0	0	510
Bulb Workers	63	158	1,606	908	399	156	423	597	191	198	207	173	423
Cucumber Workers	0	0	0	0	6	0	139	1,218	947	31	0	0	195
Potato Workers	175	68	76	100	104	62	30	28	275	325	311	279	153
Misc. Vegetable Workers	164	32	47	88	302	289	591	645	926	1,359	318	189	413
Nursery Workers	398	532	590	1,128	1,323	1,229	887	817	747	566	547	593	780
Rhubarb Workers	12	141	73	154	88	100	80	56	0	0	0	0	59
Other Seasonal Workers	145	165	275	509	357	648	1,442	703	894	415	358	197	509

Source: Employment Security Department

AREA 2 - SOUTH CENTRAL													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	3,688	4,507	5,626	7,423	8,334	15,731	16,845	13,062	17,563	16,501	3,956	3,149	9,699
Apples, Total	2,908	2,596	2,648	2,168	2,467	6,676	8,610	5,446	10,794	15,423	2,512	1,663	5,326
Apple Pruning	2,804	2,549	1,765	750	430	146	52	289	0	79	40	940	820
Apple Thinning	0	0	579	0	1,153	5,688	6,405	1,221	16		0	0	1,369
Apple Harvest	0	0	0	0	0	0	1,413	3,167	10,257	13,946	1,550	0	2,528
Apple Sort, Grade, Pack	39	0	0	0	0	0	0	0	201	294	142	290	81
Other Apple Activities	65	47	304	1,418	884	842	740	769	320	1,104	780	433	642
Cherries, Total	125	85	54	207	72	3,927	4,419	54	12	25	11	156	762
Cherry Pruning	125	85	45	38	0	0	0	18	0	25	11	156	42
Cherry Harvest	0	0	0	0	0	3,739	4,222	0	0	0	0	0	663
Other Cherry Activity	0	0	9	169	72	188	197	36	12	0	0	0	57
Pears, Total	210	333	404	545	222	362	499	3,810	2,554	0	627	569	845
Pear Pruning	210	324	386	486	123	76	17	111	325	0	537	557	263
Pear Thinning	0	0	0	0	63	249	345	278	27	0	0	0	80
Pear Harvest	0	0	0	0	0	0	0	2,854	1,964	0	0	0	402
Other Pear Activities	0	9	18	59	36	37	137	567	238	0	90	12	100
Other Tree Fruit, Total	4	179	346	463	119	205	529	1,214	601	0	30	89	315
Other Tree Fruit, Pruner	0	170	153	51	20	0	0	70	0	0	0	12	40
Other Tree Fruit Harvest	0	0	0	0	0	0	207	1,116	532	0	0	0	155
Other Tree Fruit Activities	4	9	193	412	99	205	322	28	69	0	30	77	121
Grapes, Total	374	1,149	884	611	445	401	778	769	716	497	368	497	624
Grapes Pruning	374	1,051	539	72	32	195	341	339	319	5	63	497	319
Grape Harvest	0	0	0	0	0	0	0	87	180	179	69	0	43
Other Grape Activity	0	98	345	539	413	206	437	343	217	313	236	0	262
Asparagus Workers	10	8	389	2,124	3,110	2,904	316	58	84	126	0	0	761
Hops, Total	4	18	670	744	1,506	773	145	82	1,606	24	49	52	473
Hop Twining and Training	0	0	4	393	1,496	299	0	0	0	0	0	0	183
Hop Harvest	0	0	0	0	0	0	0	0	1,448	0	0	0	121
Other Hop Activity	4	18	666	351	10	474	145	82	158	24	49	52	169
Onion Workers	0	0	34	0	0	118	174	464	307	0	0	0	91
Potato Workers	0	0	13	14	0	0	614	479	21	0	0	0	95
Misc. Vegetable Workers	40	68	73	106	164	200	477	314	349	177	187	22	181
Other Seasonal Workers	13	71	111	441	229	165	284	372	519	229	172	101	226

Source: Employment Security Department

AREA 3 - NORTH CENTRAL													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	2,175	2,983	3,837	5,146	3,815	12,045	16,369	8,849	14,501	15,663	3,580	1,204	7,514
Apples, Total	1,896	2,614	3,382	4,813	3,472	7,975	8,560	7,569	12,987	15,151	3,474	862	6,063
Apple Pruning	1,694	2,221	2,709	1,041	585	857	84	321	332	229	43	435	879
Apple Thinning	0	0	0	2,048	1,742	6,100	6,217	2,797	0	0	17	0	1,577
Apple Harvest	0	0	0	0	0	0	334	2,100	11,048	13,309	2,372	0	2,430
Apple Sort, Grade, Pack	168	295	293	154	28	0	0	341	352	429	355	263	223
Other Apple Activities	34	98	380	1,570	1,117	1,018	1,925	2,010	1,255	1,184	687	164	954
Cherries, Total	125	202	246	122	43	3,702	7,375	5	6	11	0	220	1,005
Cherry Pruning	125	202	219	19	0	0	0	0	0	0	0	220	65
Cherry Harvest	0	0	0	0	0	2,346	5,147	0	0	0	0	0	624
Other Cherry Activity	0	0	27	103	43	1,356	2,228	5	6	11	0	0	315
Pears, Total	91	127	85	117	48	118	92	1,041	820	386	0	28	246
Pear Pruning	91	127	85	106	4	0	0	50	0	0	0	28	41
Pear Thinning	0	0	0	0	36	101	64	0	0	0	0	0	17
Pear Harvest	0	0	0	0	0	0	0	956	629	212	0	0	150
Other Pear Activities	0	0	0	11	8	17	28	35	191	174	0	0	39
Other Tree Fruit Workers	48	29	124	57	189	79	236	120	648	0	51	94	140
Other Seasonal Workers	15	11	0	37	63	171	106	114	40	115	55	0	61
AREA 4 - COLUMBIA BASIN													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	1,843	1,899	2,700	3,665	3,405	6,269	7,073	5,901	9,185	11,210	3,724	1,873	4,896
Apples, Total	1,063	1,101	1,397	1,500	1,304	3,313	3,028	3,107	6,214	8,053	1,760	705	2,712
Apple Pruning	1,057	1,010	838	290	446	188	299	394	271	26	28	488	445
Apple Thinning	0	0	0	107	44	2,865	2,251	1,061	0	0	0	0	527
Apple Harvest	0	0	0	0	0	0	142	949	5,318	7,357	1,336	0	1,259
Other Apple Activities	6	91	559	1,103	814	260	336	703	625	670	396	217	482
Cherries, Total	27	65	109	59	24	1,282	2,053	4	0	0	6	28	305
Cherry Pruning	27	53	109	0	0	0	0	0	0	0	0	28	18
Cherry Harvest	0	0	0	0	0	1,159	2,026	0	0	0	0	0	265
Other Cherry Activity	0	12	0	59	24	123	27	4	0	0	6	0	21
Pear Workers	0	0	41	0	133	13	0	241	408	0	0	95	78
Mint Workers	0	38	50	56	0	133	239	259	52	0	0	0	69
Other Tree Fruit Workers	0	13	0	50	37	32	0	68	0	0	28	0	19
Asparagus Workers	0	0	4	589	594	242	0	42	0	0	0	0	123
Onion Workers	444	516	462	210	88	150	162	73	345	536	586	566	345
Potatoes, Total	105	112	470	684	571	308	839	1,068	1,627	2,292	337	131	712
Potato Harvest	0	0	0	0	0	0	0	0	390	409	27	0	69
Potato Sort, Grade, Pack	0	75	222	371	341	131	554	833	590	724	128	116	340
Other Potato Activities	105	37	248	313	230	177	285	235	647	1,159	182	15	303
Misc. Vegetable Workers	4	7	13	36	82	47	73	50	80	31	78	5	42
Wheat/Grain Workers	0	0	32	64	157	171	174	487	117	60	62	19	112
Nursery Workers	164	18	62	307	295	234	222	254	134	83	517	271	213
Other Seasonal Workers	36	29	60	110	120	344	283	248	208	155	350	53	166

Source: Employment Security Department

AREA 5 - SOUTH EASTERN													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	1,932	2,506	3,501	5,893	6,963	13,395	8,451	8,170	8,411	9,314	5,831	1,195	6,297
Apples, Total	466	747	698	353	232	3,852	3,124	3,116	4,161	6,509	3,732	24	2,251
Apple Pruning	460	738	660	192	119	32	84	125	14	0	0	19	204
Apple Thinning	0	0	0	0	0	3,647	2,907	444	0	0	0	0	583
Apple Harvest	0	0	0	0	0	0	0	2,303	4,124	6,279	3,697	0	1,367
Other Apple Activities	6	9	38	161	113	173	133	244	23	230	35	5	98
Cherries, Total	47	49	89	44	23	2,653	723	20	0	7	5	0	305
Cherry Pruning	47	49	48	24	8	0	12	0	0	0	0	0	16
Cherry Harvest	0	0	0	0	0	2,441	611	0	0	0	0	0	254
Other Cherry Activity	0	0	41	20	15	212	100	20	0	7	5	0	35
Other Tree Fruit Workers	0	0	31	8	173	18	44	179	123	0	32	25	53
Grape Workers	302	662	810	700	748	699	928	742	745	108	301	306	588
Asparagus Workers	0	0	177	2,625	3,409	2,950	299	119	6	0	0	0	799
Hop Workers	0	0	172	106	216	72	0	8	116	0	13	0	59
Onion Workers	431	388	358	360	209	1,172	1,114	866	729	507	249	293	556
Potatoes, Total	11	27	376	444	420	382	400	571	620	290	431	0	331
Potato Harvest	0	0	0	0	0	0	57	90	99	97	13	0	30
Potato Sort, Grade, Pack	0	0	0	369	366	315	282	358	378	74	340	0	207
Other Potato Activities	11	27	376	75	54	67	61	123	143	119	78	0	95
Misc. Vegetable Workers	454	523	443	476	917	1,226	1,437	1,535	1,356	1,118	810	532	902
Wheat/Grain Workers	5	4	55	140	166	73	140	241	40	21	10	15	76
Nursery Workers	85	78	138	178	135	117	91	53	38	26	16	0	80
Strawberry Workers	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Seasonal Workers	131	28	154	459	315	181	151	720	477	728	232	0	298

AREA 6 - EASTERN													
Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Total	113	142	256	493	440	478	608	1,090	299	245	66	33	355
Wheat/Grain Total	51	26	28	99	121	99	302	757	90	56	22	22	139
Wheat/Grain Harvest	0	0	0	0	0	0	68	167	0	0	0	0	20
Wheat/Grain Equipment Operator	17	17	9	33	48	0	156	530	54	28	0	11	75
Other Wheat/Grain Activity	34	9	19	66	73	99	78	60	36	28	22	11	45

Source: Employment Security Department

GLOSSARY

Crop/Livestock Activities - Names of agricultural crops or livestock activities going on during the survey.

Some examples of agricultural worker activities are: apple harvester, apple pruner, asparagus cutter, cherry picker, grape pruner, hop twiner, potato packer, vegetable weeder, cattle worker, wheat truck driver, etc.

Hired Workers - All hired workers including full-time, part-time, seasonal, and casual employees regardless of age. Paid family members are considered hired workers.

Seasonal Hired Workers - All hired workers who have been employed less than 150 calendar days.

Foreign (H2-A) Contract Workers - All hired workers who reside in foreign countries and are legally contracted by farmers to work temporarily in the United States. Foreign hired farmhands are always considered seasonal workers—even if they are hired for more than five months of work.

Origin - The locality or foreign country where the hired workers normally reside.

Local Workers - Hired worker who daily commutes from home to the job.

Intrastate Migratory Workers - Hired worker whose established residence is within Washington, but who is not within commuting distance of the job.

Interstate Migratory Workers - Hired worker whose established residence is outside of Washington and not within commuting distance of the job.