

# Agricultural Workforce in Washington State 2002



Prepared by Jeffrey J. Jaksich, *Economic Analyst*  
Data Delivery Systems Unit



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



Sylvia P. Mundy, *Commissioner*

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# INTRODUCTION

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Although employment in Washington's agricultural industry has varied slightly up and down over the past seven years, in 2002 it was down from its peak in 1995. Many factors such as foreign demand, weather, government policy, and technology affect agricultural output. The general health of the state's economy, however, has only a minor impact on the agricultural industry as most of Washington's agricultural products are destined for export to other states or abroad. The value of agricultural output, as well as the employment of seasonal and permanent farm workers, is critical though, to Washington's rural counties.

Washington is the top producer, nationally, of a number of agricultural products and ranks in the top ten in 36 different commodity groups. No state in the country grew more apples, concord grapes, dry edible peas, hops, lentils, pears, processing carrots and sweet corn, red raspberries, sweet cherries, spearmint oil, and wrinkled seed peas, than did Washington. The state can also boast ranking second in production of all grapes, asparagus, peppermint oil, potatoes, and processing green peas. Washington is second only to California in the variety of crops it grows. Government agricultural policies have had a major influence on farming since before the Great Depression. These policies are probably less important for labor-intensive crops, like fruits and vegetables, than for the less labor-intensive bulk crops, like grains and cereals.

The purpose of this report is to analyze changes in agricultural employment. This information will assist agricultural employers and employee associations in planning employment needs and the infrastructure to accommodate them. For growers, the ability to anticipate and to plan for labor needs is critical to ensure that the harvest is completed. Seasonal farm workers need to be able to weigh the cost of traveling to Washington against the probability of finding work. In addition to personal costs for them, it can be expensive for the public to support them if job seekers outnumber available jobs.

**Methodology Breakout** - A major source of the data in this report comes from the Washington State Employment Security Department's (ESD) tax records. This is an important source of data as nearly all agricultural employment is covered. However, it does not include employment and wages for specific activities like apple and cherry picking, which are labor intensive. To get a picture of specific activities and wages, ESD conducts a monthly survey called the Seasonal Farm Labor Survey. The information comes from the voluntary participation of almost 600 Washington growers. The survey provides estimates of the number of seasonal employees working in specific jobs. Seasonal agricultural employees are defined as individuals who are employed on any one farm for less than 150 days in a year.

# AGRICULTURAL PRODUCTION

## Overall Production

In an effort to understand agricultural employment, it is necessary to analyze agricultural output, the value of that output, and planted acreage. This type of analysis helps agricultural businesses and labor organizations to more accurately assess the supply-demand situation and other labor market factors.

The preliminary 2002 agricultural production numbers look better than 2001 as seen in *Figure 1*. Production in 2002 benefited from the end of the 2001

drought. Washington's drought plan worked well and laid the basis for handling future drought problems for irrigation farmers in 2002. With energy prices down sharply in 2002, there was less need to purchase water rights for power production than in 2001. The cost of irrigating also came down with the cost of electricity from the high 2001 levels. This meant that farmers did not need to pump as much from the deep wells, which reduced their cost of production. For many farmers,

**Figure 1**

### Total Production of Major Crops in Washington State, 1995-2002

	PRODUCTION (utilized)								% Chg 01-02
	1995	1996	1997	1998	1999	2000	2001	* 2002	
	<b>1,000 Tons</b>								
<b>All Fruit</b>	<b>3,245</b>	<b>3,287</b>	<b>3,419</b>	<b>3,815</b>	<b>3,309</b>	<b>3,782</b>	<b>3,414</b>	<b>3,448</b>	<b>1.0%</b>
Apples	2,375	2,750	2,500	3,050	2,500	3,000	2,525	2,575	2.0%
Sweet Cherries	70	67	93	98	67	95	106	87	-17.9%
Grapes (all)	326	144	319	222	265	265	283	332	17.3%
Wine Grapes	60	35	62	70	70	90	100	115	15.0%
Winter Pears	240	195	250	230	215	230	242	231	-4.5%
Bartlett Pears	180	105	205	160	210	176	201	158	-21.4%
Peaches	22.0	5.5	23.0	26.0	25.5	32.5	27.5	33.0	20.0%
Apricots	6.5	3.0	7.1	5.3	5.5	6.5	5.2	4.9	-5.8%
	<b>1,000 Cwt.</b>								
Total Vegetables	35,410	32,354	36,957	37,206	37,334	36,457	35,843	36,927	3.0%
Onions	6,525	7,371	9,433	8,755	9,108	8,514	9,088	9,356	2.9%
Sweet Corn, proc.	16,474	13,614	15,576	16,475	16,466	16,904	17,071	17,984	5.3%
Green Peas	2,372	1,646	2,094	2,199	1,968	2,200	1,723	1,500	-13.0%
Asparagus	851	828	828	792	704	748	684	629	-8.0%
	<b>1,000 lbs.</b>								
Hops	59,101	57,640	55,816	44,791	49,650	52,260	50,780	43,379	-14.6%
Red Raspberries	52,510	40,950	59,500	60,300	69,350	71,250	75,050	74,100	-1.3%
Blueberries	6,300	8,190	8,710	10,700	11,080	12,410	15,000	13,000	-13.3%
	<b>Units of 1,000</b>								
Sugarbeets (Tons)	**	461	595	1,192	825	803	253	150	-40.7%
Barley (Bushels)	20,880	27,280	35,520	33,800	28,910	34,300	21,000	18,360	-12.6%
Milk (lbs.)	5,304,000	5,279,000	5,305,000	5,326,000	5,535,000	5,593,000	5,514,000	5,620,000	1.9%
Wheat (bushels))	153,770	182,670	165,120	157,425	124,140	164,880	132,580	129,695	-2.2%
Cattle & Calves (head)	1,310	1,270	1,220	1,210	1,170	1,210	1,180	1,130	-4.2%
Hay (tons)	3,278	3,140	3,084	3,156	3,059	3,249	3,088	3,346	8.4%
Potatoes (cwt)	80,850	94,990	88,160	93,225	95,200	105,000	94,400	95,200	0.8%

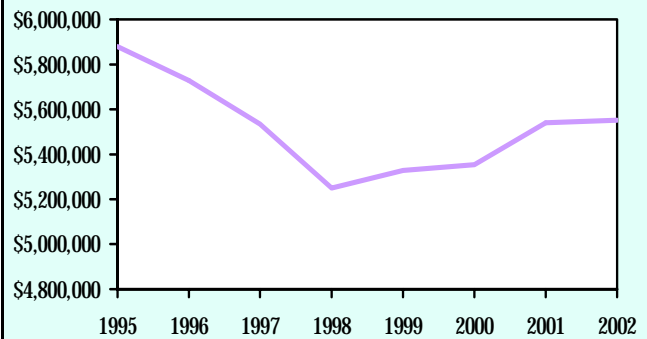
*Source: Washington Agriculture Statistics Service*  
*\* preliminary from Washington AGRI-FACTS (WASS)*  
*\*\* no production estimate made*

2002 was a much better year than 2001. The year 2003 looks to be even better.

Still, many farmers went out of business in the last several years because of the weather, increasing debt, and changing market forces. In the latter part of the 1990s, some of Washington's crops became less economically viable leading some farmers to change crops. New crops include wine grapes, cherries, and more desirable varieties of apples. These changes can take a number of years in order for the crops to reach optimal production maturity.

As seen in *Figure 2*, the total value of Washington agriculture production peaked in 1995. The low point was 1998 and the value of agriculture production has since slowly improved.

**Figure 2**  
**Total State Agriculture Production Value (\$1,000)**



Source: Washington Agriculture Statistics Service

**Figure 3**  
**Value of Major Crops in Washington State, 1995-2002**

	VALUE OF AGRICULTURE PRODUCTION (\$1000)									% Chg 01-02
	1995	1996	1997	1998	1999	2000	2001	* 2002	2002 Rank	
<b>State Total</b>	<b>\$5,879,575</b>	<b>\$5,728,919</b>	<b>\$5,535,454</b>	<b>\$5,249,760</b>	<b>\$5,327,548</b>	<b>\$5,353,451</b>	<b>\$5,540,758</b>	<b>\$5,552,287</b>		<b>0.2%</b>
<b>Fruits &amp; Nuts</b>	<b>\$1,351,311</b>	<b>\$1,232,736</b>	<b>\$1,235,716</b>	<b>\$1,080,581</b>	<b>\$1,241,789</b>	<b>\$1,172,932</b>	<b>\$1,317,183</b>	<b>\$1,461,311</b>		<b>10.9%</b>
Apples	\$1,021,750	\$912,700	\$821,400	\$700,000	\$856,000	\$750,200	\$900,250	\$1,024,850	1	13.8%
Sweet Cherries	\$106,519	\$118,940	\$132,694	\$128,801	\$115,860	\$154,725	\$144,072	\$143,226	7	-0.6%
Grapes (all)	\$73,676	\$57,744	\$124,410	\$105,276	\$114,400	\$126,760	\$133,071	\$134,605	8	1.2%
Wine Grapes	\$39,240	\$33,180	\$60,264	\$64,510	\$63,700	\$80,910	\$89,700	\$100,970	10	12.6%
Winter Pears	\$76,730	\$86,250	\$69,900	\$61,430	\$73,330	\$61,303	\$76,400	\$91,788	11	20.1%
Bartlett Pears	\$41,436	\$39,518	\$53,770	\$46,456	\$47,874	\$44,692	\$45,923	\$49,442	14	7.7%
Peaches	\$13,994	\$5,100	\$19,335	\$26,774	\$22,653	\$21,096	\$18,588	\$22,217	18	19.5%
Apricots	\$6,659	\$4,259	\$5,335	\$3,332	\$4,674	\$5,508	\$4,072	\$5,509	21	35.3%
<b>Berries</b>	<b>\$53,159</b>	<b>\$54,431</b>	<b>\$50,183</b>	<b>\$40,405</b>	<b>\$66,401</b>	<b>\$44,674</b>	<b>\$61,696</b>	<b>\$60,863</b>		<b>-1.4%</b>
Red Raspberries	\$35,182	\$30,459	\$28,020	\$22,664	\$48,291	\$25,888	\$37,784	\$36,985	17	-2.1%
Blueberries	\$3,096	\$5,639	\$7,769	\$6,565	\$7,833	\$9,364	\$11,688	\$8,948	20	-23.4%
<b>Vegetables</b>	<b>\$317,143</b>	<b>\$307,635</b>	<b>\$357,558</b>	<b>\$357,016</b>	<b>\$299,306</b>	<b>\$325,760</b>	<b>\$306,775</b>	<b>\$342,550</b>		<b>11.7%</b>
Onions	\$45,940	\$60,479	\$99,569	\$84,255	\$51,795	\$64,605	\$64,037	\$100,976	9	57.7%
Sweet Corn, proc.	\$64,001	\$51,734	\$58,175	\$61,977	\$60,527	\$63,901	\$60,113	\$65,115	13	8.3%
Green peas	\$30,246	\$20,408	\$25,342	\$26,921	\$22,588	\$24,638	\$18,148	\$13,804	19	-23.9%
Asparagus	\$58,659	\$63,312	\$64,204	\$61,217	\$51,216	\$54,876	\$48,910	\$44,893	16	-8.2%
<b>Field Crops</b>	<b>\$2,121,180</b>	<b>\$2,100,970</b>	<b>\$1,869,686</b>	<b>\$1,646,070</b>	<b>\$1,573,746</b>	<b>\$1,697,526</b>	<b>\$1,752,420</b>	<b>\$1,825,615</b>		<b>4.2%</b>
Hops	\$99,290	\$93,935	\$89,306	\$73,457	\$80,930	\$94,591	\$91,911	\$84,589	12	-8.0%
Sugarbeets	***	\$19,777	\$23,146	\$27,297	\$26,730	\$26,901	\$10,247	5,334**	22	-47.9%
Barley	\$59,299	\$72,019	\$80,630	\$53,404	\$50,882	\$66,199	\$41,160	\$47,736	15	16.0%
Wheat	\$742,500	\$755,680	\$560,608	\$414,218	\$345,299	\$443,369	\$427,838	\$537,039	3	25.5%
Hay	\$328,878	\$371,347	\$361,824	\$312,588	\$307,027	\$355,261	\$375,328	\$381,080	6	1.5%
Potatoes	\$553,823	\$451,203	\$431,984	\$447,480	\$476,000	\$446,250	\$552,240	\$514,080	4	-6.9%
<b>Livestock/Related</b>	<b>\$1,396,058</b>	<b>\$1,457,443</b>	<b>\$1,444,960</b>	<b>\$1,542,503</b>	<b>\$1,553,344</b>	<b>\$1,523,820</b>	<b>\$1,570,144</b>	<b>\$1,339,961</b>		<b>-14.7%</b>
Cattle & Calves	\$449,708	\$407,123	\$468,580	\$458,719	\$454,222	\$560,729	\$492,641	\$451,016	5	-8.4%
Milk	\$684,172	\$788,075	\$728,143	\$842,541	\$820,245	\$711,168	\$827,150	\$647,400	2	-21.7%

Source: Washington Agriculture Statistics Service

\* preliminary data made available August 2003

\*\* 2002 final "Crop Values," Feb 2004

\*\*\* no value estimates made

A large amount of cropland is in transition. This can best be seen in 2002 with a 2.4 percent decline in apple orchard acreage, as seen in *Figure 4*. Crops like asparagus, green peas, hops, sugar beets, barley, and wheat also saw a decline in acres planted. Changes in

production are a function of not only acres used, but other factors such as water, weather, age of the fields or orchards, etc. Many of the acreage changes in 2002 are the reality of the declining value of bulk crops.

**Figure 4**  
**Acreage of Major Crops in Washington State, 1995-2002**

	ACREAGE (harvested)								% Chg 01-02
	1995	1996	1997	1998	1999	2000	2001	* 2002	
Total	15,800,000	15,700,000	15,700,000	15,700,000	15,700,000	15,700,000	15,700,000	15,700,000	0.0%
Apples	158,000	164,000	170,000	172,000	172,000	170,000	168,000	164,000	-2.4%
Sweet Cherries	16,400	17,200	18,000	18,000	18,000	18,000	22,000	25,000	13.6%
Grapes (all)	34,000	35,000	37,000	39,000	41,000	44,000	48,000	49,800	3.8%
Wine Grapes				15,000	17,000	20,000	24,000	24,800	3.3%
Winter Pears	13,000	13,000	13,200	13,200	13,200	13,200	13,500	13,500	0.0%
Bartlett Pears	11,200	11,200	11,200	11,200	11,200	11,200	11,300	11,300	0.0%
Peaches	2,500	2,500	2,500	2,500	2,500	2,500	2,700	2,800	3.7%
Apricots	1,200	1,200	1,200	1,200	1,200	1,200	1,250	1,250	0.0%
<i>Total Vegetables</i>	218,000	196,300	222,600	232,250	228,000	219,100	198,800	197,400	-0.7%
Onions	13,500	15,200	18,400	17,850	18,800	15,800	16,800	17,100	1.8%
Sweet Corn, proc.	82,700	75,300	87,700	98,300	97,400	98,600	95,100	95,300	0.2%
Green peas	57,300	42,200	53,700	55,100	52,300	49,100	38,400	36,800	-4.2%
Asparagus	23,000	23,000	23,000	22,000	22,000	22,000	19,000	17,000	-10.5%
Hops	30,621	31,678	31,080	26,573	25,076	26,980	26,339	20,333	-22.8%
Red Raspberries	5,900	6,300	8,500	9,000	9,500	9,500	9,500	9,500	0.0%
Blueberries	1,400	1,300	1,300	1,500	1,600	1,700	2,000	2,000	0.0%
Sugarbeets	**	13,000	18,000	35,800	27,400	27,300	7,100	4,000	-43.7%
Barley	290,000	440,000	480,000	520,000	490,000	490,000	420,000	340,000	-19.0%
Wheat	2,595,000	2,745,000	2,580,000	2,565,000	2,290,000	2,420,000	2,380,000	2,365,000	-0.6%
Hay	760,000	800,000	780,000	750,000	740,000	780,000	790,000	810,000	2.5%
Potatoes	147,000	161,000	152,000	165,000	170,000	175,000	160,000	170,000	6.3%

Source: Washington Agriculture Statistics Service

\* preliminary from Washington AGRI-FACTS (WASS)

\*\* no acreage estimate made

## Fruit

In the latter part of the 1990s many farmers changed from one crop to another. For example wine grapes, cherries, and more desirable varieties of apples replaced older less valuable crops such as red delicious apples. Often new crops take a number of years to become productive and, thus, these changes may cause production levels to be unusually low for a few years.

**Apples.** The apple industry in the state has struggled somewhat since the value of the crop last peaked in 1995. There was, however, a 13.8 percent increase in the value of apples in 2002, as seen in *Figure 3*. This

was largely due to declines in apple production in other parts of the United States and Europe which pushed up the price of all apples. Washington's move towards newer varieties of apples may also be paying off. This good year helped clear apples out of storage and has made the market outlook for 2003's crop a little better. The 2003 estimates of apple production are expected to be about 3.5 percent lower than 2002.

Apples are the most important crop in Washington in terms of value of production and the number of farm workers employed. It is also an industry changing rap-



idly. Farmers are switching to more popular varieties, production methods are changing, and now even the industry's marketing techniques will change. The funding methods of the venerable Washington Apple Commission were judged illegal in the winter of 2003. A lesser Apple Commission's marketing effort has been negotiated among the parties. The lack of the Washington Apple Commission's powerful marketing clout may force more of Washington's apple producers to compete on the basis of not only taste, but also price in 2003. The world supply of apples is expected to be larger in 2003, which should put downward pressure on the prices of many varieties of apples grown in Washington.

**Cherries.** As seen in *Figure 1*, sweet cherry production in Washington declined by 17.9 percent from 2001 to 2002. The value of sweet cherry production, however, only declined by 0.6 percent due to an increase in price. Often a decline in cherry production has a positive effect on cherry prices. A record production year, like 2001 for example, resulted in a lower value for the sweet cherry crop than in 2000, when the size of the sweet cherry crop was 10.4 percent less.

Even with these swings in production, sweet cherries remain a valuable crop for Washington farmers. The number of acres in sweet cherries went up by 13.6 percent to 25,000 acres in 2002. Production of sweet cherries is estimated to be close to 96,900 tons in 2003, or about 11.4 percent more than the 87,000 tons of sweet cherry production estimated for 2002. This generally meant a larger demand for seasonal farm workers to harvest the sweet cherry crop for the intensive three-week peak sweet cherry harvest overlap, where an estimated 17,697 farm workers were employed in July of 2002.

Sweet cherry growers are trying to diversify their sweet cherry varieties. This spreads out the harvests as insurance against the cold and wet Junes that can afflict Washington. It also allows fewer workers to work longer. The growers' concerns about an inadequate supply of farm labor in 2003 did not materialize. Washington's sweet cherry crop did experience some cool windy weather during pollination in the spring of 2003. Frost was a problem in some parts of the state. These cool temperatures were expected to cause a slight decrease in preliminary estimates of cherry production for 2003. Fresh sweet cherries were estimated at 72,000 tons, which was up about 14.3 percent from the fresh sweet cherry production estimate for 2002. The rest of the sweet cherry production, about 20,000 tons, is processed cherries and receives a significantly

lower price. The supply is expected to grow in 2004 as more new sweet cherry acres come into production.

The total value of the 2003 sweet cherry crop for Washington is expected to be a little less than last year. The sweet cherry harvest for 2003 is estimated to be the largest sweet cherry crop in Washington history. Foreign demand was high, while prices were a little lower earlier in the season.

**Grapes.** Wine grapes have also become a popular replacement crop for unprofitable Red Delicious apples. Although there has been an over-supply problem with grape and wine grape production in many states, like California, this has had minimal impact on Washington.

While grape production grew by 17.3 percent from 2001 to 2002, wine grape production only grew by 15 percent. The value of grapes grew only 1.2 percent over this time period while the value of wine grapes grew 12.6 percent.

Even with the growth of wine grape production, some of Washington's local wineries were not able to meet their growing requirements for quality wine grapes. Washington generally concentrates in the production of premium wines which have continued to sell well throughout the recession.

The 2002 wine grape crop was a record one. The rise in the prestige of Washington's wines and wine industry attracted more investment money in 2003 to expand the number of local wineries. *The Wine Enthusiast* recognized Washington as the "Wine Region of the Year" for 2001. This has resulted in even more local wineries being planned for 2003.

There is concern however that increasing supplies of wine grapes has outpaced demand. Statewide wine making capacity has not grown as quickly and overall wine consumption in the U.S. has weakened. On the other hand, the recent dry weather and the fact that most grapes are grown under contract with wineries should mitigate this supply expansion.

**Pears.** The production of pears in Washington was down in 2002. The winter pear production went down by 4.5 percent and the Bartlett pear production went down even more by 21.4 percent. As often is the case, when the supply declines the price rises. The value of winter pear production increased by 20.1 percent and by 7.7 percent for Bartlett pears. The number of acres stayed the same, which reflects the bleaker outlook in past years. Some of the crop value increase can be attributed to Washington growers' cooperative marketing effort.

**Other Fruit.** There are a number of other smaller fruit crops that are important in Washington. These crops provide some seasonal employment opportunities that fill gaps in other seasonal crops.

Raspberries are a Western Washington crop. The value of raspberries was down 2.1 percent in 2002 and production was down by 1.3 percent. This decline appears to be a function of changes in the price of raspberries from domestic buyers based on prices from foreign suppliers. Washington raspberry growers left the same number of acres in raspberries.

There are five big domestic buyers who purchase raspberries from a number of foreign countries as well as Washington. This allows them to maintain the availability of fresh raspberries in stores for more of the year.

There has been a more than 50 percent increase in blueberry acreage in Washington since 1997, but no increase between 2001 and 2002. The total production of blueberries, as well as the value, actually declined in Washington by 13.3 percent and 23.4 percent respectively in 2002.

Strawberry production and value increased by 1.3 percent and 19.0 percent, respectively, in 2002. The bulk of these strawberries were processed. Fresh strawberry production actually went down. Cranberry production and value increased by 14.0 percent and 23.0 percent respectively in 2002. The growth in the cranberry crop was easily absorbed by the food processing industry. This increase in value was a demand-driven increase in the price, as supplies were shorter nationally than in previous years.

The value of peach production increased by 19.5 percent in 2002. This reverses last year's decline of 12.1 percent. Peach acreage increased by 3.7 percent after increasing by 8.0 percent in 2001. Peach production has increased by 20.0 percent since 2001. Growers of other fruits often use peaches to extend the work time for their critical core supply of seasonal farm workers. Although apricot production declined by 5.8 percent in 2002, its value went up by 35.3 percent. There was no change in the acreage for apricots. Apricot blooms, like cherries and other tree fruit, are vulnerable to cold weather. Like other tree fruits, this crop is risky, but valuable for growers.

## Vegetables and Field Crops

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As seen in *Figure 3*, onions, sweet corn (processing), and asparagus rank as the 19th, 13th, and 16th most valuable crops in Washington in 2002. Onions had a slight acreage increase of 1.8 percent in 2002. The value of the onion crop was up by 57.7 percent from 2001, while onion production was only up slightly by 2.9 percent for 2002. Sweet corn (processing) had only a slight increase in acreage of 0.2 percent in 2002 while the crop increased by 5.3 percent and its value increased by 8.3 percent.

Asparagus continued its decline with a drop in production of 8.0 percent in 2002 and a drop in value of 8.2 percent. The acres used for asparagus in 2002 dropped by 10.5 percent. Washington's fresh asparagus crop comes in for a very limited time and retailers like to provide fresh asparagus year-round. Retailers have, thus, come to rely on foreign asparagus. This has become a source of competition, causing the domestic price to fall. As profits fall and labor costs rise, asparagus growers are replacing their older, less productive asparagus fields with other crops.

The asparagus harvest is a function of (sometimes erratic) weather conditions in the spring. In 2003 the weather was especially good, unlike the weather in 2000 and 2001. The warm weather allowed the asparagus harvest to start on April 4 of 2003 and continue through mid-June, when the sweet cherry harvest started to pick up. The number of asparagus acres planted continues to decline, as was the case in 2002. Asparagus has to compete for seasonal farm labor with sweet cherries.

Potato farmers saw a very slight increase in production of 0.8 percent in 2002. The value of the crop dropped, however, by 6.9 percent, while the acres in potatoes went up by 6.3 percent.

The 95,200 cwt. of potatoes produced in 2002 was worth \$5.14 million dollars. This made potatoes Washington's fourth most valuable crop in 2002. Washington ranked second in the nation in the output of potatoes in 2003.

Wheat saw a 2.2 percent drop in production in 2002. In spite of this production decline, the value of the wheat crop was actually up by 25.5 percent, making it the third most valuable crop for Washington's agricultural

sector. The acreage for this bulk crop with its government subsidies had a very slight 0.6 percent decline. In 2003, an estimated 1.85 million acres of winter wheat was seeded, which was 50,000 acres more than in 2002. This was in response to the war in Iraq which caused an increase in the world demand for wheat. Weather conditions improved in early 2003, but more rain is needed.

About 90 percent of Washington wheat is sold abroad and is highly dependent on foreign markets. Most wheat grown in this state is soft white wheat. It is generally used for making ethnic flatbreads, noodles, crackers, and cookies. The winter wheat crop for 2003 is expected to be about 8.0 percent ahead of 2002. The conflicts in the Middle East and Southern Asia are expected to continue to increase the demand for Washington's wheat.

Hops were the 12th most valuable crop grown in Washington in 2002. Hops are expensive to grow since vines must be trained by hand to curl around trellises. Hop production declined by 14.6 percent in 2002. The value of the hop crop also declined, though to a lesser extent, by 8.0 percent in 2002. These declines occurred in response to a 22.8 percent decrease in hop acres under cultivation in Washington.

Washington has been the major supplier of hops for the domestic market for years. It accounted for 68.0 percent of all the hops sold in the United States in 2002. In 2001 about 40 percent of the world's total output came from the U.S. The 2003 national hop crop is expected to be 3.0 percent less than 2002 and 21.0 percent less than 2001. The hop crop's progress in 2003 has been a little slower than normal due to cool spring temperatures and some rainy days.

Hay did well in 2002 with production going up 8.4 percent, its value going up 1.5 percent, and the number of acres planted expanding by 2.5 percent. These changes were largely in response to the improvement in price in 2001 and the improved weather and moisture in 2002.

The sugar beet industry suffered a major decline in 2002. The production of sugar beets dropped by 40.75 percent<sup>2</sup>. For all practical purposes, sugar beet production was way down in Washington in 2001. A lot of the crop sold in that year came out of storage. This was the result of the high cost of power and a plant closure in Washington State. Many growers chose to switch to more profitable crops, like potatoes. The primary problems, like many bulk agricultural products, are ones of over-supply and high costs of production in 2002 and 2003.

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## Cattle and Dairy

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As seen in *Figure 1*, cattle and calves are the fifth largest agricultural product by value in Washington. Cattle and calves production declined by 4.2 percent in 2002. This continues a seven-year decline in production. The value of cattle and calves declined by 8.4 percent in 2002 and some of the acres used for cattle and calves transitioned to dairy. The near record wholesale prices of cattle in 2001 were down in 2002 and lower in early 2003. The price of cattle faces stiff competition from foreign sources and changes in consumer tastes in the domestic market.

Dairy operations in Washington suffer from low government support prices. Milk is an agricultural bulk commodity where costs exceed what the market is willing to pay. As a result, some producers went out of business in 2002 and others will be out in 2003. The price of milk declined from \$13.40 Cwt. to \$11.80 Cwt. from December 2001 to December 2002. The prognosis for 2003 did not look good with production up and prices held at the low national support level.

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## Exports

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Export markets are the driving force behind much of Washington agriculture. In 2001, the state ranked number 8 in the nation in terms of the value of agricultural exports. In that same year the state was the second largest exporter of vegetables and the third largest exporter of fruits. About 80 percent of Washington's agricultural products in 2002 were exported.

*Figure 5* tabulates the top 20 Washington exports by industry as categorized by customs authorities. The values (in millions of dollars) are tracked from 2000 to

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<sup>2</sup> The final value of the 150,000 tons of sugar beets produced will not be valued until the February 2004 Crop Value publication is produced by the Washington Agricultural Statistics Service (WASS). A preliminary estimate is shown in *Figure 3*.

2002. The value of total food and agriculture grew by 15.2 percent in 2001 and then declined by 8.2 percent in 2002. In the prior period from 1996 to 2000 total food and agriculture from Washington State fell by 15.0 percent. The variation in the value of exports is largely due to changing foreign currency values, changing lev-

els of trade barriers, and recessions in some of Washington's major trading partners.

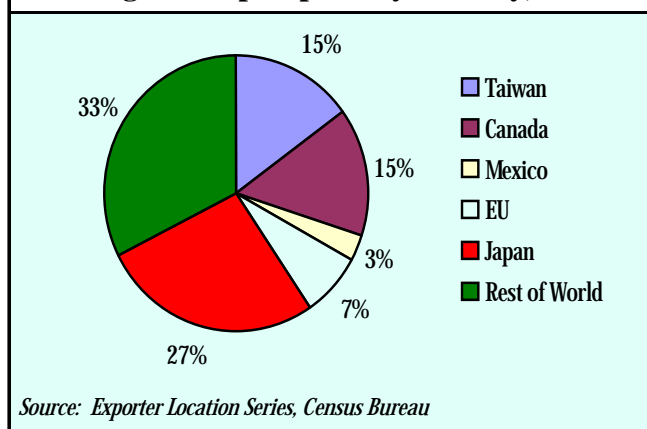
The decline between 2001 and 2002 of 8.2 percent was driven largely by cereals (which include wheat, barley, and corn) down 14.1 percent, miscellaneous grain, seed and fruit (which includes hay, hops, sugar

**Figure 5**  
**Value of the Top 20 Exports of Washington State Commodities, 2000-2002**

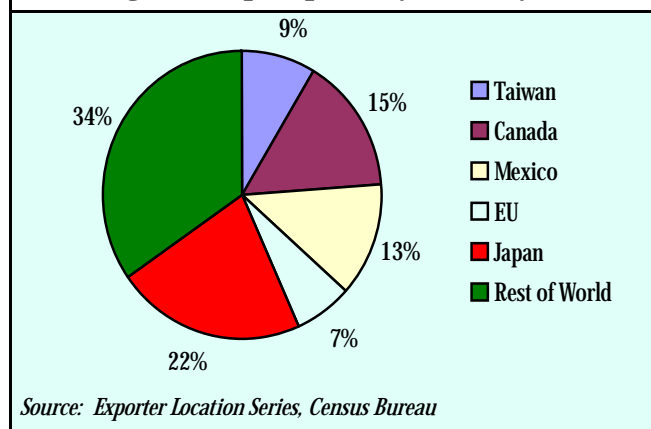
Annual Comparison: January - December	U.S. Dollar			% Share			%Chg. 00-01	%Chg. 01-02
	2000	2001	2002	2000	2001	2002		
<b>Total Food &amp; Agriculture</b>	<b>\$3,655,614,252</b>	<b>\$4,210,002,499</b>	<b>\$3,866,753,805</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>15.2%</b>	<b>-8.2%</b>
Cereals	\$970,037,762	\$981,643,474	\$843,630,303	26.54	23.32	21.82	1.2%	-14.1%
Misc. Grain, Seed, Fruit	\$489,807,527	\$787,932,085	\$705,083,827	13.40	18.72	18.23	60.9%	-10.5%
Fish And Seafood	\$499,615,099	\$654,961,746	\$505,430,569	13.67	15.56	13.07	31.1%	-22.8%
Edible Fruit And Nuts	\$409,217,067	\$448,159,796	\$450,479,823	11.19	10.65	11.65	9.5%	0.5%
Preserved Food	\$271,639,792	\$269,557,003	\$264,103,985	7.43	6.40	6.83	-0.8%	-2.0%
Meat	\$248,585,990	\$206,770,273	\$201,191,201	6.80	4.91	5.20	-16.8%	-2.7%
Prepared Meat, Fish, Etc.	\$142,376,095	\$160,618,221	\$165,894,508	3.89	3.82	4.29	12.8%	3.3%
Vegetables	\$135,063,626	\$138,889,052	\$141,931,078	3.69	3.30	3.67	2.8%	2.2%
Food Waste; Animal Feed	\$111,876,463	\$119,985,373	\$133,402,852	3.06	2.85	3.45	7.2%	11.2%
Baking Related	\$57,413,567	\$64,230,153	\$73,046,874	1.57	1.53	1.89	11.9%	13.7%
Dairy, Eggs, Honey, Etc	\$35,936,217	\$60,588,763	\$66,122,536	0.98	1.44	1.71	68.6%	9.1%
Spices, Coffee And Tea	\$40,243,208	\$54,077,055	\$59,642,097	1.10	1.28	1.54	34.4%	10.3%
Live Trees And Plants	\$35,440,025	\$47,393,929	\$51,073,111	0.97	1.13	1.32	33.7%	7.8%
Lac; Vegetable Sap, Extract	\$46,666,532	\$55,967,152	\$44,621,030	1.28	1.33	1.15	19.9%	-20.3%
Miscellaneous Food	\$31,327,310	\$30,771,207	\$40,350,284	0.86	0.73	1.04	-1.8%	31.1%
Fats And Oils	\$27,314,952	\$21,233,079	\$26,751,358	0.75	0.50	0.69	-22.3%	26.0%
Other Of Animal Origin	\$12,835,425	\$11,568,433	\$25,377,582	0.35	0.27	0.66	-9.9%	119.4%
Beverages	\$31,620,684	\$29,652,116	\$22,906,831	0.86	0.70	0.59	-6.2%	-22.7%
Milling; Malt; Starch	\$20,437,965	\$26,546,112	\$17,205,418	0.56	0.63	0.44	29.9%	-35.2%
Live Animals	\$21,398,540	\$17,127,526	\$9,308,203	0.59	0.41	0.24	-20.0%	-45.7%

Source: Washington State Office of Trade and Economic Development

**Figure 6**  
**Washington Crop Exports by Country, 1997**



**Figure 7**  
**Washington Crop Exports by Country, 2000**



beets, and herbs) down 10.5 percent, fish and seafood down 22.8 percent, and preserved food down 2.0 percent. Edible fruit and nuts (which include apples and cherries) had a 0.5 percent increase in 2002.

*Figures 6 and 7* describe how the destinations for Washington agricultural exports changed between 1997 and 2000. The decline in exports to Japan, down 30.0 percent, and Taiwan, down almost 50.0 percent, were offset somewhat by an expansion of exports by 283.0 percent to Mexico. Data for 2003 is not yet available. New export markets may have been created with the three million dollars provided by the federal government to increase Washington agriculture exports. This money was meant to offset the negative effect of the dollar's appreciation against other currencies from 2000 to early 2003. The recent decline of the dollar against many major currencies may also help agricultural exports in 2003.

Much of the market share for Washington's products was taken over by the Chinese, who have aggressively marketed their lower cost agriculture products. The Chinese have taken a larger and larger share of Washington's apple market in East Asia, South and Central America, and Europe. The Chinese are very competitive not only in apples and cherries, but in hops, pears, and winter and spring wheat. Now that China is part of the World Trade Organization, most analysts believe that China will be at a competitive disadvantage in land-intensive crops such as grains but will have a competitive advantage in labor-intensive crops, like fruits and vegetables.

As these East Asian markets have become more competitive for Washington food and agriculture products, other markets are being opened up through a variety of trade agreements and the actions of the World Trade Organization. The North American Free Trade Agreement (NAFTA) has not only reduced trade barriers to and from Canada and Mexico, it has opened the U.S. market up to more imports from these countries.

The Mexican penalty tariff on American apples was lifted under NAFTA in 1997. As a result, Washington had a great surge of sales of apples to Mexico. The U.S. government has also allowed duty free imports of certain agricultural products like asparagus from South American countries that had been growing coca (cocaine). Other producers in South America, such as Brazil, are competing strongly in the Middle East for the sale of their Red Gala apples versus Washington's Red Delicious apples.

After final negotiations, the Free Trade Agreement of the Americas (FTAA) is scheduled to be signed by the end of 2004 and be ratified in 2005. The FTAA is a 34-member organization intended to extend NAFTA throughout the Western Hemisphere. This will presumably open up markets for Washington's agricultural products to Central and South American nations, as well as increasing competition from their exporters.

Free trade agreements with Chile and Singapore have recently been negotiated and are scheduled to go into effect January 1, 2004. The agreement with Singapore would presumably benefit Washington agriculture, as land-wise, it is very small and hence is at a competitive disadvantage in agriculture. However, lowered barriers as a result of the agreement with Chile could negatively impact state agriculture exports.

Chile is not just a top exporter of fruit in the southern hemisphere; they compete well in other world markets. They have several geographic advantages. These include a long coastline, which runs north to south giving them a variety of climates. They have a mountain range, which acts as a barrier to the introduction of pests and disease. They also have a fresh product marketing advantage with a growing season just the opposite of the northern hemisphere, where Washington and other U.S. apple growers are located.

Standards of pesticide and biotech usage vary from country to country and have been major issues taken up by the World Trade Organization. The European Union countries are strongly opposed to genetically altered food and agricultural products. They have subsequently limited access of such products from the U.S. to their markets. The U.S., on the other hand, tends to have higher pesticide standards than, say, Mexico.

In order to minimize import restrictions, Washington has been working very closely with the Washington State Department of Agriculture to improve foreign public perceptions of agricultural problems in the U.S. and to, thus, encourage consumer demand in the importing countries. For this reason U.S. growers support more country of origin marking on produce. They also monitor the counterfeiting of these markings and logos on shipping boxes of food and agriculture as required in the new farm bill. The Washington Apple Commission has also received three million dollars from the Washington State Department of Agriculture to promote the export of Washington's primary agricultural crops.

# AGRICULTURAL EMPLOYMENT

In 2002 agricultural employment averaged 87,149 individuals including seasonal and year-round hired workers. This number also includes farm operators and unpaid family workers.

Agricultural employment has remained relatively constant since 1997. The most recent peak in agricultural employment occurred in 1995. Year to year numbers can be erratic because of unpredictable weather conditions and demand and supply swings. Both 1998 and 2001 experienced an increase of about 5.0 percent in employment and 1999 suffered a decline of over 6.0 percent. There was a slight pick up in 2000 and a large increase in 2001. The year 2002 then saw a drop in agricultural employment.

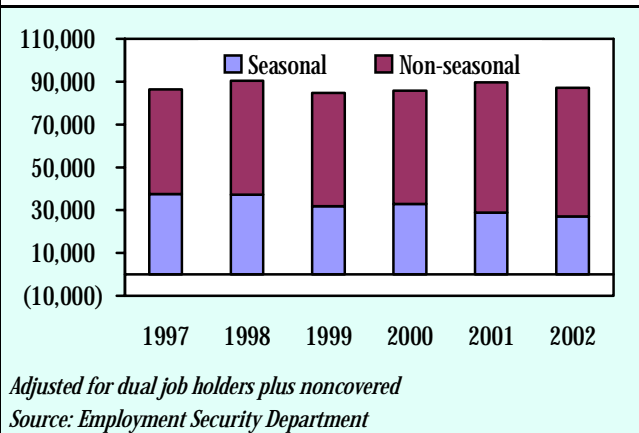
If all the businesses connected to agriculture are counted<sup>3</sup>, almost 170,000 people work in agriculture or businesses necessary for agriculture. All these businesses together (agribusiness) contributed almost \$29 billion to the State Domestic Product in 2001. In 2002, 33,067—1.2 percent of the state’s total employment—were employed in food processing<sup>4</sup>.

The Employment Security Department conducts a monthly survey of approximately 600 growers, who participate in a Seasonal Farm Labor Survey. This monthly survey provides estimates of the number of seasonal agricultural workers by detailed industry and area. The survey also collects information on wages paid to these workers. Seasonal agricultural employees are individuals who are employed on any one farm for less than 150 days.

*Figure 8* distinguishes between total and seasonal agricultural employment since 1997. The high point of seasonal farm employment was 1997 when there were 37,474 workers and the low point was in 2002 with 27,113 workers. This is a 27.6 percent decline. Total agricultural employment dropped by only 0.9 percent for the same period.

The nature of Washington’s agriculture is changing with more growers diversifying their crops and animal

**Figure 8**  
**Total and Seasonal Agricultural Employment**  
**Washington State, 1997-2002**



production efforts. The shift from Red Delicious apples to grapes or the shift from asparagus to grapes requires fewer seasonal employees. The harvested acreage for many labor-intensive crops has dropped, like hops, asparagus, and apples. The diversification of crops, though, has extended the time that farmers need seasonal labor.

July had the highest monthly seasonal employment with 56,970 seasonal workers employed. The sharp rise in workers is caused by a number of labor-intensive crop activities, such as the cherry harvest, apple thinning, raspberry and strawberry harvests, and the onion harvest. Detailed data on labor-intensive crop activities and their use of seasonal employment are included in Appendix II at the end of this report.

<sup>3</sup> In addition to agriculture, these businesses include those employed with fruit and vegetable wholesalers, canning and packing of fruits and vegetables, feed and seed distributors, transportation and other related industries.

<sup>4</sup> Standard Industrial Classifications (SIC 2033, 2034, and 2037) related food processing, such as Canned Fruits, Vegetables, Preserves, Jams and Jellies, Dried and Dehydrated Fruits, Vegetables, and Soup Mixes, and Frozen Fruits, Fruit Juices, and Vegetables and (SIC 5148) related to warehousing Fresh Fruits and Vegetables.

**Figure 9**  
**Washington State Seasonal Workers by Crop, 2002**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG	Rank	% of total average
<b>STATE TOTALS</b>	<b>10,254</b>	<b>12,622</b>	<b>16,928</b>	<b>20,733</b>	<b>22,489</b>	<b>43,976</b>	<b>58,218</b>	<b>37,800</b>	<b>48,078</b>	<b>50,559</b>	<b>16,164</b>	<b>7,780</b>	<b>28,800</b>		
Apples, Workers	4,825	5,030	5,073	6,399	4,532	16,113	20,505	15,646	28,231	37,505	9,251	3,761	13,073	1	45.4%
Cherries, Workers	261	292	789	227	276	6,634	17,697	3,232	7	25	64	160	2,472	2	8.6%
Asparagus Workers	0	11	252	3,167	6,616	5,501	434	74	8	0	0	0	1,339	3	4.6%
Nursery Workers	917	922	1,036	1,973	2,348	1,784	1,338	1,371	1,045	669	761	846	1,251	4	4.3%
Potato Workers	365	660	729	1,177	912	988	1,127	1,398	2,051	3,606	788	619	1,202	5	4.2%
Grape Workers	800	1,277	2,015	1,158	1,138	1,341	1,386	1,090	851	1,174	444	689	1,114	6	3.9%
Misc. Vegetable Workers	111	322	172	667	1,159	1,303	2,151	1,720	1,848	1,588	526	231	983	7	3.4%
Pears, Workers	313	564	730	349	237	552	735	2,183	3,150	333	365	401	826	8	2.9%
Onion Workers	499	474	390	407	30	1,624	1,216	1,130	880	342	450	537	665	9	2.3%
Raspberry Workers	583	259	169	350	245	259	2,367	1,768	359	496	599	389	654	10	2.3%
Hop Workers	25	66	353	781	1,255	701	362	803	2,415	118	67	3	579	11	2.0%
Blueberry Workers	37	94	56	6	103	203	175	2,425	1,236	384	27	11	396	12	1.4%
Strawberry Workers	0	0	5	35	107	407	3,589	134	15	0	0	0	358	13	1.2%
Bulb Workers	60	66	1,647	506	209	272	395	503	144	138	117	100	346	14	1.2%
Wheat/Grain Workers	0	11	23	112	78	178	317	834	218	82	74	14	162	15	0.6%
Cucumber Workers	0	0	0	0	8	30	107	672	410	81	0	0	109	16	0.4%

*Source: Employment Security Department*



# By Crop

Among seasonal farm workers, apples employed by far the most—45.4 percent of seasonal workers worked in the apple industry with the next closest, cherries employing only 8.6 percent (see Figure 9). Figure 10 illustrates how monthly employment patterns change for the major labor-intensive crops that generate the most seasonal employment and Figure 11 depicts how seasonal employment changed throughout 2000, 2001, and 2002.

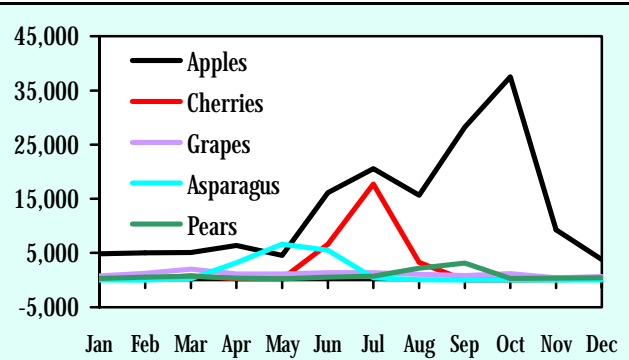
As Figure 9 shows, seasonal employment in the apple industry had an initial peak in July 2002 of 20,505 workers, most (89.8 percent) of whom were involved in thinning of trees. The number employed in thinning dropped to 6,288 in August. Apple pruning, while year round, is primarily done in the winter months. The next big jump in apple related seasonal farm work was in September (28,231 seasonal workers) with the start of the fall harvest, and in October when the harvest peaks (37,505 seasonal workers). The apple employment patterns dominate the overall seasonal work patterns as exhibited in Figure 10, with a minor peak in July and a major peak in October.

The asparagus harvest is the earliest major labor-intensive crop activity and a heavy user of seasonal farm workers. There were only 6,616 seasonal farm workers used in May of 2002 as compared with 7,584 farm

workers involved with the asparagus harvest in May of 2001. The weather was bad in 2001 and 2002, which meant that the farm workers did not make much money. The weather was good in 2003 and the seasonal farm workers made more money, as did the growers. The future is bleak in 2004 with the closure of the two asparagus food processing plants in the Yakima Valley. Unless other purchasers can be found for annual asparagus crops (10 million pounds of asparagus produced in 2002), asparagus fields will need to be pulled out of production. There is another asparagus food processing plant in Dayton, but it does not have the capacity to process any additional crop. These processing plants may have been hurt by Peruvian asparagus imports. These imports recently increased due to a government policy that made the shipment of asparagus duty-free from Peru to discourage the growing of coca leaves for cocaine production.

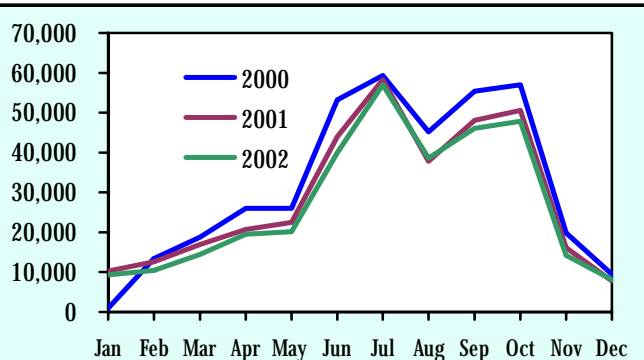
The pear harvest peaked in August of 2002 with 2,183 seasonal workers. With asparagus, apples, cherries, and pears, seasonal farm workers often move sequentially through the crops as reflected by similar trends in Figure 11 and Appendix I. Grapes have a unique pattern which requires workers more consistently throughout the year.

**Figure 10**  
**Monthly Employment by Crop**  
**Washington State, 2002**



Source: Employment Security Department

**Figure 11**  
**Total Monthly Agricultural Employment**  
**Washington State, 2000, 2001, and 2002**



Source: Employment Security Department



# By Area

Almost 80 percent of agricultural workers work on the east side of Washington. Most live and work in central Washington. This is best illustrated in *Figure 12*. Warm to hot weather in the spring and summer and rich volcanic soils provide eastern Washington with a very good environment to raise a variety of crops. Washington has the second most diverse agricultural sector in the nation after California. There is dry land farming for wheat production, but the heavy users of farm workers are often well-irrigated farms. Eight of the ten leading counties in total farm sales, including the first five, are located in eastern Washington, according to the 1997 Census of Agriculture<sup>5</sup>. Yakima and Grant counties alone accounted for nearly one-third of farm commodity sales in 1997. *Figures 12, 13, and 14, as well as Appendix II, summarizes the agricultural employment by area, percentage employed in agriculture, and percentage of total agricultural employment. Figure 13 shows the percent of agriculture workers in key agriculture counties.*

**Western (Area 1).** Only 0.8 percent of workers in western Washington were employed in agriculture. The

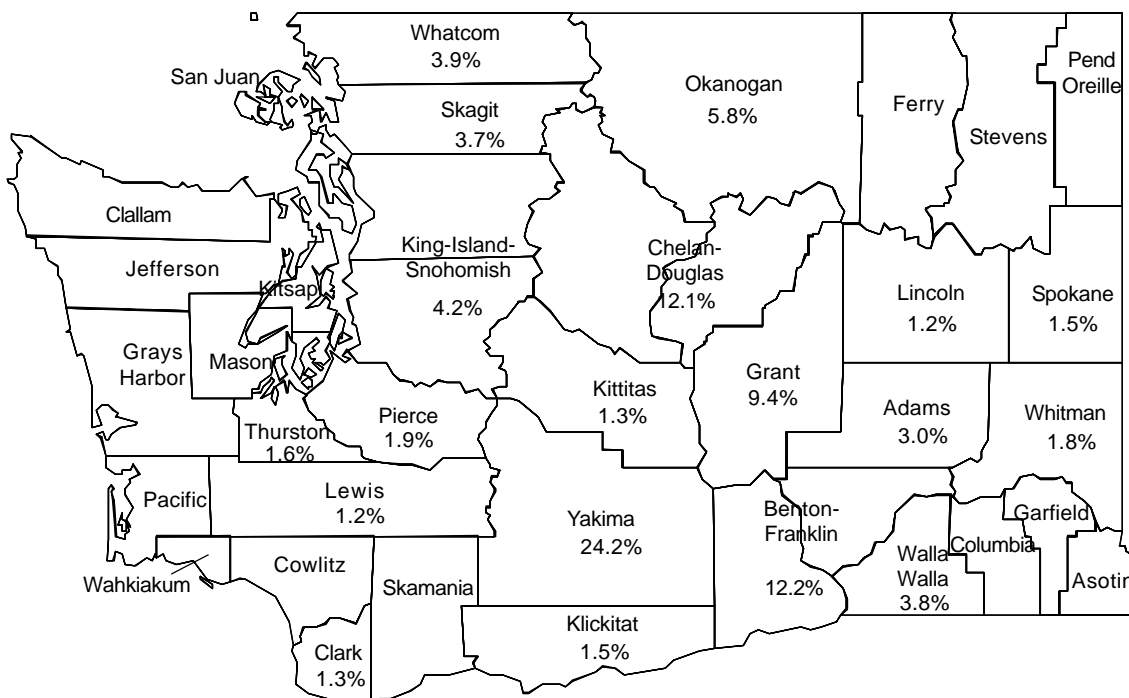
**Figure 12**  
**Total Employment and Agricultural Employment, Washington State and Selected Areas, 2002**

AREA	Total Emp.	Agri. Emp.	% of Total County Emp.	% of Total State Agri. Emp.
<b>WASHINGTON</b>	2,871,000	87,149	3.0%	100.0%
<b>Western</b>	2,262,980	17,631	0.8%	20.2%
<b>Eastern</b>	608,020	69,518	11.4%	79.8%
<b>Agricultural Area</b>				
<b>Columbia Basin</b>	41,440	10,807	26.1%	12.4%
Adams	7,470	2,587	34.6%	3.0%
Grant	33,970	8,220	24.2%	9.4%
<b>North Central</b>	80,740	16,697	20.7%	19.2%
Chelan & Douglas	49,070	10,556	21.5%	12.1%
Kittitas	14,610	1,100	7.5%	1.3%
Okanogan	17,060	5,041	29.5%	5.8%
<b>South Central</b>	104,690	22,406	21.4%	25.7%
Klickitat	7,090	1,298	18.3%	1.5%
Yakima	97,600	21,108	21.6%	24.2%
<b>South Eastern</b>	119,720	13,934	11.6%	16.0%
Benton & Franklin	94,100	10,635	11.3%	12.2%
Walla Walla	25,620	3,299	12.9%	3.8%
<b>Eastern</b>	261,430	5,674	2.2%	6.5%
Lincoln	4,440	1,034	23.3%	1.2%
Spokane	199,000	1,341	0.7%	1.5%
Whitman	18,710	1,574	8.4%	1.8%
<b>Other Eastern Areas</b>	39,280	1,725	4.4%	2.0%

Source: Employment Security Department

<sup>5</sup> The 2002 Census was not yet out at the time of publication.

**Figure 13 County Percentage of Total Agricultural Employment\* Washington State, 2002**



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

Source: Washington State Employment Security Department

**Figure 14 Map of Agricultural Reporting Areas in Washington State**



**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**

*Source: Employment Security Department*

Western region led the state in blueberry, raspberry, strawberry, and nursery employment. Whatcom and Skagit were the most important agricultural counties in the western area, averaging over 3,000 farm-related jobs.

**South Central (Area 2).** The South Central area, which includes Yakima and Klickitat counties, is the most important area in terms of agricultural employment. More than one out of every four Washington agricultural workers was employed in this region in 2002. Yakima County itself accounted for 24.2 percent of all agricultural workers. The explanation for this is that the area produces a number of labor-intensive crops such as apples, cherries, pears, other tree fruits, and asparagus. *Figure 15* shows the seasonal labor throughout the year for apples, cherries, grapes, pears, asparagus, and hops in the South Central area.

Although cherries and apples stand out in this figure, it is interesting to note that the area is not the top employer of laborers working these two crops. From *Figure 15* one can see how seasonal work flows from one crop to another. In the first quarter of the year, apple pruning employed more than any other activity. Briefly in May, the asparagus harvest became the dominant activity. Apple thinning became the top employing agricultural activity before the cherry harvest began employing large numbers in July. As the cherry harvest tapered off in August the harvesting of pears and apples took over.

On average there were 8,925 seasonal employees in this area in 2002. This was a slight increase from the 8,837 who worked in 2001. The number of seasonal workers involved in apples and cherries increased 14.5 percent and 5.2 percent respectively. These increases in employment reflect the increased production and value of the apple harvest, and the

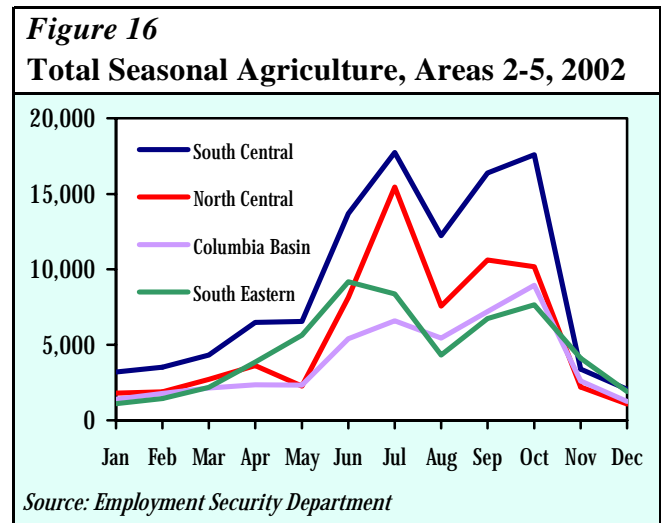
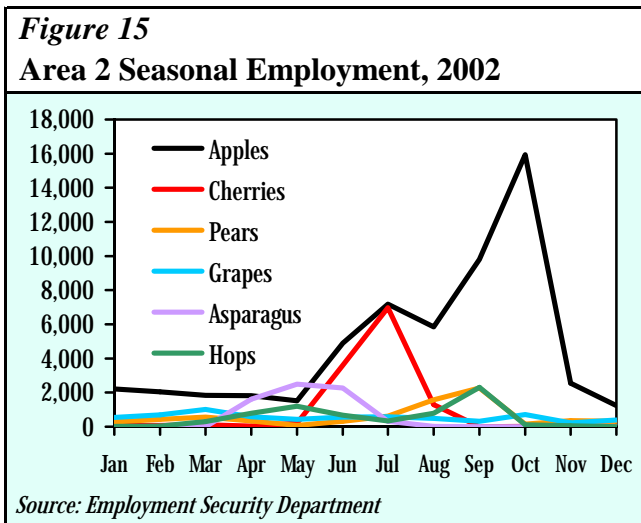
higher prices paid for the smaller, but highly valued cherry crop in 2002. Average annual seasonal employment dropped in pears (-12.3 percent), asparagus (-0.3 percent), and grapes (-42.8 percent).

*Figure 16* graphs total seasonal agricultural employment for areas two through five. Yakima and Klickitat employ more grape and pear workers than any other region and collectively are the second biggest providers of asparagus, cherry, and apple work. At its peak in September, hop production employed 2,312 seasonal farm workers. Onions, potatoes, and other miscellaneous vegetables together employed another 896 seasonal farm workers in August.

**North Central (Area 3).** The North Central area, which includes Chelan, Douglas, Kittitas, and Okanogan counties, is the second largest agricultural area in the state in terms of employment with about 18.0 percent of the state's total agricultural employment in 2002. Most of the area's farm workers were employed in fruit orchards. The total seasonal work force for the North Central area was 5,625 in 2002 and 6,069 in 2001, a drop of 7.3 percent. Chelan, Okanogan, and Douglas counties were the second, third, and fourth largest employers of tree fruit labor respectively.

The apple employment activities followed the same patterns and occurred at about the same time as in the South Central region. The cherry harvest in Okanogan came in later than in the more southern cherry orchards. *Figure 17* identifies the changes in seasonal employment for three tree fruits in the North Central area.

**Columbia Basin (Area 4).** The average number of seasonal workers in Adams and Grant counties declined by another 6.4 percent in 2002 after declining 14.0 percent in 2001. The declines reflect the transition from



Red Delicious apples to other tree fruit, which meant that there was less need for seasonal employees as the new orchards and other crops matured into productive crops. On average, the potato crop provided the second most seasonal work in the Columbia Basin. Even at this, the seasonal employment annual average dropped 12.7 percent. This came about in spite of a 6.3 percent growth in the state's potato acreage. This growth made little difference to statewide potato production, which increased by only 0.8 percent. Lower prices for the bulk potato crop statewide meant that the potato crop from this area did not generate the revenues generated in 2001.

As *Figure 18* illustrates, the potato harvest was slightly behind the apple harvest in this area. The area is top for annual average seasonal employment in potatoes with an average of 562 seasonal workers. There was an annual average of 280 seasonal onion workers in 2002. This was the second highest annual average for seasonal onion workers in 2002.

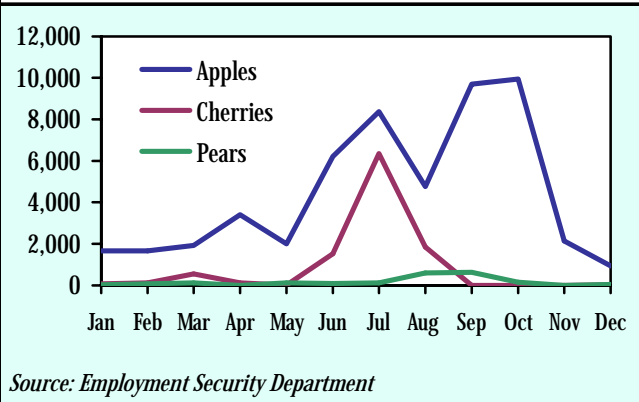
**South Eastern (Area 5).** The percentage of the workers from the South Eastern area working in agriculture was 11.6 percent. This area provided 16.0 percent of statewide agricultural workers. It includes Benton, Franklin, and Walla Walla counties. In 2002 there were 16.0 percent less seasonal farm workers in the South Eastern area.

Wheat is the primary crop in the area. This crop is heavily capital-intensive. It does not require large numbers of hired workers. About 0.7 percent of the seasonal farm workers in 2002 were engaged in wheat growing in this area. This was proportionately just a little more than the statewide percentage.

Apples were the top-employing crop with seasonal farm employment averaging 1,691 workers for the year of 2002, up 3.6 percent from last year. Asparagus was the second largest employer averaging 664 seasonal farm workers, down 17.1 percent from the previous year. Grapes ranked third with 568 seasonal farm workers. Miscellaneous vegetables were fourth with 374 seasonal farm workers, onions were fifth with 288 seasonal farm workers, cherries were sixth with 313, and potatoes were seventh with 279 seasonal farm workers. As illustrated in *Figure 19*, asparagus had an employment peak in May of 3,623 seasonal farm workers. Seasonal apple employment had an initial peak in July of 2,389, most of who were involved in thinning trees. In October, the number of seasonal farm workers peaked at 5,285 as part of the apple harvest.

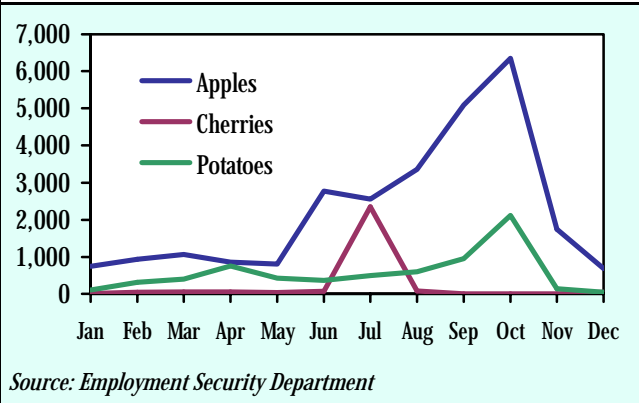
**Eastern (Area 6).** The Eastern area includes Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, and Stevens counties. The farm acres are almost exclusively devoted to wheat farming. Of the annual average of 268 seasonal farm workers who work in this area, 35.8 percent work in wheat, 28.3 percent worked in nursery work, and 35.8 percent worked in other agricultural sectors.

**Figure 17**  
**Area 3 Seasonal Employment, 2002**



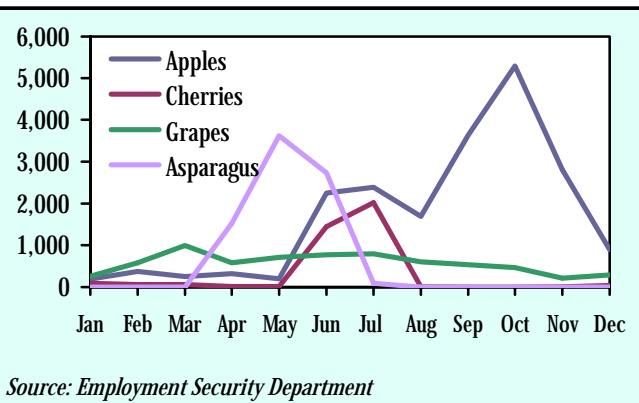
Source: Employment Security Department

**Figure 18**  
**Area 4 Seasonal Employment, 2002**



Source: Employment Security Department

**Figure 19**  
**Area 5 Seasonal Employment, 2002**



Source: Employment Security Department

# HOURS AND EARNINGS

Average annual earnings in agriculture tend to be below that of most other industries in the state. In 2002, the earnings of all agricultural workers in Washington averaged \$16,791. This was 43.8 percent of the state-wide average for all workers covered for unemployment insurance of \$38,252, as reflected in *Figure 20*<sup>6</sup>. The main reason for this disparity is that most farm workers, especially the seasonal ones, do not work the entire year. Many of these covered seasonal employees do not even work the 680 hours needed to be eligible for the Unemployment Insurance program.

Many seasonal farm workers often move within a broad geographic area, such as the western United States. Even during peak seasonal employment periods, many seasonal farm workers work less than a standard 40-hour week.

There is a wide range of jobs and pay scales among agricultural jobs. Like most work, farm earnings are a function of individual worker productivity, the productivity of the field, vineyard, orchard, etc. Many seasonal farm workers are paid a piece rate and make more than the state minimum wage during a peak harvest activity.

The highest annual earnings listed in *Figure 20* are for soil preparation services (\$28,685). The work primarily entails land breaking, plowing, applying fertilizer, and improving soil. Work of this variety requires more use of machinery and some specialized knowledge. The same is true for pruning or picking fruit. A skillful fruit picker, though, could make more on a daily basis than the machine operator. The peak picking season, though, is relatively short so the worker must continually move on to new jobs. Irish potato crop harvesting is another relatively high paying farm job. This is not only because it is highly mechanized, it is because the workers are able to work for longer periods. Some of these seasonal workers may do both mechanized and handwork depending on what is available.

The major factor in determining annual earnings is whether the job exists year-round and for entire 40-hour shifts. Dairy workers, who averaged the second highest listed pay of \$23,186 a year, typically work all year and full 40-hour weeks. At the other end of the

pay scale are berry and deciduous tree (apples, cherries, pears, etc.) workers who earned \$12,141 and \$13,252 respectively. This type of work is typically seasonal and paid on a piece rate basis. This work is very vulnerable to adverse weather conditions.

**Figure 20**  
**Average Annual Earnings for Covered Employment and Agricultural Employment Washington State, 2002**

Industry	Annual Average
<b>Total Covered Private Employment</b>	<b>\$38,252</b>
<b>All Agricultural Workers</b>	<b>\$16,791</b>
<b>Agricultural Production Crops</b>	<b>\$15,333</b>
Irish potatoes	\$22,906
General farms, primarily crop	\$20,332
Ornamental nursery products	\$19,846
Field crops, except cash grains, nec	\$20,058
Cash grains, nec	\$17,485
Vegetables and melons	\$15,348
Grapes	\$14,901
Deciduous tree fruits	\$13,252
Berry crops	\$12,141
<b>Agricultural Production Livestock</b>	<b>\$22,274</b>
Dairy farms	\$23,186
<b>Agricultural Services</b>	<b>\$18,684</b>
Soil preparation services	\$28,685
Crop preparation services for market	\$19,350
Farm Labor and Management Services	\$14,175

Source: *Employment Security Department*

<sup>6</sup> The Employment Security Department's database includes only those covered for Unemployment Insurance (UI) in the Private Sector. These workers represent about 85 percent of total civilian employment in Washington State. The UI program data is the best source of this information at the state and local level. The total employment number for the state is made up of UI covered employment as well as non-covered workers. The latter are self-employed individuals, like most farm operators.

# Individual Earnings and Hours

The previous section analyzed annual pay in terms of pay per job; that is, the total wages paid by a firm divided by the number jobs<sup>7</sup>. This section will instead analyze average pay from the perspective of the individual employee. This will allow the break out of important information on multiple job holders.

In 2002, 149,871 individuals worked at some point in the agriculture sector of Washington. At any point in time during 2002, the number of individuals actually working in agriculture might be much greater or much less than this number due to the seasonal nature of agricultural employment. The average earnings of an individual agricultural worker in 2002 were \$8,745 or about 0.7 percent less than in 2001<sup>8</sup>. On average, an agricultural worker worked only 859 hours in covered employment in Washington in 2002.

Many of these workers worked multiple jobs both in and outside of the agricultural sector. The average earnings of individuals who only worked in agriculture were \$7,346, while workers who worked in both agricultural and nonagricultural industries earned on average \$12,353. This difference in earnings is almost totally

explained by differences in average hours worked. The workers who only worked in agriculture worked 732 hours and those who worked in both agricultural and nonagricultural industries worked 1,185 hours.

Figure 21 breaks down workers in agriculture from 2000-2002 between those who remained strictly in agriculture and those who had additional work outside of agriculture. During 2002 about 27.9 percent of all workers supplemented their income with nonagricultural work.

<sup>7</sup> Firms report information quarterly on the number of employees they have on the 12th of each month. Suppose that a firm pays \$100,000 out in wages over the year and has an average of 10 employees the first quarter, 8 the second, 11 the third and 11 the fourth. Average annual wage would be \$10,000. This might be quite different than the average of the actual wages paid to each of the employees.

<sup>8</sup> The amount earned by each employee is less than the average by job. How is this possible? Take the example in footnote 7. Because employment is highly seasonal, some workers only work a week for the firm or even a few days. The firm still paid out \$100,000 over the year but they actually had 15 individual workers working for them at some time on average over each quarter. The average of the workers' pay would then be less than \$10,000.

**Figure 21**  
**Average Hours, Earnings, and Number of Employers**  
**Washington State, 2000-2002**

	2000	2001	2002	% Change 2000-2001	% Change 2001-2002
<b>All Agriculture Workers</b>	154,154	150,315	149,871	-2.5%	-0.3%
Average Annual Hours	889	861	859	-3.1%	-0.2%
Average Annual Earnings	\$8,747	\$8,803	\$8,745	0.6%	-0.7%
Over \$10,000	\$49,490	\$47,017	\$46,794	-5.0%	-0.5%
Average Hourly Earnings	\$9.83	\$10.22	\$10.18	4.0%	-0.4%
Average # of Employers	2.58	2.49	2.49	-3.5%	0.0%
<b>Workers in Agriculture Only</b>	108,552	107,725	108,001	-0.8%	0.3%
Average Annual Hours	752	729	732	-3.1%	0.4%
Average Annual Earnings	\$7,308	\$7,323	\$7,346	0.2%	0.3%
Over \$10,000	\$28,909	\$27,898	\$28,193	-3.5%	1.1%
Average Hourly Earnings	\$9.71	\$10.04	\$10.04	3.4%	0.0%
Average # of Employers	2.09	2.03	2.04	-2.9%	0.5%
<b>Worked in Ag. &amp; Non-Ag Industries</b>	45,602	42,500	41,870	-6.8%	-1.5%
Average Annual Hours	1,216	1,196	1,185	-1.6%	-0.9%
Average Annual Earnings	\$12,172	\$12,548	\$12,353	3.1%	-1.6%
Over \$10,000	\$20,581	\$19,119	\$18,601	-7.1%	-2.7%
Average Hourly Earnings	\$10.01	\$10.48	\$10.42	4.7%	-0.6%
Average # of Employers	3.75	3.67	3.65	-2.1%	-0.5%

Source: Employment Security Department



Typically, these multi-sector workers in 2002 had 3.65 employers on average compared to approximately 2 employers for the agriculture sector only workers.

In a seasonal industry like agriculture with its typical breaks in employment, unemployment compensation becomes very important. In order to qualify for unemployment benefits in Washington in 2003, a person must work at least 680 hours in a given year. Assuming a 40-hour workweek, 680 hours would amount to about 4 months, which is longer than any harvest. The typical worker in only agriculture averaged 732 hours of work in 2002.

**Trends.** Average earnings for individual agricultural workers declined in current dollars in 2002. *Figure 22* graphs real agricultural earnings, that is, earnings adjusted for inflation in 1996 dollars. This is described in greater detail in *Figures 23* and *24*.

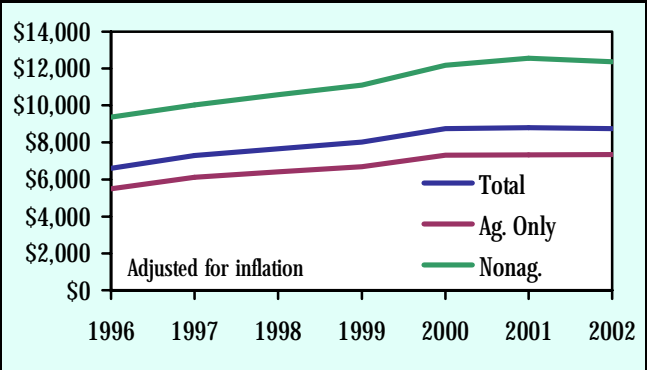
The lack of growth in real earnings in 2002 can be traced back to a decline in hours worked. For workers only in the agricultural sector, there was a 0.2 percent drop in hours worked. Agricultural workers who were able to find nonagricultural work were able to compensate for lost hours somewhat, but even they lost 1.5 percent from 2001.

Earnings of workers from agricultural work were affected by whether workers worked an additional job outside the agricultural sector. Those workers who specialized just in the agricultural sector earned more on an annual and on an hourly basis in agricultural than did those workers who also worked outside of the agricultural sector.

This, at first glance, would appear to contradict formerly mentioned data showing those who supplemented their income outside of agriculture tend to earn more. They did earn more overall, but their earnings from agriculture were less than those who worked just in agriculture. There are many possible explanations for this. Specialization in agriculture may increase skill level and pay, those who are already more skilled in agriculture may get the best jobs and thus be less likely to look for work outside agriculture, or time spent in jobs outside agriculture may negatively affect the ability of a worker to find the best agricultural jobs. Still, the average hourly rate for nonagricultural jobs is above that earned within agriculture by specialists (\$10.72 per hour versus \$10.22 per hour).

Over one-third of all jobs in agriculture were involved with deciduous trees, primarily apples, cherries, and

**Figure 22**  
**Real Agricultural Earnings, 1996-2002**



Source: Employment Security Department

pears. Three times as many workers were employed in this sector than in the next closest crop, field crops (which include alfalfa, hops, mint, and potatoes). Employment among tree fruits was also almost three times the employment in crop preparation for market such as fruit packing and sorting which was overall the second largest agriculture-related employer.

Most of the off-farm jobs are in work directly related to agriculture. For example, wholesale fruits and vegetables employed 5,574 agricultural workers, canned fruits and vegetables 2,324 agricultural workers, and frozen fruits and vegetables 1,990 agricultural workers. These jobs tend to be located in agricultural areas and are commonly filled by Hispanics, making relocation unnecessary and reducing language barriers. The most common job outside of agriculture for farm workers is retail. The best pay was found in educational services (\$19.07 per hour) followed by construction (\$14.81 per hour). The bulk of the educational service workers were either teachers who worked in agriculture during the summer months or non-teaching employees who worked on farms at some point. The lowest financial incentives were found with those working for temporary agencies and then with wholesale fruits and vegetables. The jobs that are closely related to agriculture tend to be seasonal in nature. For example, the fruit wholesale business peaks during and closely following the harvest. This is why the loss of the asparagus and related food processing jobs in the Yakima Valley will have a major impact on bringing down annual earnings for these employees.

Given relatively low wages and uncertain seasonal income, it is not altogether surprising to find that of the 149,871 Washington farm workers in 2002, only 56.1 percent were back at it again in 2002. This has been a

Figure 23

Number of Agricultural Workers and Average Earnings by SIC Code, Washington State, 2002

SIC Code	Workers Employed in Ag. And Nonag. 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.
<b>Total Jobs</b>	<b>35.7%</b>	<b>112,024</b>	<b>\$4,623</b>	<b>\$10.72</b>	<b>75.6%</b>	<b>137,524</b>	<b>\$5,879</b>	<b>\$10.22</b>
<b>Total Workers (SSNs)</b>		<b>40,017</b>				<b>103,973</b>		
<b>01 Agricultural Production, Crops</b>	<b>100.0%</b>	<b>43,289</b>	<b>\$2,540</b>	<b>\$8.32</b>	<b>100.0%</b>	<b>108,285</b>	<b>\$5,790</b>	<b>\$10.08</b>
0175 Deciduous Fruit Trees	45.6%	19,742	\$3,416	\$8.94	54.2%	58,648	\$4,920	\$9.35
0139 Field Crops, Exc. Cash Grains	8.6%	3,725	\$2,901	\$8.87	7.8%	8,498	\$5,132	\$9.84
0161 Vegetables and Melons	7.5%	3,230	\$2,534	\$8.71	6.5%	7,026	\$3,976	\$10.00
0191 General Farms & Other	7.3%	3,156	\$2,508	\$8.92	7.3%	7,873	\$5,212	\$10.61
0181 Ornamental Floricl/Nursry Prods	9.0%	3,917	\$4,017	\$8.86	6.2%	6,760	\$9,673	\$11.03
0171 Berry Crops	5.5%	2,360	\$2,087	\$8.49	4.9%	5,351	\$2,867	\$8.92
0172 Grapes	4.9%	2,104	\$2,319	\$8.24	4.7%	5,135	\$4,090	\$8.72
0134 Irish Potatoes	4.8%	2,091	\$3,426	\$9.55	3.6%	3,845	\$6,279	\$11.52
0111 Wheat	4.5%	1,952	\$2,769	\$10.76	2.9%	3,126	\$5,962	\$11.50
0179 Fruits and Tree Nuts	0.8%	333	\$849	\$8.60	0.7%	760	\$2,250	\$8.68
0119 Cash Grains, NEC	0.8%	340	\$2,743	\$10.59	0.5%	586	\$5,682	\$10.82
0115 Corn	0.4%	166	\$1,838	\$8.61	0.3%	291	\$2,548	\$9.65
0182 Food Crops grown under cover	0.4%	162	\$5,560	\$8.34	0.3%	371	\$16,299	\$10.81
0133 Sugar Beets	0.0%	0	\$0	\$0.00	0.0%	0	\$0	\$0.00
0173 Tree Nuts	0.0%	11	\$1,127	\$7.31	0.0%	15	\$11,961	\$19.75
<b>02 Ag Production, Livestock</b>	<b>5.6%</b>	<b>2,417</b>	<b>\$5,889</b>	<b>\$10.91</b>	<b>5.7%</b>	<b>6,148</b>	<b>\$11,392</b>	<b>\$12.33</b>
0241 Dairy Farms	3.5%	1,526	\$7,027	\$10.98	3.8%	4,125	\$14,704	\$12.14
0212 Beef Cattle, Except Feedlots	0.7%	314	\$3,390	\$10.30	0.6%	630	\$7,558	\$11.44
0211 Beef Cattle Feedlots	0.5%	209	\$6,246	\$12.08	0.5%	577	\$12,482	\$12.27
0252 Chicken Eggs	0.7%	324	\$5,854	\$10.51	0.7%	744	\$18,770	\$13.58
0214 Sheep and Goats	0.0%	3	\$8,514	\$14.26	0.0%	15	\$8,839	\$12.40
0254 Poultry Hatcheries	0.1%	24	\$7,703	\$9.64	0.0%	29	\$13,133	\$11.64
0259 Non-chicken Poultry	0.0%	17	\$2,491	\$8.61	0.0%	28	\$4,261	\$12.86
<b>07 Agricultural Services*</b>	<b>24.6%</b>	<b>10,657</b>	<b>\$3,467</b>	<b>\$10.39</b>	<b>20.4%</b>	<b>22,137</b>	<b>\$6,728</b>	<b>\$12.40</b>
0723 Crop Prep. For Market	19.1%	8,278	\$3,500	\$9.01	15.9%	17,225	\$7,904	\$10.52
0762 Farm Management Services	1.0%	443	\$1,825	\$8.37	0.6%	700	\$2,423	\$9.77
0761 Farm Labor Contractors/Crew leaders	3.4%	1,476	\$1,342	\$8.33	3.2%	3,475	\$1,875	\$8.97
0721 Crop Planting, Cult. & Protecting	0.7%	299	\$3,175	\$11.80	0.4%	485	\$8,019	\$16.95
0722 Crop Harvesting, by machine	0.3%	114	\$3,081	\$10.73	0.2%	183	\$4,153	\$10.80
0711 Soil Preparation Services	0.1%	47	\$7,879	\$14.08	0.1%	69	\$15,992	\$17.39
<b>Nonagriculture Employment</b>	<b>83.4%</b>	<b>36,120</b>	<b>\$6,056</b>	<b>\$11.43</b>				
52-59 Retail Trade	22.8%	9,858	\$5,180	\$9.38				
5148 Wholesale Fresh Fruit and Vegetables	12.9%	5,574	\$2,948	\$9.13				
15-17 Construction	9.4%	4,048	\$6,957	\$14.81				
7363 Temporary Help Agencies	9.5%	4,133	\$2,236	\$8.57				
2033 Canned Fruits and Vegetables	5.4%	2,324	\$3,993	\$9.86				
2037 Frozen Fruits, Vegetables & Juices	4.6%	1,990	\$6,162	\$10.26				
42 Trucking & Warehousing	4.8%	2,091	\$5,617	\$12.19				
82 Education Services	4.3%	1,882	\$13,215	\$19.07				
80 Health Services	3.0%	1,278	\$9,802	\$13.37				
79 Amusement & Recreation	2.6%	1,121	\$3,541	\$9.60				
24 Lumber and Wood Products	2.2%	953	\$7,884	\$11.60				
83 Social Services	2.0%	868	\$5,137	\$9.28				

\*Excludes SICs 074, 075, and 078.

Source: Employment Security Department



common pattern; 56.0 percent returned in 2001, 55.0 percent returned in 2000, and 54.0 percent in 1999. There were 65,548 farm workers who did not return to farm work; 11.0 percent of those were found working in nonagricultural industries and 32.8 percent no longer worked in Washington State.

There were 11.0 percent of farm workers who ended up working in other industries; 23.6 percent of those worked in retail. These retail workers earned on average \$6,697 in 2002. This was higher than what was earned by those who worked in retail and agriculture in 2002, which averaged \$5,180. So, even the lower paying retail jobs were a step up for those who worked in both retail and agriculture, but less than those who specialized and worked solely in agriculture. The other com-

mon jobs for non-returning agricultural workers were services (11.9 percent), food processing (8.9 percent), construction (9.1 percent), manufacturing (7.2 percent), and wholesale trade (6.3 percent). Two industries paid an annual average of less than retail—business services (\$5,152) and forestry, fishing, hunting, and trapping (\$5,190). The mining and wholesale-durable industries had the highest earnings at \$16,910 and \$14,243 respectively. Despite the high earnings in mining, the economic impact was minimal since there were only 29 ex-farm workers in the industry. *Figure 24* tallies the number of jobs and average annual earnings by industry for persons who worked in agriculture in 2001, but outside of it in 2002.

**Figure 24**  
**Employment and Earnings of Former 2001 Agricultural Workers**  
**by Nonfarm Industry in Washington, 2002**

		<b>Total Workers</b>	<b>16,548</b>	<b>% of Workers</b>	<b>Annual Average Earnings</b>
<b>SIC Code</b>	<b>Total of All Industries</b>	<b>23,323</b>	<b>100.0%</b>	<b>\$9,388</b>	
52-59	Retail Trade	5,508	23.6%	\$6,697	
70, 72, 75-79, 81, 83-89	Services (excluding: Business, Education & Health)	2,768	11.9%	\$7,549	
203	Food Processing	2,087	8.9%	\$10,187	
73	Business Services	2,285	9.8%	\$5,152	
15-17	Construction	2,119	9.1%	\$10,132	
22,23,25-41,43-49	Other Manufacturing	1,670	7.2%	\$15,132	
51	Wholesale Trade - Nondurable	1,465	6.3%	\$10,434	
82	Education Services	941	4.0%	\$13,412	
80	Health Services	913	3.9%	\$12,457	
42	Trucking & Warehousing	653	2.8%	\$10,457	
07	Agricultural Services	551	2.4%	\$8,793	
24	Lumber and Wood Products	498	2.1%	\$11,543	
60-67	Finance, Insurance and Real Estate Division	554	2.4%	\$14,026	
91-97	Public Administration	591	2.5%	\$14,170	
50	Wholesale Trade - Durable	444	1.9%	\$14,243	
08-09	Forestry, Fishing, Hunting, & Trapping	247	1.1%	\$5,190	
10-14	Mining	29	0.1%	\$16,910	

*Source: Employment Security Department*

# Unemployment Claims

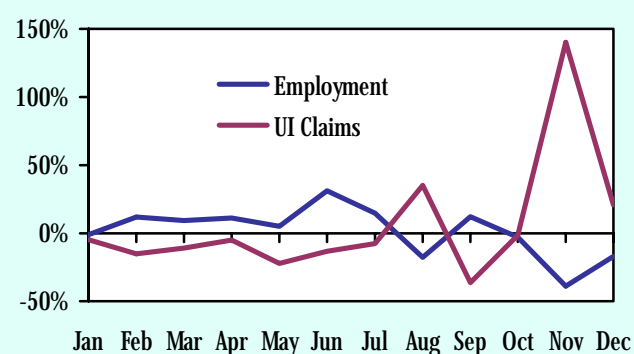
Workers in seasonal industries commonly are eligible and take advantage of unemployment benefits. *Figure 25* shows the changes in agriculture workers' use of unemployment benefits versus workers in all industries from 2000 to 2002. *Figure 26* compares the number of workers in all industries and those in agriculture who were eligible and filed for regular Unemployment Insurance (UI) benefits since 2000. The average number of claims for all sectors rose by 17.8 percent in 2002, reflecting the continued statewide economic downturn. Agricultural UI claims are less dependent on the cyclical state of Washington's economy, than on supply shocks such as weather and the price of energy and demand outside the state. Over 80.0 percent of the food and agricultural products produced in Washington are exported outside the state. Agricultural claims in 2002 actually experienced a 1.3 percent decline—the same direction and magnitude as the decline in seasonal agricultural employment.

Unemployment claims in agriculture follow a typical pattern counter to seasonal employment increases. January tends to have the highest number of claims as holiday retail drops, tourism related industries such as hotels and recreation are down, and bad weather often prohibits construction and agricultural work. In addition

there is little work in industries like fruit packing, which closely follow the harvest. Unlike previous years, however, the highest overall number of unemployment claims came at the end of the year as both the local and national economies struggled.

Agricultural activity began to pick up in March and this led to a decline in filings for unemployment. Asparagus employment peaked in May, but continued to employ large numbers through July. The cherry harvest

**Figure 26**  
Monthly Changes in Washington Agricultural Employment and UI Claims Filed, 2002



Source: Employment Security Department

**Figure 25**  
Unemployment Claims for Agriculture and All Industries  
Washington, 2000-2002, excludes SICs 074, 075, & 078

	2000		2001		2002		% Chg 2001-2002	
	All Industries	Agriculture Only	All Industries	Agriculture Only	All Industries	Agriculture Only	All Industries	Agriculture Only
<b>Average</b>	<b>88,711</b>	<b>5,423</b>	<b>122,936</b>	<b>6,319</b>	<b>144,847</b>	<b>6,236</b>	<b>17.8%</b>	<b>-1.3%</b>
January	119,057	9,056	124,039	9,206	181,657	10,077	46.5%	9.5%
February	105,617	7,512	120,384	7,818	171,265	7,976	42.3%	2.0%
March	98,470	5,887	120,921	6,981	168,493	7,257	39.3%	4.0%
April	94,372	5,649	127,728	6,630	160,202	6,666	25.4%	0.5%
May	77,369	3,989	112,785	5,172	143,256	5,536	27.0%	7.0%
June	74,698	3,205	110,640	4,494	137,198	4,757	24.0%	5.9%
July	70,307	3,032	115,412	4,155	131,006	3,763	13.5%	-9.4%
August	74,830	4,325	110,864	5,615	120,719	5,397	8.9%	-3.9%
September	74,303	2,673	107,387	3,566	119,251	3,362	11.0%	-5.7%
October	72,707	2,670	118,638	3,519	115,919	2,564	-2.3%	-27.1%
November	88,940	7,426	140,484	8,453	131,124	7,599	-6.7%	-10.1%
December	113,867	9,650	165,948	10,214	158,072	9,874	-4.7%	-3.3%

Source: Employment Security Department

also peaked in July, which in 2002 as in other years, led to the highest employment levels and, thus, few unemployment claims. From March to July agricultural filings dropped by 48.3 percent and from January by 62.7 percent. This is less than the 2001 declines for the same periods, which reflects the lower number of seasonal farm workers who worked enough hours to be eligible to apply for UI benefits.

With cherries and asparagus finishing up, employment fell in August of 2002 by 32.3 percent or 18,417 jobs, which led to a rise of 1,634 claims. August traditionally sees a drop-off in employment and a subsequent rise in claims. It is a lull in employment just prior to the busy apple harvest. The peak of the apple har-

vest occurred in October and claims fell by 27.1 percent to their lowest level of the year (2,564). Presumably the reason that claims were lower in October than in July (which had the highest employment) is that many farm workers return to their home base state and in some cases their countries of origin. The month of November saw an increase in the number of claims by 10.1 percent or 7,599. This higher level of claims by agricultural workers persisted through the winter and into the spring of 2003. The typical pick up in employment in early April for the asparagus harvest did not occur. This trend can be expected to continue in 2004. It will be compounded by the closure of the two asparagus food processing plants in the Yakima Valley.

# DEMOGRAPHICS

## Farm Worker Demographics

The demographic data discussed in this section is a derivative of Unemployment Insurance (UI) program administrative data and subsequent responses to a random survey sample of unemployed workers in Washington. This survey is called the Continuing Wage Benefit History (CWBH). The random sample survey goes out to 10 percent of all those who file for UI benefits, including agricultural workers. The key to this survey is that it builds off demographic and other information collected from 100 percent of the people who file for UI benefits in Washington.

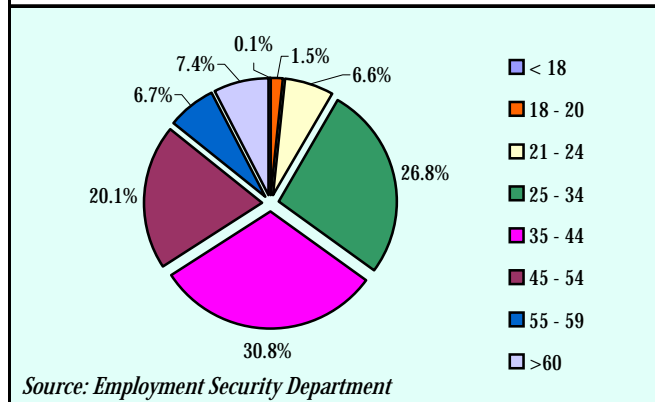
The ethnic and other demographic characteristics of farm workers as reflected by the UI Continuous Wage and Benefit History survey provide some insights into the farm worker population in Washington. Agricultural applicants for UI benefits were predominantly male (64 percent), Hispanic (77.4 percent), and between the ages of 25 and 44 (57.6 percent). Outside of Hispanics, the only other significant ethnic group was whites with 20.2 percent of the total in 2002 (see Figure 27). These numbers were largely unchanged from two years prior, but Hispanics have risen by almost two percentage points since 1990.

As depicted in Figure 28, about 31 percent of agricultural claimants were between the ages of 35 and 44. Another 27 percent were between the ages of 25 and 34. When these groups are combined they comprise nearly

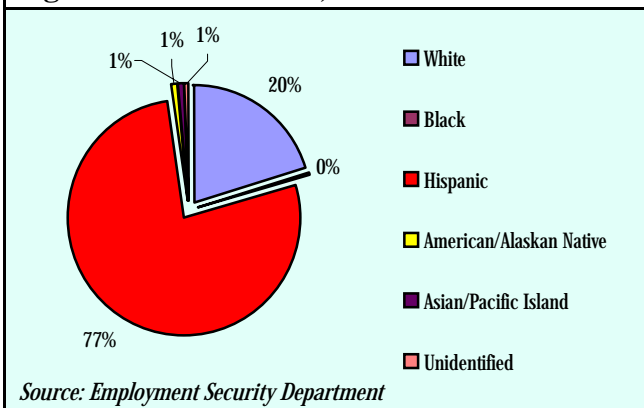
60 percent of farm workers who filed UI claims in 2002. The percentage in the 45-54 age group has grown at the expense of the 21-24 year olds. Given the aging of the population that came to Washington in the early '90s as immigrant farm workers, new supplies of farm workers will be needed. This is important as 43.9 percent of agricultural workers who worked in Washington in 2001 did not return to work in agriculture in 2002.

Since 1990, the proportion of females in Washington's agricultural work force has been consistently rising from 27 percent in 1990 to 36 percent in 2002 (see Figure 29). This came about as earlier-ar-

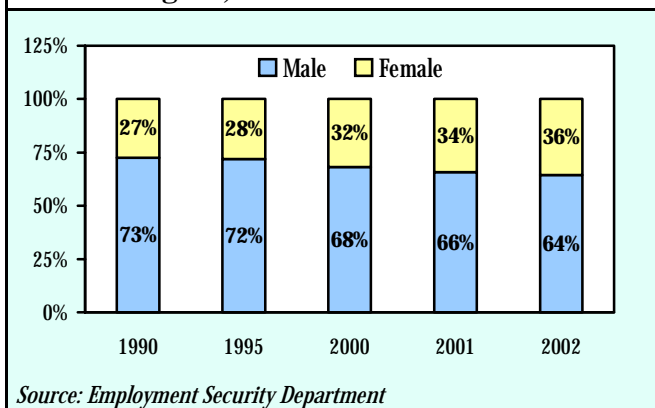
**Figure 28**  
Age of Agricultural Workers and UI Claimants, 2002



**Figure 27**  
Ethnicity of Washington Agricultural Workers, 2002

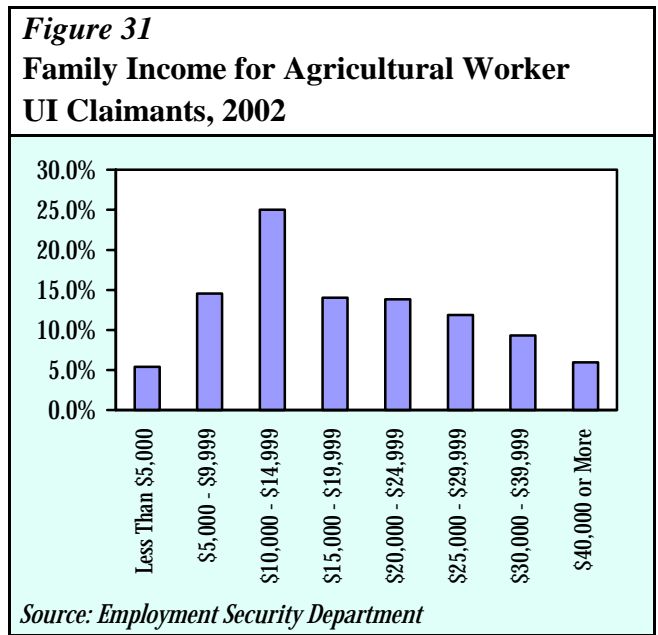
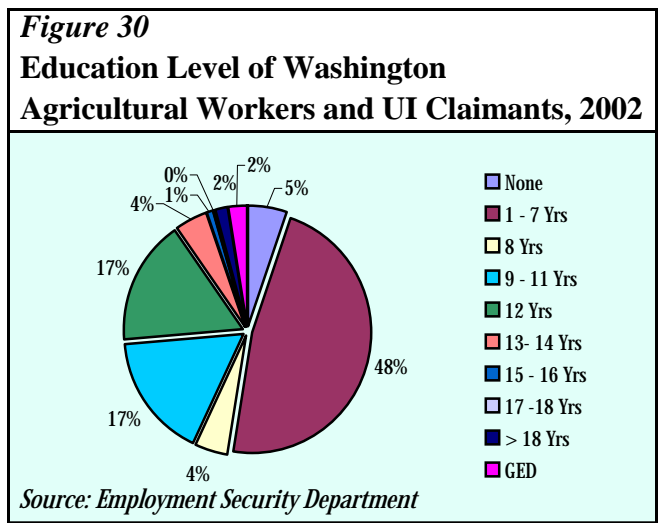


**Figure 29**  
Agricultural Worker Gender in Washington, 1990-2002



iving male immigrants were reunified with their families in the mid to late 1990s. Many of these new immigrants settled in Central Washington.

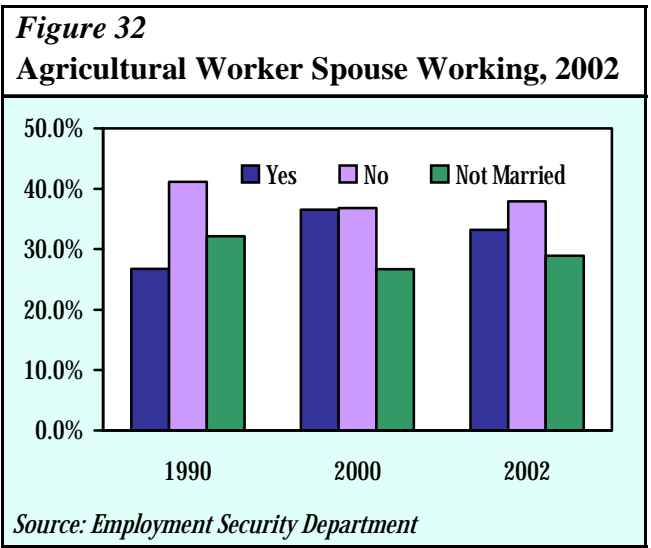
In addition to aging and the moving toward more gender balance, farm workers typically suffer from a lack of education. Often, the lack of literacy limits their job opportunities. The lack of the ability to speak English is another major barrier to improving their economic well-being. Forty-eight percent of farm workers identified themselves as having 1-7 years of education on their UI claim. In fact, if this group is added with those who have no education, 53 percent of farm workers in Washington had seven years of education or less. The next two groups of educational achievement are 9 to 11 years of education and 12 years of schooling. Each group had 17 percent of the agricultural workers (*see Figure 30*).



Hispanics made up 75.8 percent of the farm worker population in 1990, 78.5 percent in 2000, and 77.4 in 2002. Hispanics have become the largest minority in Washington.

Farm work is very seasonal. The most common reason for claiming unemployment insurance was temporary lack of work (78.0 percent), permanent reduction in work force accounted for 2.6 percent of claims, plant/company closure accounted for 2.3 percent, contract completion accounted for 1.9 percent, and “other reasons” accounted for 16 percent.

Farm worker incomes are fairly low. One out of four farm worker families averaged between \$10,000 and \$14,599 (*see Figure 31*). The next two most common income groups were those earning between \$15,000-\$19,999 and \$20,000-\$24,499 (both with 14 percent of claimants). Only six percent of these families earned over \$40,000. Another reason for the low income is that many are one-income households. As *Figure 32* illustrates, only about one-third of applicants had a spouse working. While this is lower than for the population at large, it has risen since 1990. In that year only 27 percent of UI applicants in agriculture claimed to have an employed spouse.



# OUTLOOK

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Agricultural employment and output have fluctuated since the mid 1990s due principally to weather and changes in the world market. Agriculture in Washington is not an expanding industry, but 2002 was not a bad year for growers. The instability in the agricultural industry is expected to continue in 2003 and into 2004. After becoming a 5.90 billion dollar industry in 1995, agriculture fell to 5.54 billion in 2001. It rose to 5.55 billion in 2002, thus showing steady growth since 1998.

There really are three primary drivers that will shape Washington agriculture in the future. They are new technologies, world markets, and government policy.

The development of more and better harvesting mechanization is a function of the cost of labor and the demand of the consumer. The niche markets for organic food or grapes for premium wines may provide new opportunities for Washington growers. Bulk crops, like wheat, will continue to benefit from technology, if foreign governments will allow these enhanced products to be shipped abroad.

The future of Washington's agriculture sector will also be affected by both domestic and foreign competition. The primary challenge is that China and other foreign competitors have read our game plan and have mimicked many of Washington's best practices. This is ok as long as Washington continues to also mimic good ideas. Falling trade barriers due to membership in organizations such as FTAA, NAFTA, and the WTO as well as individual agreements have the potential to positively and negatively impact our agricultural sector.

Government policies such as farm subsidies will primarily affect our grain producers, but there are some provisions for hard-hit fruit growers as well. Some difficult decisions will have to be made regarding scarce water supplies. This problem was exacerbated by the energy crisis, which pitted farmers' needs for irrigation water against environmentalists' concerns for salmon, and the necessity for adequate water levels to generate hydroelectricity. Homeland security issues and immigration are the governmental policies of interest and importance for Washington agricultural employers.

**Appendix I - Total Agricultural Employment in Washington State, Statewide,  
and by Area, 2002 (Benchmark: March 2002)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
<b>Washington</b>	57,830	64,770	70,910	78,830	82,870	108,770	124,980	103,070	115,550	112,410	68,700	57,120	87,150
<b>Bellingham MSA</b>	2,550	2,830	2,960	3,120	3,230	3,310	5,440	4,830	3,550	3,130	2,870	2,840	3,390
<b>Bremerton PMSA</b>	160	190	220	230	250	260	270	250	230	210	180	180	220
<b>Olympia PMSA</b>	1,160	1,240	1,340	1,490	1,580	1,620	1,640	1,650	1,600	1,380	1,250	1,220	1,430
<b>Richland-Kennewick-Pasco MSA</b>	5,930	7,340	7,950	9,970	11,520	16,270	14,460	11,180	13,810	14,210	8,810	6,150	10,640
<b>Seattle-Bellevue-Everett PMSA</b>	2,850	3,130	3,390	3,620	3,910	4,340	4,630	4,290	3,920	3,860	3,320	3,160	3,700
<b>Spokane MSA</b>	990	1,140	1,290	1,490	1,570	1,640	1,650	1,540	1,420	1,270	1,100	1,010	1,340
<b>Tacoma PMSA</b>	1,270	1,480	1,810	1,650	1,730	1,950	2,160	2,020	1,710	1,450	1,360	1,250	1,650
<b>Chelan-Douglas LMA</b>	6,710	7,800	8,100	8,270	7,750	12,320	19,630	11,950	16,340	14,430	7,240	6,130	10,560
<b>Yakima MSA</b>	14,160	15,090	16,340	18,070	19,590	27,610	29,200	24,760	29,900	30,370	14,810	13,400	21,110
<b>Adams</b>	1,520	1,640	1,820	2,330	2,380	3,010	3,980	3,600	3,410	3,450	2,250	1,660	2,590
<b>Asotin</b>	120	150	170	190	220	210	200	190	220	180	160	160	180
<b>Clallam</b>	230	250	270	290	320	340	340	330	310	270	250	230	290
<b>Clark</b>	760	850	1,020	1,110	1,120	1,440	1,930	1,340	1,090	990	860	760	1,110
<b>Columbia</b>	200	230	250	260	270	300	310	320	320	270	220	220	260
<b>Cowlitz</b>	340	350	410	470	440	910	960	1,000	600	450	440	350	560
<b>Ferry</b>	100	120	130	150	160	170	180	160	150	130	110	110	140
<b>Garfield</b>	180	200	220	280	290	290	300	320	270	220	190	190	250
<b>Grant</b>	5,060	5,830	6,610	7,250	7,650	10,160	11,170	9,350	11,510	12,140	6,830	5,080	8,220
<b>Grays Harbor</b>	260	310	360	330	350	370	380	360	340	330	280	260	330
<b>Jefferson</b>	70	80	80	90	100	100	90	80	80	70	70	70	80
<b>Kittitas</b>	800	880	960	1,460	1,040	1,140	1,270	1,160	1,480	1,640	740	640	1,100
<b>Klickitat</b>	1,070	1,260	1,440	1,450	1,320	1,920	1,650	1,230	1,420	1,180	890	740	1,300
<b>Lewis</b>	850	920	980	1,060	1,120	1,200	1,200	1,130	1,040	940	880	850	1,010
<b>Lincoln</b>	750	830	920	1,040	1,120	1,180	1,310	1,400	1,200	980	860	820	1,030
<b>Mason</b>	110	120	140	140	150	160	150	140	130	170	150	130	140
<b>Okanogan</b>	2,780	3,120	3,450	3,950	4,070	5,540	8,100	6,110	8,390	8,580	3,820	2,590	5,040
<b>Pacific</b>	220	240	270	300	310	320	290	270	250	250	210	200	260
<b>Pend Oreille</b>	110	120	140	150	170	180	190	170	150	130	120	110	140
<b>San Juan</b>	90	100	100	110	110	120	120	120	110	100	90	90	110
<b>Skagit</b>	2,280	2,360	2,860	2,970	3,000	2,970	4,670	5,190	4,270	3,470	2,540	2,210	3,230
<b>Skamania</b>	40	50	60	60	60	60	50	50	50	40	40	30	50
<b>Stevens</b>	570	660	740	810	870	930	930	860	800	700	610	570	750
<b>Wahkiakum</b>	60	70	70	80	90	90	100	90	80	70	60	60	80
<b>Walla Walla</b>	2,290	2,500	2,600	3,000	3,270	4,490	4,100	3,590	3,670	3,890	3,760	2,420	3,300
<b>Whitman</b>	1,210	1,330	1,460	1,620	1,730	1,860	1,930	2,030	1,730	1,470	1,310	1,220	1,570

*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, 2002**

<b>WASHINGTON STATE</b>													
	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>
<b>STATE TOTALS</b>	<b>9,296</b>	<b>10,441</b>	<b>14,453</b>	<b>19,493</b>	<b>20,138</b>	<b>39,968</b>	<b>56,970</b>	<b>38,553</b>	<b>46,060</b>	<b>47,790</b>	<b>14,153</b>	<b>8,045</b>	<b>27,113</b>
APPLES, TOTAL	4,825	5,030	5,073	6,399	4,532	16,113	20,505	15,646	28,231	37,505	9,251	3,761	13,073
APPLE PRUNING	4,244	4,568	3,740	1,706	806	1,042	251	862	616	79	1,342	2,588	1,820
APPLE THINNING	0	0	0	1,644	49	13,316	18,406	6,288	1,103	0	0	0	3,401
APPLE HARVESTER	0	0	0	0	0	0	286	3,627	23,979	34,776	6,160	0	5,736
APPLE SORT, GRADE, PACK	378	269	173	278	91	239	191	366	734	785	444	384	361
OTHER APPLE ACTIVITIES	203	193	1,160	2,771	3,586	1,516	1,371	4,503	1,799	1,865	1,305	789	1,755
CHERRIES, TOTAL	261	292	789	227	276	6,634	17,697	3,232	7	25	64	160	2,472
CHERRY PRUNING	258	265	367	50	0	38	0	173	3	15	48	160	115
CHERRY HARVESTER	0	0	0	0	0	3,260	12,622	1,142	0	0	0	0	1,419
OTHER CHERRY ACTIVITIES	3	27	422	177	276	3,336	5,075	1,917	4	10	16	0	939
PEARS, TOTAL	313	564	730	349	237	552	735	2,183	3,150	333	365	401	826
PEAR PRUNING	300	508	636	0	31	58	108	117	7	47	201	361	198
PEAR THINNING	0	0	0	0	0	294	497	17	0	0	0	0	67
PEAR HARVESTER	0	0	0	0	0	0	0	1,349	2,379	181	0	0	326
OTHER PEAR ACTIVITIES	13	56	94	349	206	200	130	700	764	105	164	40	235
OTHER TREE FRUIT WORKERS	60	223	154	737	282	1,097	992	1,275	1,365	307	40	24	546
GRAPE WORKERS	800	1,277	2,015	1,158	1,138	1,341	1,386	1,090	851	1,174	444	689	1,114
BLUEBERRY WORKERS	37	94	56	6	103	203	175	2,425	1,236	384	27	11	396
RASPBERRY WORKERS	583	259	169	350	245	259	2,367	1,768	359	496	599	389	654
STRAWBERRY WORKERS	0	0	5	35	107	407	3,589	134	15	0	0	0	358
BULB WORKERS	60	66	1,647	506	209	272	395	503	144	138	117	100	346
HOP WORKERS	25	66	353	781	1,255	701	362	803	2,415	118	67	3	579
NURSERY WORKERS	917	922	1,036	1,973	2,348	1,784	1,338	1,371	1,045	669	761	846	1,251
WHEAT/GRAIN WORKERS	0	11	23	112	78	178	317	834	218	82	74	14	162
ASPARAGUS WORKERS	0	11	252	3,167	6,616	5,501	434	74	8	0	0	0	1,339
CUCUMBER WORKERS	0	0	0	0	8	30	107	672	410	81	0	0	109
ONION WORKERS	499	474	390	407	30	1,624	1,216	1,130	880	342	450	537	665
POTATO WORKERS	365	660	729	1,177	912	988	1,127	1,398	2,051	3,606	788	619	1,202
MISC VEGETABLE WORKERS	111	322	172	667	1,159	1,303	2,151	1,720	1,848	1,588	526	231	983
OTHER SEASONAL WORKERS	440	170	860	1,442	603	981	2,077	2,295	1,827	942	580	260	1,040



<b>AREA 1</b>													<b>WESTERN</b>	
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>	
<b>TOTAL</b>	<b>1,782</b>	<b>1,732</b>	<b>2,976</b>	<b>2,830</b>	<b>3,069</b>	<b>3,207</b>	<b>8,411</b>	<b>8,097</b>	<b>4,698</b>	<b>3,344</b>	<b>1,779</b>	<b>1,760</b>	<b>3,640</b>	
BLUEBERRY WORKERS	37	94	56	6	103	203	175	2,425	1,236	384	27	11	396	
RASPBERRY WORKERS	583	259	169	350	245	259	2,367	1,768	359	496	599	389	654	
STRAWBERRY WORKERS	0	0	0	18	79	297	3,307	20	8	0	0	0	311	
BULB WORKERS	60	66	1,647	506	209	272	395	503	144	138	117	100	346	
CUCUMBER WORKERS	0	0	0	0	8	30	107	672	410	81	0	0	109	
POTATO WORKERS	258	329	197	151	156	101	55	62	614	881	485	458	312	
MISC. VEGETABLE WORKERS	2	3	2	148	180	342	703	948	811	563	109	29	320	
NURSERY WORKERS	817	821	849	1,498	1,932	1,415	1,079	1,143	995	600	432	753	1,028	
RHUBARB WORKERS	19	151	27	118	92	166	70	45	2	2	0	0	58	
OTHER SEASONAL WORKERS	6	9	29	35	65	122	153	511	119	199	10	20	107	
<b>AREA 2</b>													<b>SOUTH CENTRAL</b>	
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>	
<b>TOTAL</b>	<b>3,190</b>	<b>3,515</b>	<b>4,311</b>	<b>6,478</b>	<b>6,551</b>	<b>13,680</b>	<b>17,731</b>	<b>12,216</b>	<b>16,377</b>	<b>17,597</b>	<b>3,389</b>	<b>2,060</b>	<b>8,925</b>	
APPLES, TOTAL	2,220	2,043	1,829	1,816	1,520	4,886	7,187	5,850	9,812	15,944	2,546	1,237	4,741	
APPLE PRUNING	1,838	1,860	1,026	892	218	122	0	130	174	0	643	851	646	
APPLE THINNING	0	0	0	0	0	3,892	5,996	2,139	171	0	0	0	1,017	
APPLE HARVESTER	0	0	0	0	0	0	160	2,427	8,026	14,272	731	0	2,135	
APPLE SORT, GRADE, PACK	335	157	24	161	0	139	191	355	669	658	359	274	277	
OTHER APPLE ACTIVITIES	47	26	779	763	1,302	733	840	799	772	1,014	813	112	667	
CHERRIES, TOTAL	78	71	119	33	213	3,596	6,983	1,298	0	18	60	44	1,043	
CHERRY PRUNING	78	54	98	4	0	0	0	135	0	12	44	44	39	
CHERRY HARVESTER	0	0	0	0	0	1,652	4,371	0	0	0	0	0	502	
OTHER CHERRY ACTIVITY	0	17	21	29	213	1,944	2,612	1,163	0	6	16	0	502	
PEARS, TOTAL	273	431	569	346	78	326	615	1,568	2,268	141	363	316	608	
PEAR PRUNING	273	431	527	0	31	58	63	47	7	47	201	316	167	
PEAR THINNING	0	0	0	0	0	210	427	0	0	0	0	0	53	
PEAR HARVESTER	0	0	0	0	0	0	0	1,015	1,776	88	0	0	240	
OTHER PEAR ACTIVITIES	0	0	42	346	47	58	125	506	485	6	162	0	148	
OTHER TREE FRUIT, TOTAL	55	175	97	728	109	938	446	975	775	224	26	8	380	
OTHER TREE FRUIT PRUNER	0	175	69	0	2	0	0	0	0	0	0	0	21	
OTHER TREE FRUIT HARVESTER	0	0	0	0	0	0	137	923	769	0	0	0	152	
OTHER TREE FRUIT ACTIVITIES	55	0	28	728	107	938	309	52	6	224	26	8	207	
GRAPES, TOTAL	538	696	1,019	574	427	570	590	482	317	704	233	395	545	
GRAPE PRUNING	511	536	725	193	126	0	0	0	0	0	22	325	203	
GRAPE HARVESTER	0	0	0	0	0	0	0	0	100	458	0	0	47	
OTHER GRAPE ACTIVITY	27	160	294	381	301	570	590	482	217	246	211	70	296	
ASPARAGUS WORKERS	0	11	0	1,615	2,495	2,267	310	11	0	0	0	0	559	

<b>AREA 2</b>		<b>SOUTH CENTRAL (Continued)</b>											
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>
<b>TOTAL</b>	<b>3,190</b>	<b>3,515</b>	<b>4,311</b>	<b>6,478</b>	<b>6,551</b>	<b>13,680</b>	<b>17,731</b>	<b>12,216</b>	<b>16,377</b>	<b>17,597</b>	<b>3,389</b>	<b>2,060</b>	<b>8,925</b>
HOPS, TOTAL	15	41	308	781	1,203	682	336	792	2,312	118	52	3	554
HOP TWINING & TRAINING	0	0	85	568	1,073	365	68	0	0	2	0	0	180
HOP HARVESTER	0	0	0	0	0	0	0	595	1,680	35	0	0	193
OTHER HOP ACTIVITY	15	41	223	213	130	317	268	197	632	81	52	3	181
ONION WORKERS	0	0	77	78	3	189	99	587	137	0	0	0	98
POTATO WORKERS	0	0	13	0	0	0	246	277	49	0	0	0	49
MISC. VEGETABLE WORKERS	0	0	16	143	314	12	524	32	358	290	34	24	146
OTHER SEASONAL WORKERS	11	47	264	364	189	214	395	344	349	158	75	33	204
<b>AREA 3</b>		<b>NORTH CENTRAL</b>											
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>
<b>TOTAL</b>	<b>1,804</b>	<b>1,884</b>	<b>2,705</b>	<b>3,627</b>	<b>2,256</b>	<b>8,138</b>	<b>15,446</b>	<b>7,559</b>	<b>10,615</b>	<b>10,176</b>	<b>2,211</b>	<b>1,076</b>	<b>5,625</b>
APPLES, TOTAL	1,663	1,670	1,920	3,403	2,001	6,202	8,370	4,754	9,693	9,929	2,147	945	4,391
APPLE PRUNING	1,527	1,433	1,677	407	114	97	171	170	48	0	510	214	531
APPLE THINNING	0	0	0	1,589	5	5,553	7,688	896	10	0	0	0	1,312
APPLE HARVESTER	0	0	0	0	0	0	126	587	8,961	9,405	1,287	0	1,697
APPLE SORT, GRADE, PACK	43	112	149	117	91	100	0	11	65	127	85	110	84
OTHER APPLE ACTIVITIES	93	125	94	1,290	1,791	452	385	3,090	609	397	265	621	768
CHERRIES, TOTAL	84	118	556	124	12	1,527	6,346	1,848	0	4	0	33	888
CHERRY PRUNING	81	118	163	23	0	0	0	0	0	0	0	33	35
CHERRY HARVESTER	0	0	0	0	0	247	4,020	1,142	0	0	0	0	451
OTHER CHERRY ACTIVITIES	3	0	393	101	12	1,280	2,326	706	0	4	0	0	402
PEARS, TOTAL	27	77	116	3	119	88	120	607	638	154	2	47	167
PEAR PRUNING	27	77	109	0	0	0	45	70	0	0	0	45	31
PEAR THINNING	0	0	0	0	0	84	70	17	0	0	0	0	14
PEAR HARVESTER	0	0	0	0	0	0	0	334	603	93	0	0	86
OTHER PEAR ACTIVITIES	0	0	7	3	119	4	5	186	35	61	2	2	35
OTHER TREE FRUIT WORKERS	3	0	7	6	49	155	379	213	184	0	4	4	84
OTHER SEASONAL WORKERS	27	19	106	91	75	166	231	137	100	89	58	47	96

<b>AREA 4</b>	<b>COLUMBIA BASIN</b>												
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>
<b>TOTAL</b>	<b>1,395</b>	<b>1,775</b>	<b>2,141</b>	<b>2,353</b>	<b>2,325</b>	<b>5,401</b>	<b>6,582</b>	<b>5,450</b>	<b>7,221</b>	<b>8,926</b>	<b>2,604</b>	<b>1,245</b>	<b>3,952</b>
APPLES, TOTAL	752	942	1,068	861	809	2,774	2,559	3,354	5,092	6,347	1,746	686	2,249
APPLE PRUNING	693	908	853	179	355	125	25	530	361	69	169	654	410
APPLE THINNING	0	0	0	55	31	2,403	2,447	1,942	481	0	0	0	613
APPLE HARVESTER	0	0	0	0	0	0	0	444	3,900	5,906	1,447	0	975
OTHER APPLE ACTIVITIES	59	34	215	627	423	246	87	438	350	372	130	32	251
CHERRIES, TOTAL	6	42	55	51	38	66	2,351	79	4	0	0	47	228
CHERRY PRUNING	6	37	55	14	0	0	0	31	0	0	0	47	16
CHERRY HARVESTER	0	0	0	0	0	0	2,276	0	0	0	0	0	190
OTHER CHERRY ACTIVITIES	0	5	0	37	38	66	75	48	4	0	0	0	23
PEAR WORKERS	13	56	45	0	40	138	0	8	244	38	0	38	52
MINT WORKERS	5	2	28	103	28	86	22	162	111	42	0	6	50
OTHER TREE FRUIT WORKERS	0	0	17	0	29	0	0	77	109	0	0	0	19
ASPARAGUS WORKERS	0	0	252	27	498	504	31	63	8	0	0	0	115
ONION WORKERS	400	348	154	63	13	800	156	158	476	144	310	337	280
POTATOES, TOTAL	107	319	405	756	428	368	496	607	959	2,116	141	42	562
POTATO HARVESTER	0	0	0	0	0	0	0	9	64	296	0	0	31
POTATO SORT, GRADE, PACK	92	233	107	531	150	223	320	393	379	358	71	1	238
OTHER POTATO ACTIVITIES	15	86	298	225	278	145	176	205	516	1,462	70	41	293
MISC VEGETABLE WORKERS	3	3	34	96	104	217	273	173	41	41	46	0	86
WHEAT/GRAIN WORKERS	0	0	23	11	2	19	78	249	18	10	1	0	34
NURSERY WORKERS	98	44	33	231	193	204	175	179	8	44	308	85	134
OTHER SEASONAL WORKERS	11	19	27	154	143	225	441	341	151	144	52	4	143

<b>AREA 5</b>		<b>SOUTH EASTERN</b>											
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>Avg</b>
<b>TOTAL</b>	<b>1,080</b>	<b>1,439</b>	<b>2,177</b>	<b>3,855</b>	<b>5,639</b>	<b>9,191</b>	<b>8,360</b>	<b>4,319</b>	<b>6,720</b>	<b>7,644</b>	<b>4,119</b>	<b>1,902</b>	<b>4,704</b>
APPLES, TOTAL	190	375	256	319	202	2,251	2,389	1,688	3,634	5,285	2,812	893	1,691
APPLE PRUNING	186	367	184	228	119	698	55	32	33	10	20	869	233
APPLE THINNING	0	0	0	0	13	1,468	2,275	1,311	441	0	0	0	459
APPLE HARVESTER	0	0	0	0	0	0	0	169	3,092	5,193	2,695	0	929
OTHER APPLE ACTIVITIES	4	8	72	91	70	85	59	176	68	82	97	24	70
CHERRIES, TOTAL	93	61	59	19	13	1,445	2,017	7	3	3	4	36	313
CHERRY PRUNING	93	56	51	9	0	38	0	7	3	3	4	36	25
CHERRY HARVESTER	0	0	0	0	0	1,361	1,955	0	0	0	0	0	276
OTHER CHERRY ACTIVITIES	0	5	8	10	13	46	62	0	0	0	0		13
OTHER TREE FRUIT WORKERS	2	48	33	3	95	4	167	10	297	83	10	12	64
GRAPE WORKERS	262	581	996	584	711	771	796	608	534	470	211	294	568
ASPARAGUS WORKERS	0	0	0	1,525	3,623	2,730	93	0	0	0	0	0	664
HOP WORKERS	10	25	45	0	52	19	26	11	103	0	15	0	26
ONION WORKERS	99	126	159	266	14	635	961	385	267	198	140	200	288
POTATOES, TOTAL	0	12	114	270	328	519	330	452	429	609	162	119	279
POTATO HARVESTER	0	0	0	50	0		177	57	93	158	0	0	49
POTATO SORT, GRADE, PACK	0	0	81	153	272	470	88	321	215	227	130	115	173
OTHER POTATO ACTIVITIES	0	12	33	67	56	49	65	74	121	224	32	4	61
MISC VEGETABLE WORKERS	87	165	93	162	469	566	581	522	636	692	337	178	374
WHEAT/GRAIN WORKERS	0	0	0	17	13	7	82	119	60	16	48	14	31
NURSERY WORKERS	0	6	11	20	24	20	19	16	17	10	10	6	13
STRAWBERRY WORKERS	0	0	5	17	28	110	282	114	7	0	0	0	47
OTHER SEASONAL WORKERS	337	40	406	653	67	114	617	387	733	278	370	150	346
<b>AREA 6</b>		<b>EASTERN</b>											
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>AVG</b>
<b>TOTAL</b>	<b>45</b>	<b>96</b>	<b>143</b>	<b>350</b>	<b>298</b>	<b>351</b>	<b>440</b>	<b>912</b>	<b>429</b>	<b>103</b>	<b>51</b>	<b>2</b>	<b>268</b>
WHEAT/GRAIN, TOTAL	0	11	0	84	63	152	157	466	140	56	25	0	96
WHEAT/GRAIN HARVESTER	0	0	0	0	0	0	12	39	0	0	25	0	6
WHEAT/GRAIN EQPMT OPERATOR	0	11	0	70	63	35	97	285	112	42	0	0	60
OTHER WHEAT/GRAIN ACTIVITY	0	0	0	14	0	117	48	142	28	14	0	0	30
NURSERY WORKERS	2	51	143	224	199	145	65	33	25	15	11	2	76
OTHER SEASONAL WORKERS	43	34	0	42	36	54	218	413	264	32	15	0	96

# GLOSSARY

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**Crop/Livestock Activities** - Names of agricultural crops or livestock activities going on during the survey. Some activity examples are: apple harvesting, apple pruning, asparagus cutting, cherry picking, potato packing, vegetable weeding, 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 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 hired for more than five months of work.

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

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

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

**Agricultural Employment** - Any service or activity defined as agricultural employment in the Fair Labor Standards Act and in the Internal Revenue Code of 1954. In addition, the handling, planting, drying, packing, packaging, processing, freezing, or grading prior to delivery for storage of any agricultural or horticultural commodity in its un-manufactured state are also considered agricultural employment.

**Migrant Agricultural Worker** - A person employed in agricultural work of a seasonal or other temporary nature who is required to be absent overnight from his or her permanent place of residence. Exceptions are immediate family members of an agricultural employer or a farm labor contractor, and temporary H-2A foreign workers. (H-2A temporary foreign workers are nonimmigrant aliens authorized to work in agricultural employment in the United States for a specified time period, normally less than 1 year.)

**Seasonal Agricultural Worker** - A person employed in agricultural work of a seasonal or other temporary nature who is not required to be absent overnight from his or her permanent place of residence. Such a worker is covered by MSPA when the worker is performing fieldwork, or when the worker is employed in a packing or processing operation and is transported by day haul. The same exceptions listed above for migrant agricultural workers apply here.

**Migrant Seasonal Farm Worker (MSFW)** - A worker defined as both migrant and seasonal.