2015 AGRICULTURAL WORKFORCE

Agriculture economy
Employment and earnings
Agriculture labor market
H-2A and prevailing wages
Common practices

Employment Security Department
WASHINGTON STATE

Labor Market and Performance Analysis
September 2016

2015 Agricultural Workforce Report

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This report and other agricultural and labor market information are available at www.esd.wa.gov/labormarketinfo/ag-employment-and-wages or call our Labor Market Information Center at 360-507-9621.

"Red Apples" Photo courtesy of USDA NRCS
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Contents

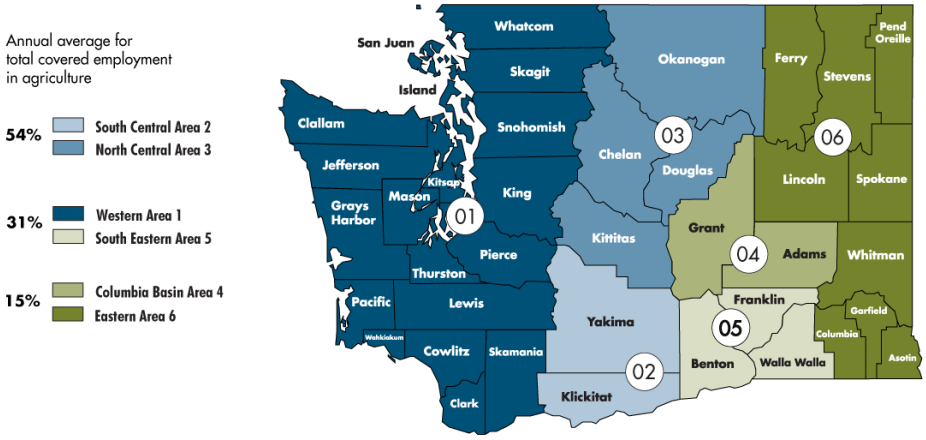
Executive summary

Covered employment and wages in agriculture

The annual average for total covered employment in Washington grew by 29 percent from 2005 through 2015. The annual average for seasonal covered employment increased 16 percent, while the annual average for non-seasonal covered employment rose 50 percent during the same period.

In 2015, the South Central and North Central agricultural reporting areas produced 54 percent of the annual average for total covered employment in agriculture. Western and South Eastern areas produced 31 percent, and the Columbia Basin and Eastern areas produced 15 percent of the annual average for total covered employment.

Washington State Agriculture Reporting Areas



On average, seasonal employment comprised more than half of the state's total covered employment in agricultural during both 2014 and 2015. The estimated annual average for seasonal employment grew by nearly 1 percent from 2014 through 2015, while the estimated annual average for non-seasonal employment grew by over 6 percent during the same period.

During 2015, the fruit and tree nut farming subsector contributed more than half of all seasonal jobs in every month, except November and December, while the support activities for crop production subsector contributed between 17 and 20 percent of the estimated monthly seasonal jobs.

On average, the South Central Area 2 agricultural reporting area produced the largest number of seasonal jobs and Eastern Area 6 produced the smallest number of seasonal jobs during 2015.

At the state level, the crop production sector had the highest average annual employment in 2015, while jobs in the food manufacturing sector had the highest average annual wage.

Prevailing wages and prevailing or common practices in agriculture

In 2015, the Washington State Employment Security Department (ESD) expanded the number of commodity activities included in its prevailing wages and practices survey due to a large increase in the number of applications filed through the U.S. Department of Labor's Temporary Agricultural Foreign Labor Certification (H-2A) Program. In Washington state, the number of certified H-2A applications in 2015 was over nine times greater than in 2006, while the number of certified H-2A workers was nearly 14 times greater in 2015 than in 2006.

The Adverse Effect Wage Rate (AEWR) is the minimum hourly wage rate agricultural employers in Washington must pay to workers they hire through the H-2A Program. When the prevailing wage for a given commodity activity is a piece rate, employers may offer either the AEWR or the prevailing piece rate in their employment contracts. If employers offer the prevailing piece rate, they must guarantee an average hourly wage that is equal to, or that exceeds the AEWR, which was $12.69 per hour in 2016.

The prevailing wage rate for apple harvest ranged from a low of $20.00 per bin for Braeburn and Red Delicious apples to a high of $28.00 per bin for Fuji apples. The prevailing wage for blueberry harvest was $0.47 per pound. The prevailing wage for red cherry harvest was $5.50 per thirty-pound lug, while the prevailing wage for yellow cherry harvest was $6.00 per twenty-pound lug. For Bartlett pear harvest, the prevailing wage was $22.00 per bin. The prevailing wage was $23.00 per bin for D'Anjou pear harvest and $21.00 per bin for all other pear varieties.

The prevailing wage for pruning and thinning activities for apples, cherries and pears ranged from a low of $9.47 per hour to a high of $11.00 per hour. The prevailing wage for raspberry laborers, field crop laborers, grape laborers, nursery crop laborers and vegetable laborers ranged from a low of $9.47 per hour to a high of $11.25 per hour.

Employer responses to the 2015 Prevailing Wages and Practices Survey indicate that it is not a prevailing practice to offer family housing to workers for any of the commodity activities included in the 2015 wages and practices survey.

The most common minimum productivity standard for Red Delicious apple harvest is four bins per day and three bins per day for all other varieties of apple harvest. The most common minimum productivity standard for blueberry harvest is 152 pounds per day. The most common minimum productivity standard for red cherry harvest is 14 thirty-pound lugs per day and 12.5 twenty-pound lugs per day for yellow cherry harvest. The most common minimum productivity standard for all varieties of pear harvest is four bins per day.

The most common experience standard for apple, cherry and pear harvesting was three months. The most common standard for apple, cherry and pear pruning, and apple thinning was 12 months.

Data sources

We use three data sources in this report. These sources have different population and variable definitions. As a result, point estimates for a given variable will change according to the source, though observed trends are consistent among all the sources cited.

The first data source is the Quarterly Census of Employment and Wages (QCEW), which BLS produces in cooperation with Washington State Employment Security Department (ESD). QCEW contains industry employment and wage data by worksite (a.k.a. employer location) from quarterly tax reports provided by employers for workers covered by the unemployment insurance system. Covered employment exceeds 85 percent of total employment in the state and includes all hired agricultural labor except small-farm operators, non-resident aliens, independent contractors and corporate officers.

The Unemployment Insurance (UI) Wage File is the second source used in this report. This source includes wage data for all individual workers covered by the UI system that employers report to ESD in a given calendar year. Unlike QCEW data, employers report wage and employment information in the UI Wage File by firm, rather than by worksite. Consequently, wages reported by firms with multiple worksites can include information for workers who do not work at the physical location listed in the UI Wage file.

The third source is the 2015 Washington State Agricultural Prevailing Wage and Practices Survey conducted by ESD and the Social and Economic Sciences Research Center (SESRC) at Washington State University. The survey results include wage rates and employment practices that employers offer to U.S. seasonal or migrant workers who perform commodity activities for which at least one employer filed a job order to hire foreign workers through DOL's Temporary Agricultural Foreign Labor Certification Program (H-2A).

ESD no longer conducts a monthly agricultural employment and wage survey, which was an important source of wage and employment information for commodity activities contained in previous agricultural workforce reports. In the 2015 report, we replace wage and employment information formerly derived from our monthly survey with information contained in the UI Wage File and QCEW, both of which are aggregated by industry subsector, rather than commodity activity. Thus, some of the estimates of employment and wages presented in this report are not directly comparable to estimates presented in previous reports.

Covered employment and wages in agriculture

This section of the 2015 Agricultural Workforce Report shows trends in covered employment and wages for agricultural workers in Washington state. It covers changes in total employment, regional and seasonal employment patterns, and employment patterns in different industry subsectors. It then presents median hourly wages and average annual wage bills by industry subsector and agricultural reporting area.

Note that we only present data on workers covered by the unemployment insurance (UI) system in the 2015 report. Consequently, the employment data in this report are not directly comparable to data presented in previous agricultural workforce reports. The data in this report are also not directly comparable to national employment data produced by the U.S. Department of Labor's (DOL) Bureau of Labor Statistics (BLS), or to data produced by the U.S. Department of Commerce's Bureau of Economic Analysis (BEA), as both of these data sources include workers not covered by the UI system.

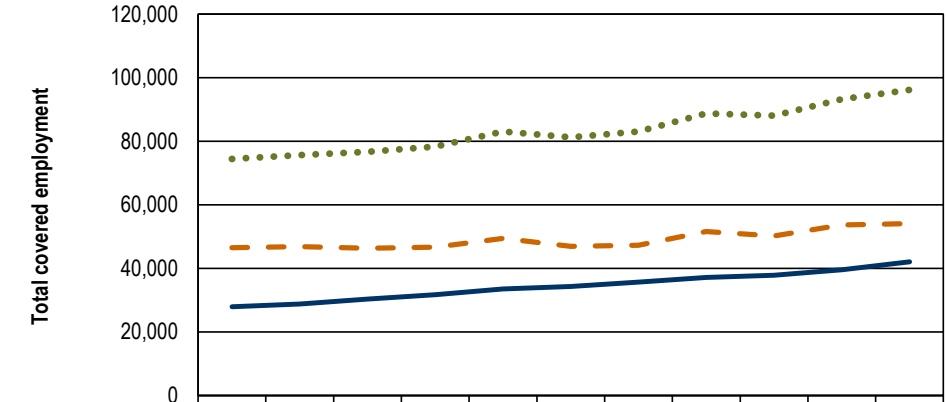
Covered agricultural employment over time

Figure 1 shows the annual average for total, seasonal and nonseasonal covered employment in Washington from 2005 through 2015. We define a nonseasonal worker as an individual who worked at least 1,500 hours for a given employer in 2015, as reported in the UI Wage File. Once we counted the number of individuals who worked at least 1,500 hours for each employer, ESD disaggregated monthly employment totals reported in the QCEW into seasonal and nonseasonal employment levels. When monthly employment in the QCEW was equal to or less than the count of nonseasonal employees in the UI Wage File, we set seasonal employment to zero in that month. When monthly employment in the QCEW was greater than the number of nonseasonal employees in the UI Wage File, we set seasonal employment to total monthly employment minus the number of nonseasonal employees.

Note that an annual average is the average of monthly employment levels in a given calendar year, or the sum of monthly employment totals from January through December divided by 12. We calculate all annual averages in this report in the same manner.

Total covered employment in agriculture has grown in Washington state during the past several years, going from an annual average of 74,486 jobs in 2005 to an annual average of 96,167 jobs in 2015, which is a 29 percent increase. Estimated seasonal covered employment grew from an annual average of 46,530 jobs in 2005 to an annual average of 54,124 jobs in 2015, which is an increase of 16 percent. Nonseasonal covered employment rose from an annual average of 27,957 jobs in 2005 to 42,043 jobs in 2015, which is an increase of 50 percent. Thus, estimated nonseasonal employment was responsible for a larger portion of the growth in total covered employment from 2005 through 2015.

Figure 1. Total covered employment in agriculture (annual average)*
Washington state, 2005-2015
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, QCEW



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	74,486	75,654	76,714	78,367	83,056	81,258	83,048	88,782	88,049	93,228	96,167
Seasonal	46,530	46,885	46,318	46,655	49,471	46,931	47,310	51,581	50,197	53,667	54,124
Non-seasonal	27,957	28,770	30,396	31,711	33,585	34,327	35,738	37,200	37,852	39,561	42,043

*The data in this figure do not include the food manufacturing sector. A nonseasonal worker is an individual who worked 1,500 hours for a given employer in 2015. ESD disaggregated monthly employment totals reported in the QCEW by counting the number of nonseasonal employees in the UI Wage File. When monthly employment in the QCEW was equal to or less than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to zero. When monthly employment in the QCEW was greater than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to total monthly employment minus nonseasonal employment.

The annual average for nonseasonal covered employment grew by 50 percent from 2005 through 2015, while the annual average for seasonal covered employment grew by 15 percent during the same period.

Regional patterns in covered agricultural employment

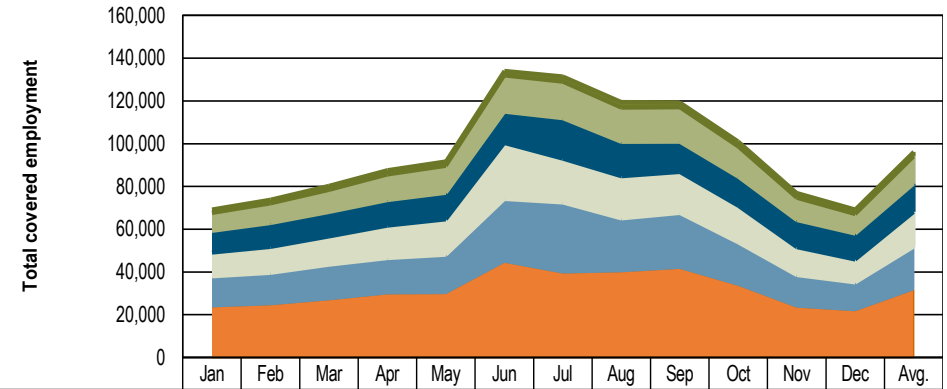
Washington state has diverse growing regions and climates. This diversity produces different regional patterns of agricultural employment.

Tree fruit production is concentrated in the central portion of the state, which includes the North Central Area 3 and South Central Area 2 agricultural reporting areas (see *Appendix figure 1* for a map of agricultural reporting areas). *Figure 2* shows that average annual covered employment in these two reporting areas was 51,900 jobs, or 54 percent of the annual average for covered employment in agriculture during 2015.

Tree fruit production is also very common in South Eastern Area 5 and Western Area 1, though these areas have a mixed crop profile compared to Washington's central core, resulting in fewer agricultural jobs on average. As shown in *Figure 2*, South Eastern Area 5 produced an annual average of 16,215 jobs in 2015, ranging from a low of 10,709 in December to a high of 26,167 in June. Western Area 1 produced an annual average of 13,276 jobs in 2015, ranging from a low of 10,153 in January to a high of 18,928 in July.

Columbia Basin Area 4 and Eastern Area 6 are more devoted to the production of hay, wheat, barley and legumes, such as dry edible peas and lentils. Production of these crops is capital and land intensive, meaning demand for labor is modest in these areas when compared to the state's central core. *Figure 2* shows that Columbia Basin Area 4 had an annual average of 12,694 covered jobs in 2015, while Eastern Area 6 had an average of 2,073 covered agricultural jobs over the year. In Columbia Basin Area 4, total covered employment ranged from a low of 8,378 jobs in January to a high of 17,069 jobs in July. In Eastern Area 6, total covered employment ranged from a low of 1,559 jobs in January to a high of 2,571 jobs in August.

Figure 2. Total covered employment in agriculture by agricultural reporting area (2015)*
Washington state, 2015
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, QCEW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.
Eastern Area 6	1,559	1,650	1,843	1,941	2,006	2,067	2,402	2,571	2,228	2,325	2,198	2,084	2,073
Columbia Basin Area 4	8,378	9,204	10,330	11,990	12,619	16,948	17,069	16,015	16,114	14,087	10,419	9,149	12,694
Western Area 1	10,153	11,167	11,441	11,935	12,413	14,654	18,928	16,080	14,150	13,608	12,670	12,113	13,276
South Eastern Area 5	11,121	12,128	13,210	15,179	16,541	26,167	20,498	19,722	19,156	17,109	13,044	10,709	16,215
North Central Area 3	14,187	14,858	16,337	16,676	18,102	29,535	32,912	24,882	25,843	20,016	14,932	13,144	20,119
South Central Area 2	23,800	24,766	27,102	29,856	30,004	44,661	39,628	40,209	41,809	33,875	23,669	22,002	31,782

*See *Appendix figure 1* for a list of counties in each reporting area. Data in this figure come from the QCEW and include the total number of jobs covered by the UI system during each month, except those jobs reported for the food manufacturing sector.

During 2015, South Central Area 2 contributed the largest number of total covered agricultural jobs each month, while Eastern Area 6 contributed the fewest.

Estimated seasonal and nonseasonal covered employment

Figure 3 shows monthly seasonal, nonseasonal and total covered employment in agriculture during 2014 and 2015. The data show little month-to-month variation in nonseasonal employment, but show considerable variation in seasonal employment. On average, seasonal employment comprised more than half of the state's total agricultural employment in both 2014 and 2015.

Monthly employment levels vary in response to regional crop profiles and annual weather patterns, though there are general patterns that hold over time. For example, the first significant surge in seasonal labor usually begins sometime in June with the onset of the cherry harvest. This surge will generally peak in late June or early July with elevated levels of labor demand extending into August. A second surge linked to the harvest of pears and some apple varieties begins in August, with the apple harvest peaking in September or early October. The apple harvest season can extend into November, depending on weather conditions.

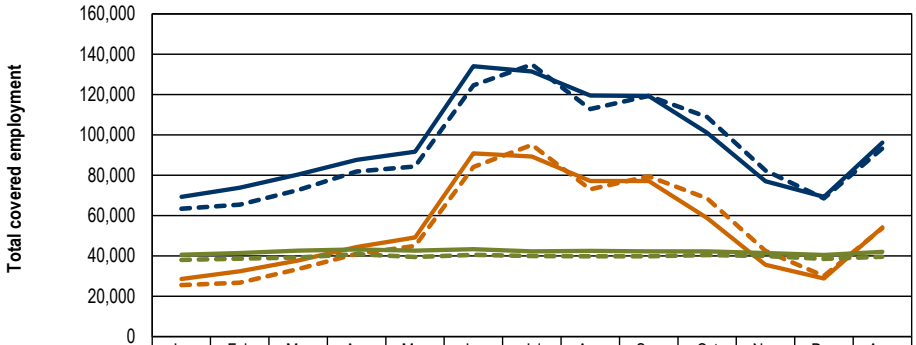
Seasonal employment trends during 2014 and 2015 were consistent with these historical patterns. At the start of the cherry harvest in June, estimated seasonal employment was 84,106 jobs in 2014 and 90,782 jobs in 2015. In July, estimated seasonal employment was 95,019 in 2014 and 89,220 in 2015. Seasonal employment was also higher than average during the peak period for the pear and apple harvests. In 2014, estimated seasonal employment was 79,447 in September and 68,491 in October. In 2015, estimated seasonal employment was 77,131 in September and 58,795 in October.

Estimated nonseasonal covered employment rose from an annual average of 39,561 jobs in 2014 to an annual average of 42,043 jobs in 2015, which is an increase of 6.3 percent. In 2014, the lowest and highest estimates for monthly nonseasonal covered employment were 37,944 in January and 40,883 in April. In 2015, the lowest and highest estimates for monthly nonseasonal employment were 40,411 in December and 43,253 in June.

Total covered agricultural employment in 2014 increased by over 40,000 jobs from May (84,364) to June (124,567) and increased again to 134,937 in July – an increase of over 50,000 covered jobs in a three-month period. After a drop to 112,749 jobs in August, covered employment rose to 119,275 in September, and then dropped to 108,886 jobs in October. From October through December, covered employment dropped by more than 40,000 jobs to 68,470.

Total covered employment in 2015 revealed a similar trend. From May to June, employment increased from 91,688 to 134,035 jobs. However, total employment declined slightly from June to July in 2015, going from 134,035 to 131,438 jobs. After a drop to 119,480 in August, total covered employment declined slightly again to 119,301 jobs in September and to 101,029 jobs in October. From October through December, covered employment declined by over 31,000 jobs to 69,242.

Figure 3. Monthly seasonal, nonseasonal and total covered employment in agriculture*
Washington state, 2014-2015
Source: Employment Security Department/LMPA, UI Wage File; U.S. Bureau of Labor Statistics, QCEW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.
Seasonal 2015	28,584	32,370	37,667	44,345	49,132	90,782	89,220	77,053	77,131	58,795	35,577	28,831	54,124
Seasonal 2014	25,457	26,711	33,497	40,957	44,959	84,106	95,019	72,964	79,447	68,491	42,362	30,028	53,667
Nonseasonal 2015	40,615	41,404	42,597	43,235	42,556	43,253	42,218	42,427	42,170	42,234	41,396	40,411	42,043
Nonseasonal 2014	37,944	38,625	39,134	40,883	39,405	40,461	39,918	39,785	39,828	40,395	39,916	38,442	39,561
Total 2015	69,199	73,774	80,264	87,580	91,688	134,035	131,438	119,480	119,301	101,029	76,973	69,242	96,167
Total 2014	63,401	65,336	72,631	81,840	84,364	124,567	134,937	112,749	119,275	108,886	82,278	68,470	93,228

*The data in this figure do not include the food manufacturing sector. A nonseasonal worker is an individual who worked 1,500 hours for a given employer in 2015. ESD disaggregated monthly employment totals reported in the QCEW by counting the number of nonseasonal employees in the UI Wage File. When monthly employment in the QCEW was equal to or less than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to zero. When monthly employment in the QCEW was greater than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to total monthly employment minus nonseasonal employment.

The estimated annual average for seasonal employment grew by about 1 percent from 2014 through 2015, while the estimated annual average for nonseasonal employment grew by just over 6 percent during the same period.

Seasonal employment by industry subsector

Figure 4 shows the top five industry subsectors in terms of seasonal covered employment during 2015. We present the remaining seasonal employment totals in one category, due to the small number of estimated seasonal jobs in all other subsectors.

As shown in *Figure 4*, fruit and tree nut farming worksites produced more than half of all covered seasonal jobs in every month, except November and December. The largest portion of these jobs are likely linked to apple, cherry and pear production, as these are the three crops that have historically contributed the largest number of agricultural jobs in Washington state. The annual average for seasonal covered employment in the fruit and tree nut farming subsector was 31,607 jobs during 2015, ranging from a low of 13,848 in December to a high of 57,877 in June.

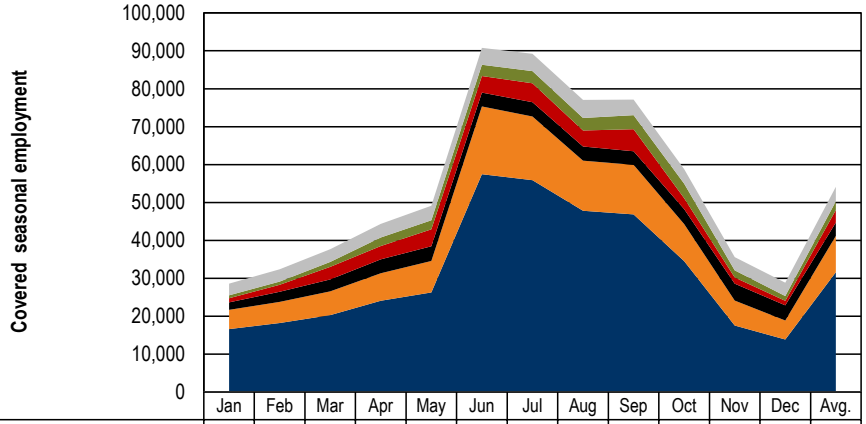
Many of the jobs in the support activities for crop production subsector are also likely tied to the production of apples, cherries and pears, as worksites in this industry classification include farm labor contractors who hire workers for labor-intensive activities like hand harvesting. The annual average for seasonal covered employment in this subsector was 9,571 in 2015, ranging from a low of 5,016 in December to a high of 17,881 in June.

The greenhouse and nursery production subsector includes worksites whose primary activities include growing food crops under cover and nursery crops, including the following: bedding plants, fruit and vegetable transplants, trees, cut Christmas trees, flower transplants and bulbs, cut flowers and shrubs. This subsector produced an annual average of 3,538 covered seasonal jobs in 2015, ranging from a low of 1,968 jobs in January to a high of 4,459 jobs in November.

The other crop farming subsector includes worksites that grow commodities like hay, herbs and spices, hay and grass seeds, or any other crop that is neither a fruit or vegetable, nor an oilseed or grain. This subsector contributed an annual average of 3,278 covered seasonal jobs in 2015, ranging from a low of 1,089 jobs in January to a high of 5,821 jobs in September.

The vegetable and melon farming subsector includes worksites whose primary activity involves cultivating any vegetable or melon crop, or producing vegetable or melon seeds. Typical melon crops include muskmelons, pumpkins and squash. The vegetable and melon farming subsector contributed an annual average of 2,310 covered seasonal jobs in 2015, ranging from a low of 771 in January to a high of 3,835 in October.

Figure 4. Monthly seasonal covered employment in agriculture by industry subsector* Washington state, 2015
Source: Employment Security Department/LMPA, UI Wage File; U.S. Bureau of Labor Statistics, QCEW
*These data do not include the food manufacturing sector. A nonseasonal worker is an individual who worked 1,500 hours for a given employer in 2015. ESD disaggregated monthly employment totals reported in the QCEW by counting the number of nonseasonal employees in the UI Wage File. When monthly employment in the QCEW was equal to or less than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to zero. When monthly employment in the QCEW was greater than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to total monthly employment minus nonseasonal employment.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.
Other subsectors	3,080	3,241	3,355	3,587	3,834	4,458	4,573	4,765	4,103	3,831	3,489	3,519	3,820
Vegetable and melon farming	771	849	1,301	2,255	2,383	2,974	3,212	3,300	3,702	3,835	1,875	1,265	2,310
Other crop farming	1,089	1,840	3,315	3,508	4,472	4,368	4,990	4,229	5,821	2,880	1,636	1,185	3,278
Greenhouse and nursery production	1,968	2,667	3,145	3,670	3,876	3,652	3,768	3,732	3,577	3,946	4,459	3,998	3,538
Support activities for crop production	5,085	5,578	6,275	7,255	8,307	17,881	16,800	13,218	13,079	9,780	6,582	5,016	9,571
Fruit and tree nut farming	16,591	18,195	20,276	24,070	26,260	57,449	55,877	47,809	46,849	34,523	17,536	13,848	31,607

During 2015, the fruit and tree nut farming subsector contributed more than 50 percent of all seasonal jobs in every month, except November and December.

Seasonal employment by agricultural reporting area

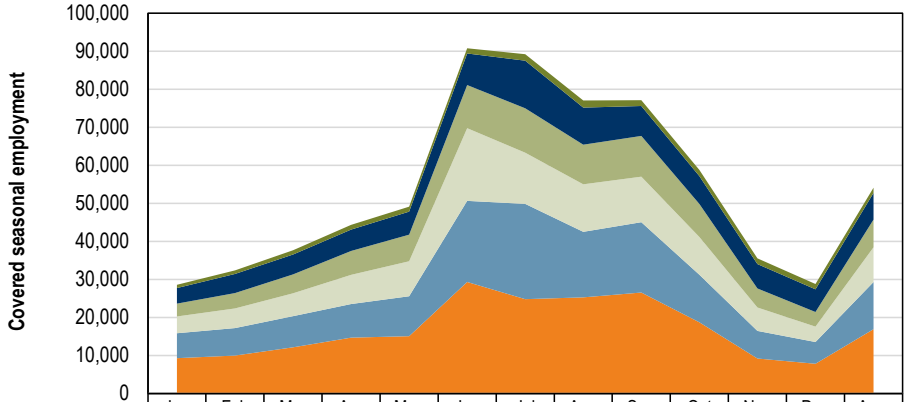
Figure 5 shows monthly covered seasonal employment by agricultural reporting area. Tree fruit production is concentrated in the central portion of the state, which includes the North Central Area 3 and South Central Area 2 agricultural reporting areas. Consequently, these areas tend to generate the highest number of seasonal jobs in agriculture.

The annual average for covered seasonal employment in North Central Area 3 and South Central Area 2 combined was 29,315 jobs, or 54 percent of the annual average for seasonal covered employment in agriculture during 2015. Seasonal covered employment ranged from a low of 7,820 jobs in December to a high of 29,324 jobs in June in South Central Area 2. In North Central Area 3, seasonal covered employment ranged from a low of 5,717 in December to a high of 25,049 in July.

On average, South Eastern Area 5 and Columbia Basin Area 4 contributed the third and fourth most covered seasonal jobs, respectively. In South Eastern Area 5, the annual average for seasonal covered employment was 9,138, ranging from a low of 4,049 in December to a high of 19,116 in June. In Columbia Basin Area 4, the annual average for seasonal covered employment was 7,280 in 2015, ranging from a low of 3,374 in January to a high of 11,678 in July.

Western Area 1 contributed an annual average of 7,012 covered seasonal jobs in 2015, ranging from a low of 4,093 in January to a high of 12,517 in July. Eastern Area 6 contributed the fewest covered seasonal jobs of all reporting areas. The annual average for Eastern Area 6 was 1,373 jobs, ranging from a low of 857 in January to a high of 1,873 in August. The lower number of total and seasonal covered jobs in Eastern Area 6 is because crops grown in this area are land and capital intensive and require less manual labor during the production process.

Figure 5. Covered seasonal employment in agriculture by reporting area*
Washington state, 2015
Source: Employment Security Department/LMPA, UI Wage File; U.S. Bureau of Labor Statistics, QCEW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.
Eastern Area 6	857	935	1,123	1,243	1,307	1,366	1,705	1,873	1,530	1,629	1,505	1,400	1,373
Western Area 1	4,093	5,026	5,223	5,620	6,055	8,302	12,517	9,753	7,868	7,314	6,410	5,960	7,012
Columbia Basin Area 4	3,374	4,043	4,971	6,278	6,994	11,342	11,678	10,419	10,716	8,690	5,006	3,847	7,280
South Eastern Area 5	4,414	5,164	6,014	7,678	9,203	19,116	13,463	12,495	11,973	9,925	6,158	4,049	9,138
North Central Area 3	6,556	7,224	8,191	8,836	10,500	21,330	25,049	17,232	18,495	12,510	7,257	5,717	12,408
South Central Area 2	9,290	9,978	12,145	14,688	15,071	29,324	24,808	25,281	26,549	18,721	9,203	7,820	16,907

*These data do not include the food manufacturing sector. A nonseasonal worker is an individual who worked at least 1,500 hours for a given employer in 2015. ESD adjusted monthly employment totals reported in the QCEW by counting the number of nonseasonal employees in the UI Wage File. When monthly employment in the QCEW was equal to or less than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to zero. When monthly employment in the QCEW was greater than the number of nonseasonal employees in the UI Wage File, seasonal employment was set to total monthly employment minus nonseasonal employment. See *Appendix figure 1* for a list of counties in each reporting area.

During 2015, South Central Area 2 contributed the largest number of seasonal jobs on average, while Eastern Area 6 contributed the fewest of average.

Wages by agricultural reporting area and industry subsector

In this section of the report, we provide information on wages in agriculture by agricultural reporting area and industry subsector. We inflate all the wage values for 2014 to their 2015 values using BLS's Consumer Price Index for all Urban Consumers (CPI-U).

The data in *Figure 6* and *Figure 7* come from the UI Wage File, which includes the total wages received and hours worked for all employees covered by the UI system in Washington state. This means that the employment numbers represent the count of individuals who received wages from firms with an agricultural industry classification. It also means that individuals in all occupational classifications influence the median wage rate.

ESD no longer has estimates of hourly wages for different commodity activities (e.g., apple and cherry harvesting). Thus, the data in *Figure 6* and *Figure 7* in this report are not directly comparable to hourly wage estimates in previous reports, which included average hourly wage rates for selected commodity activities.

Figure 6 shows total employment and inflation-adjusted median hourly wage rates for the five industry subsectors with the highest covered employment levels in Western Area 1, South Central Area 2, and North Central Area 3 during 2014 and 2015.

In Western Area 1, the industry subsectors with the highest covered employment levels were fruit and tree nut farming, greenhouse and nursery production, vegetable and melon farming, cattle ranching and farming, and support activities for crop production. Of the subsectors among the top five in covered employment, the cattle ranching and farming subsector had the highest median wage rate in 2015 at $14.07 per hour. The lowest median wage rate among the top five subsectors in terms of covered employment was in the vegetable and melon farming subsector, at $10.58 per hour.

In South Central Area 2, the industry subsectors with the highest covered employment levels were fruit and tree nut farming, support activities for crop production, other crop farming, cattle ranching and farming, and vegetable and melon farming. Of the subsectors among the top five in covered employment, the fruit and tree nut farming subsector had the highest median wage rate in 2015 at $13.46 per hour. The lowest median wage rate among the top five subsectors in terms of covered employment was in the vegetable and melon farming subsector, at $10.70 per hour.

In North Central Area 3, the industry subsectors with the highest covered employment levels were fruit and tree nut farming, support activities for crop production, greenhouse and nursery production, other crop farming, cattle ranching and farming, and oilseed and grain farming. Of the subsectors among the top five in covered employment, the oilseed and grain farming subsector had the highest median wage rate in 2015 at $15.00 per hour. The lowest median wage rate among the top five subsectors in covered employment was in the support activities for crop production subsector, at $11.42 per hour.

Median hourly wage rates increased in all subsectors and all agricultural reporting areas presented in *Figure 6*, except the other crop farming and the oilseed and grain farming subsectors in North Central Area 3. In the other crop farming subsector, the inflation-adjusted median hourly wage rate dropped from $12.51 per hour in 2014 to $12.21 per hour in 2015, which is a decline of 2.5 percent. In the oilseed and grain farming subsector, the median hourly wage dropped from $15.02 to $15.00, which is a decline of 0.1 percent. The subsector with the highest increase in the median hourly wage rate from 2014 through 2015 was the greenhouse and nursery production subsector in Western Area 1, which rose from $10.59 to $11.46 per hour—an increase of 8.1 percent.

Note that most industry subsectors that registered a decline in the median hourly wage rate added workers from 2014 through 2015. This indicates that employers in these subsectors may be hiring new employees for entry-level positions with lower starting wage rates. If this is true, then a decline in median wage rates might be the result of an increasing number of entry-level employees rather than a decline in wages paid to other workers.

Figure 6. Median hourly wages by agricultural reporting area and industry subsector*
Washington state, Western Area 1, South Central Area 2 and North Central Area 3, 2014-2015
Source: Employment Security Department/LMPA, UI Wage File

Industry subsector	Employment 2014	Employment 2015	Median hourly wage 2014	Median hourly wage 2015	Percentage change in wage rate
Western Area 1					
Fruit and tree nut farming	11,112	12,318	$10.02	$10.68	6.6%
Greenhouse and nursery production	5,831	8,014	$10.59	$11.46	8.1%
Vegetable and melon farming	3,928	4,071	$10.32	$10.58	2.5%
Cattle ranching and farming	2,590	2,556	$13.60	$14.07	3.4%
Support activities for crop production	1,025	1,338	$10.67	$11.27	5.6%
South Central Area 2					
Fruit and tree nut farming	74,753	77,191	$13.16	$13.46	2.3%
Support activities for crop production	22,644	22,519	$10.74	$11.42	6.4%
Other crop farming	14,814	15,936	$11.01	$11.84	7.5%
Cattle ranching and farming	2,630	2,791	$12.15	$12.88	6.0%
Vegetable and melon farming	2,377	2,412	$10.24	$10.70	4.5%
North Central Area 3					
Fruit and tree nut farming	60,830	57,434	$14.09	$14.15	0.4%
Support activities for crop production	11,064	11,277	$11.00	$11.42	3.8%
Greenhouse and nursery production	411	939	$11.98	$12.00	0.2%
Other crop farming	674	673	$12.51	$12.21	-2.5%
Oilseed and grain farming	339	237	$15.02	$15.00	-0.1%

*We report only the top five industry classifications in terms of individuals employed during 2015 for each agricultural reporting area. All covered employees reported are included in the employment counts, meaning employees in all occupational classifications influence the median wage estimate. We inflate wage values for 2014 using the Consumer Price Index for all Urban Consumers (base year = 2015). See *Appendix figure 1* for a list of counties in each reporting area.

Median hourly wage rates for each industry classification varied by agricultural reporting area.

Figure 7 shows total employment and inflation-adjusted median hourly wage rates for the five industry subsectors with the highest covered employment levels in Columbia Basin Area 4, South Eastern Area 5, and Eastern Area 6 during 2015.

In Columbia Basin Area 4, the industry subsectors with the highest covered employment levels were fruit and tree nut farming, support activities for crop production, vegetable and melon farming, other crop farming, and cattle ranching and farming. Of the subsectors among the top five in total covered employment, the cattle ranching and farming subsector had the highest median wage rate in 2015 at $14.96 per hour. The lowest median wage rate among the top five subsectors in total covered employment was in the support activities for crop production subsector, at $11.00 per hour.

In South Eastern Area 5, the industry subsectors with the highest covered employment levels were fruit and tree nut farming, support activities for crop production, vegetable and melon farming, other crop farming, and oilseed and grain farming. Of the subsectors among the top five in total covered employment, the other crop farming subsector had the highest median wage rate in 2015 at $13.51 per hour. The lowest median wage rate among the top five subsectors in total covered employment was in the support activities for crop production subsector, at $11.06 per hour.

In Eastern Area 6, the industry subsectors with the highest covered employment levels were greenhouse and nursery production, oilseed and grain farming, fruit and tree nut farming, other crop farming, and cattle ranching and farming. Of the subsectors among the top five in total covered employment, the oilseed and grain farming subsector had the highest median wage rate in 2015 at $15.50 per hour. The lowest median wage rate among the top five subsectors in total covered employment was in the fruit and tree nut farming subsector, at $10.26 per hour.

Four industry subsectors presented in *Figure 7* registered declines in the median hourly wage rate from 2014 through 2015. In Columbia Basin Area 4, the median hourly wage rate for the other crop farming subsector dropped from $13.16 in 2014 to $12.97 in 2015, or 1.4 percent. In South Eastern Area 5, the median hourly wage rate for the oilseed and grain farming subsector declined from $13.52 in 2014 to $13.17 in 2015, or 2.5 percent. In Eastern Area 6, the median hourly wage rate declined in two industry subsectors. The median hourly wage rate in greenhouse and nursery production declined from $11.97 in 2014 to $11.60 in 2015, or 3.1 percent. The median hourly wage rate in other crop farming declined from $13.98 in 2014 to $13.10 in 2015, or 6.3 percent.

All remaining industry subsectors reported in *Figure 7* register increases in median hourly wage rates. The vegetable and melon farming subsector in South Eastern Area 5 registered the largest increase, going from $11.32 per hour in 2014 to $12.46 per hour in 2015. The fruit and tree nut farming subsector in Eastern Area 6 registered the smallest increase in the median hourly wage rate, going from $10.09 per hour in 2014 to $10.26 per hour in 2015, for an increase of 1.8 percent.

Figure 7. Median hourly wages by agricultural reporting area and industry subsector*
Washington state, Columbia Basin Area 4, South Eastern Area 5, Eastern Area 6, 2014-2015
Source: Employment Security Department/LMPA, UI Wage File

Industry subsector	Employment 2014	Employment 2015	Median hourly wage 2014	Median hourly wage 2015	Percentage change in wage rate
Columbian Basin Area 4					
Fruit and tree nut farming	26,156	23,171	$13.43	$13.99	4.2%
Support activities for crop production	6,432	6,893	$10.48	$11.00	4.9%
Vegetable and melon farming	3,321	3,585	$12.51	$13.01	3.9%
Other crop farming	3,263	3,474	$13.16	$12.97	-1.4%
Cattle ranching and farming	986	1,027	$14.60	$14.96	2.5%
South Eastern Area 5					
Fruit and tree nut farming	38,557	38,761	$12.49	$13.01	4.2%
Support activities for crop production	10,694	11,964	$10.82	$11.06	2.2%
Vegetable and melon farming	3,603	3,129	$11.32	$12.46	10.0%
Other crop farming	3,150	3,051	$12.77	$13.51	5.9%
Oilseed and grain farming	1,150	1,365	$13.52	$13.17	-2.5%
Eastern Area 6					
Greenhouse and nursery production	979	2,093	$11.97	$11.60	-3.1%
Oilseed and grain farming	2,010	1,833	$15.08	$15.50	2.8%
Fruit and tree nut farming	400	350	$10.09	$10.26	1.8%
Other crop farming	226	283	$13.98	$13.10	-6.3%
Cattle ranching and farming	224	237	$13.47	$14.00	3.9%

*We report only the top five industry classifications in terms of individuals employed during 2015 for each agricultural reporting area. All covered employees reported are included in the employment counts, meaning employees in all occupational classifications influence the median wage estimate. We inflate wage values for 2014 using the Consumer Price Index for all Urban Consumers (base year = 2015). See *Appendix figure 1* for a list of counties in each reporting area

Median hourly wage rates for each industry classification varied by agricultural reporting area.

Figure 8 shows inflation-adjusted average annual wages by industry subsector, using data from QCEW. QCEW data provides industry employment and wage data by worksite that come from quarterly tax reports employers submit when they hire at least one worker covered by the UI system. Note that *Figure 8* includes data from the food manufacturing sector, meaning the annual average for total employment reported in this figure is higher than it is in *Figures 1* through *7*.

Unlike the UI Wage File, QCEW includes the entire population of worksites that have an agricultural industry classification, even those attached to a firm that does not have an agricultural industry classification. QCEW also only includes total wages paid to all covered employees at each individual worksite and does not include the wages paid to, or hours worked by, individual employees. Consequently, the employment and wage data in *Figure 8* represent the annual average number of jobs and the average annual wage paid per job for each industry subsector, and not a count of individual employees or their corresponding average annual wages.

As shown in *Figure 8*, crop production worksites (5,548) comprised 63.8 percent of all agricultural worksites (8,692) in 2015. These worksites contributed an average of 68,889 agricultural jobs, which was 48.8 percent of the annual average of 141,091 jobs during the same year. Fruit and tree nut worksites comprised 45.6 percent of the 5,548 worksites dedicated to crop production and contributed 48,346 of the 68,889 agricultural jobs, or 70.1 percent, in the crop production subsector. These data demonstrate the importance of apple and cherry farming in Washington state.

Food manufacturing worksites comprised 12.1 percent of all agricultural worksites, while animal production, beverage manufacturing and agricultural support worksites comprised 10.4 percent, 7.4 percent and 6.3 percent, respectively. Of the worksites within these four industry sectors, food manufacturing contributed the highest number of jobs with an annual average of 36,538 or 25.9 percent of the annual average for total employment in 2015. Animal production and aquaculture sector contributed the lowest number of jobs, with an annual average of 6,909 jobs, or 4.9 percent, of the annual average for total employment in 2015.

The average annual wage was $31,354 for all agricultural jobs in 2015, but averages varied by industry sector and subsector. For example, food manufacturing worksites had the highest average annual wage at $44,104, while crop production firms had the lowest average annual wage at $24,746. Within the food manufacturing sector, the seafood product preparation and packaging subsector had the highest average annual wage of $57,959. The lowest average annual wage in the food manufacturing sector was in sugar and confectionery product manufacturing, at $30,313.

Figure 8. Average annual wages in agriculture by industry subsector*
Washington state, 2014-2015
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, QCEW

Industry subsector	Worksites 2015	Wage bill 2015	Average annual employment 2015	Average annual wage 2015	Average annual wage 2014	Percentage change in wages
Crop production	**5,548**	**$1,704,745,838**	**68,889**	**$24,746**	**$23,412**	**5.7%**
Fruit and tree nut farming	2,532	$1,098,939,404	48,346	$22,731	$21,184	7.3%
Oilseed and grain farming	1,118	$50,312,783	1,903	$26,439	$26,498	-0.2%
Greenhouse and nursery production	835	$177,730,099	6,867	$25,882	$26,442	-2.1%
Other crop farming	660	$213,904,286	6,856	$31,200	$30,466	2.4%
Vegetable and melon farming	403	$163,859,266	4,917	$33,325	$31,538	5.7%
Animal production and aquaculture	**906**	**$230,092,281**	**6,909**	**$33,303**	**$32,019**	**4.0%**
Cattle ranching and farming	617	$162,019,423	4,799	$33,761	$32,356	4.3%
Other animal production	125	$8,011,734	291	$27,532	$27,514	0.1%
Aquaculture	83	$32,449,694	927	$35,005	$33,776	3.6%
Poultry and egg production	50	$26,294,778	813	$32,343	$30,925	4.6%
Sheep and goat farming	27	$911,279	62	$14,698	$14,002	5.0%
Agriculture support activities	**546**	**$589,785,331**	**21,309**	**$27,678**	**$27,400**	**1.0%**
Support activities for crop production	358	$575,567,786	20,798	$27,674	$27,377	1.1%
Support activities for animal production	188	$14,217,545	511	$27,823	$28,343	-1.8%
Food manufacturing	**1,048**	**$1,611,489,232**	**36,538**	**$44,104**	**$43,082**	**2.4%**
Bakeries and tortilla manufacturing	370	$183,212,116	5,220	$35,098	$34,841	0.7%
Other food manufacturing	171	$163,465,972	3,745	$43,649	$42,289	3.2%
Fruit and vegetable preserving and specialty manuf.	117	$499,388,699	11,562	$43,192	$40,609	6.4%
Seafood product preparation and packaging	103	$379,054,395	6,540	$57,959	$56,974	1.7%
Animal slaughtering and processing	98	$193,642,861	5,113	$37,873	$37,192	1.8%
Sugar and confectionery prod. manuf.	65	$35,163,480	1,160	$30,313	$28,739	5.5%
Animal food manufacturing	59	$38,838,527	856	$45,372	$47,273	-4.0%
Dairy product manufacturing	42	$67,167,180	1,422	$47,234	$48,203	-2.0%
Grain and oilseed milling	23	$51,556,002	920	$56,039	$55,118	1.7%
Beverage manufacturing	**644**	**$287,610,111**	**7,446**	**$38,626**	**$36,710**	**5.2%**
Annual total	**8,692**	**$4,423,722,793**	**141,091**	**$31,354**	**$30,272**	**3.6%**

*The average annual wage is the annual average in employment divided by the total wage bill for each industry classification. We inflate wage bills for 2014 using the 2015 Consumer Price Index for all Urban Consumers (CPI-U).

Crop production contributed the largest number of agricultural jobs in 2015, while food manufacturing jobs had the highest average annual wage.

Prevailing wages and practices in Washington

In this section of the 2015 Agricultural Workforce Report, we provide a brief overview of federal regulations that require ESD to conduct a prevailing wages and practices survey for seasonal agricultural workers. We then explain the guidelines used to determine prevailing wages and prevailing and normal or common practices for commodity activities included in the survey. We also present data on the use of the H-2A program in Washington. Finally, we present the results of the 2015 Washington State Agricultural Prevailing Wages and Practices Survey.

An overview of the federal agricultural recruitment system

When agricultural employers are unable to attract enough local workers to perform seasonal jobs, they may seek additional workers through the federal Agricultural Recruitment System (ARS), or the H-2A program. The ARS enables employers to file job orders at their local Work Source office, which then recruits and refers workers from other regions in the state, or workers from other states, upon request.[1]

The H-2A program allows employers to hire foreign workers on a temporary basis to perform agricultural work when there are not enough U.S. workers available at the time employers need them. In order to use the H-2A program, employers must first demonstrate they were unable to recruit enough U.S. workers by filing a job order through the ARS.[2]

Employers who file job orders through the ARS must describe anticipated job duties and the conditions of employment. The language in agricultural job orders must also contain assurances that workers who live outside the area of intended employment will receive similar wages, similar benefits, and be subject to similar employment standards as are local workers. The intent of these assurances is to prevent the use of foreign or out-of-state U.S. workers from lowering wages and employment standards for local U.S. workers.

Federal regulations at 20 CFR 653.501 require that wages offered to workers hired through the ARS must not be less than the "prevailing wages" in the area of intended employment, the Adverse Effect Wage Rate (AEWR), or the applicable federal or state minimum wage, whichever is higher.

The AEWR is equal to the annual weighted average hourly wage rate for all non-supervisory field and livestock workers in a given region. Currently, the average hourly wages paid to workers hired through the ARS or the H-2A program in Washington must be no less than the AEWR, regardless of whether an employer pays a piece rate or an hourly rate for a given commodity activity. The U.S. Office of Foreign Labor Certification (OFLC) annually publishes the AEWR in a Federal Register notice, at

[1] For more information, see U.S. Department of Labor, Employment and Training Administration. "Agricultural Recruitment System (ARS)." https://www.doleta.gov/programs/ars.cfm (accessed July 1, 2016).

[2] For more information, see U.S. Department of Labor, Employment and Training Administration. "H-2A Temporary Agricultural Program." https://www.foreignlaborcert.doleta.gov/h-2a.cfm (accessed July 1, 2016).

which time it becomes effective for all workers hired through the ARS or the H-2A program. The AEWR in Washington was $12.42 per hour in 2015 and $12.69 per hour in 2016.[3]

Regulations contained at 20 CFR Part 655, subpart B, and 20 CFR Part 653, subpart F, define the "prevailing" and "normal or common" practices for seasonal U.S. agricultural workers that DOL may allow in job orders filed through the ARS. To establish allowable wages and practices, ESD reports those employers offer or use during the week of the most recent growing season in which they hired the most workers for each commodity activity, or the peak week of employment.

Establishing prevailing wages

DOL provides funding to each State Employment Security Agency (SESA) to conduct surveys that help its regional offices establish the wages and practices that are allowable in job orders filed through the ARS, including through the H-2A program. The guidelines to conduct these surveys are contained in the Employment Training Administration's (ETA) Handbooks 385 and 398.

Federal guidelines encourage SESAs to conduct prevailing wages and practices surveys for any commodity activity to which one or more of the following conditions apply:

1) One hundred or more workers were employed in the previous season, or are expected to be employed in the current season;

2) Foreign workers were employed in the previous season, or employers have requested or may be expected to request foreign workers in the current season, regardless of the number of workers involved;

3) The crop activity has an unusually complex wage structure, or there are other factors affecting the prevailing wage which can best be determined by a wage survey; or

4) The crop or crop activity has been designated by the national office as a major crop or crop activity either because of the importance of the production of this crop to the national economy or because large numbers of workers are employed in the crop activity in a number of different areas in the country.[4]

ESD does not have data on the number of workers employed or comprehensive data on wage structures at the commodity activity level. Consequently, we use job descriptions contained in H-2A job orders to determine which commodity activities to include in the wages and practices survey.

[3] For more information, see U.S. Department of Labor, Employment and Training Administration. "Adverse Effect Wage Rates — Year 2016." https://www.foreignlaborcert.doleta.gov/adverse.cfm (accessed July 1, 2016).

[4] U.S. Department of Labor, Employment and Training Administration. Handbook No. 385. Washington, D.C.: GPO, 1981: p. I-115.

SESAs calculate the prevailing wage according to one of two rules. The first is the 40 percent rule, which states that if 40 percent or more of the seasonal U.S. workers surveyed for a given activity receive the same pay rate, then it becomes the prevailing wage. If two separate wage rates apply to 40 percent of U.S. seasonal workers surveyed for an activity, then both are prevailing wage rates.

The second rule is the 51 percent rule, which applies when no single wage rate covers 40 percent of the workers in the survey sample. This rule requires arraying wage rates from highest to lowest and counting the number of workers who receive each wage rate. Then, SESAs calculate the cumulative number of workers in the sample until 51 percent of all workers are covered. The wage rate that includes the worker in the 51st percentile of the wage distribution becomes the prevailing wage.

If there is not a single unit of payment for workers who perform a given activity (e.g., some workers are paid by the pound and some are paid by the hour), SESAs determine which pay unit applies to the largest number of workers. SESAs then determine the prevailing wage according to either the 40 percent or the 51 percent rule from among workers who receive the most common pay unit.[5]

Establishing prevailing and normal or common practices

A practice is prevailing if at least 50 percent of all employers who also hire at least 50 percent of all U.S. seasonal workers use the practice for a given commodity activity. The following practices are subject to the prevailing threshold: the provision of family housing to non-working family members, transportation and subsistence costs, and frequency of payment.

There is no specific quantitative threshold for normal or common standards. Instead, normal or common means, "situations which may be less than prevailing, but which clearly are not unusual or rare. The degree to which a practice is engaged in (or a benefit is provided) should be determined to be close to what is viewed (and measured) as "prevailing," but the degree by which the practice or benefit is measured and degree of proof needed to establish its acceptability for H-2A purposes is not as formal or stringent as "prevailing" calls for."[6]

The following practices are subject to the normal or common threshold: minimum productivity standards, provision of tools and equipment, employee qualifications (e.g., experience) and the positive recruitment of U.S. nationals. Note also that minimum productivity standards only apply to activities for which the prevailing wage is a piece rate.[7]

Because H-2A regulations already establish requirements for other employment practices in agricultural job orders, ESD only surveys employers regarding the provision of family housing, minimum

[5] U.S. Department of Labor, Employment and Training Administration. Handbook No. 385. Washington, D.C.: GPO, 1981: pp. I-116 — I-117.

[6] U.S. Department of Labor, Employment and Training Administration. Handbook No. 398. Washington, D.C.: GPO, 1988: p. II-7.

[7] U.S. Department of Labor, Employment and Training Administration. Handbook No. 398. Washington, D.C.: GPO, 1988: p. II-10.

productivity standards and experience requirements. SESAs must survey both H-2A and non-H-2A employers concerning the provision of family housing and minimum productivity standards, but only non-H-2A employers concerning experience requirements.

Note that ESD only reports the number and percentage of employers and workers who offer or receive a benefit, or who are subject to an employment practice. Ultimately, DOL's Regional Administrators (RA) use their discretion when making normal or common practice determinations.

Certified H-2A applications in Washington

From 2000 through 2013, ESD focused its prevailing wages and practices surveys on activities associated with growing apples, cherries and pears. This focus was largely due to the small number of commodity activities for which ESD received H-2A applications.

In 2015, ESD increased the number of commodities covered in the wages and practices survey. The new commodities include: apricots; beans (fresh and dry); bees; beets; blackberries; blueberries; cabbage; carrots; collard greens; corn; goats; grapes; grass crops; green onions; herbs; kale; leeks; lettuce; mustard greens; nectarines; nursery crops (e.g., flowers, shrubs, transplants and trees); peaches; plums; pluots; radishes; raspberries; sheep; spinach; strawberries; zucchini.

The increase in H-2A applications over the last several years is the main reason ESD expanded the number of crops in the 2015 survey. Figure 9 shows that there were 6,550 certified H-2A applications nationwide in 2006, but only 11 certified applications in Washington. By 2015, the number of applications reached 7,195 nationwide and 114 in Washington. Nationally, the number of applications increased by 9.8 percent, but in Washington the number of applications increased by more than a factor of nine from 2006 through 2015.

There was also variation in the number of H-2A applications from year to year in Washington. Applications rose from 11 in 2006 to 34 in 2008 and then dropped to 30 in 2009, 25 in 2010 and 18 in 2011. The number of applications then rose from 33 in 2012 to 56 in 2013. From 2013 through 2015, the number of certified applications more than doubled from 56 to 114 in Washington.

The average number of H-2A workers per certified application in Washington also varied from year to year. There was an average of 74 workers per application in 2006, an average of 65 workers per application in 2007 and an average of 74 workers per application in 2008.

The average then dropped to 63 workers per application in 2009, increased to 119 in 2010 and rose again to 177 workers per application in 2011. The average dropped again to 120 workers per application in 2012 and to 111 workers per application in 2013. From 2014 through 2015, the number of workers per application declined from 110 to 105.

The total number of certified H-2A workers increased by nearly a factor of 14 in Washington state, going from 814 in 2006 to 12,081 in 2015. Nationally, the number of certified H-2A workers more than doubled from 59,110 workers in 2006 to 139,832 workers in 2015.

Figure 9. H-2A applications in the United States and Washington*
United States and Washington state, 2006 though 2015
Sources: Employment Security Department, Workforce and Career Development Division; U.S. Department of Labor, Office of Foreign Labor Certification, Fiscal Year Performance Summaries

Year	United States				Washington			
	Employer applications certified	Percent change	Workers certified	Percent change	Employer applications certified	Percent change	Workers certified	Percent change
2006	6,550	NA	59,110	NA	11	NA	814	NA
2007	7,491	14.4%	76,814	30.0%	26	136.4%	1,688	107.4%
2008	7,944	6.0%	82,099	6.9%	34	30.8%	2,513	48.9%
2009	7,665	-3.5%	86,014	4.8%	30	-11.8%	1,882	-25.1%
2010	6,988	-8.8%	79,011	-8.1%	25	-16.7%	2,981	58.4%
2011	7,000	0.2%	77,246	-2.2%	18	-28.0%	3,182	6.7%
2012	7,836	11.9%	85,487	10.7%	33	83.3%	3,953	24.2%
2013	8,352	6.6%	115,957	35.6%	56	69.7%	6,196	56.7%
2014	9,152	9.6%	116,689	0.6%	82	46.4%	9,047	46.0%
2015	7,195	-21.4%	139,832	19.8%	114	39.0%	12,081	33.5%

*N/A means not applicable, as 2006 is the base year for comparison. U.S. DOL reports national data according to the federal fiscal year. Washington state data do not include applications submitted for sheepherder, goat herder and beekeeper jobs.

The number of certified H-2A applications in Washington during 2015 was over nine times greater than during 2006. The number of certified H-2A workers was nearly 14 times greater in 2015 than in 2006.

Prevailing wages in Washington

In this section, we present the wage results from the 2015 Washington State Agricultural Prevailing Wages and Practices Survey. Note that we only report commodity activities for which we obtained a sufficient sample of workers according to ETA guidelines.

The number of workers in a sample that are required to make a prevailing wage determination depends on the estimated population size for a given commodity activity. When the estimated population of workers for a commodity activity is greater than or equal to 100 and less than or equal to 2,999, the survey sample must include from 100 workers up to 600 workers in order to publish a prevailing wage. When the estimated population of workers for a commodity activity is greater than or equal to 3,000, the sample must include at least 15 percent of the estimated population in order to publish a prevailing wage.[8]

[8] U.S. Department of Labor, Employment and Training Administration. Handbook No. 385. Washington, D.C.: GPO, 1981: pp. I-114.

Figure 10 shows the results of the 2015 Prevailing Wages and Practices survey for commodity activities associated with the production of apples, cherries and pears. For apple pruning and apple thinning, ESD determined there is no difference in the prevailing wage by apple variety. As a result, we reported one wage rate for all varieties for each of these activities.

The prevailing wage is $10.00 per hour for apple pruning, and $11.00 per hour for apple thinning. Since the prevailing wage for each of these activities is an hourly rate, and since the prevailing wage is lower than the AEWR for each activity, employers who hire workers through the ARS or the H-2A program must pay those workers the current AEWR, which is $12.69 per hour.

ESD also determined there was no difference in the prevailing wage for different varieties of cherry pruning, pear pruning and pear thinning. The prevailing wage is $11.00 per hour for cherry pruning and $10.48 per hour for pear pruning. For all varieties of pear thinning, the prevailing wage is $9.47 per hour, which is equal to the 2015 Washington state minimum wage. Employers who hire workers through the ARS or the H-2A program must pay pruning and thinning workers the AEWR, as it is the highest hourly wage rate applicable to agricultural job orders in Washington.

ESD determined the prevailing wage does vary by variety for apple, cherry and pear harvest. As shown in Figure 10, the prevailing wage for apple harvest ranged from a low of $20.00 per bin for Braeburn and Red Delicious apples to a high of $28.00 per bin for Fuji apples. The most commonly reported bin size was 47" x 47" x 24-1/2" for all varieties of apple harvest.

The prevailing wage for red cherry harvest was $5.50 per thirty-pound lug, and the prevailing wage for yellow cherry harvest was $6.00 per twenty-pound lug. The difference in lug size and prevailing wages is because yellow cherries are much more sensitive to bruising. Consequently, yellow cherry harvesters must take greater care to avoid overloading their lugs.

The prevailing wage for Bartlett pear harvest was $22.00 per bin, while the prevailing wage was $23.00 per bin for D'Anjou pear harvesting. The prevailing wage for all other varieties of pear harvest was $21.00 per bin. As with apple harvest, the most commonly reported bin size for all varieties of pear harvest was 47" x 47" x 24-1/2."

According to federal guidelines, employers who hire workers through the ARS or the H-2A program can pay the AEWR or the prevailing piece rate to workers engaged in commodity activities for which the prevailing wage is a piece rate. Regardless of which pay rate they use, employers who use the ARS or H-2A program to hire workers must ensure their average hourly wage rate in a given week for these commodity activities is equal to or greater than the AWER.

Figure 10. Prevailing wages for apple, cherry and pear activities*
Washington state, 2015
Source: Employment Security Department/LMPA, 2015 Prevailing Wages and Practices Survey

Crop or crop group	Variety	Activity	Prevailing wage	Pay unit	Workers in survey	Estimated number of workers	Employers in survey	Estimated number of employers
Apples	All varieties	Pruning	$10.00	Hour	2,605	10,289	129	594
Apples	All varieties	Thinning	$11.00	Hour	3,490	13,595	109	472
Apples	Braeburn	Harvesting	$20.00	Bin	449	1,750	11	49
Apples	Fuji	Harvesting	$28.00	Bin	3,570	13,824	58	240
Apples	Gala	Harvesting	$22.00	Bin	10,053	38,953	128	537
Apples	Golden Delicious	Harvesting	$23.00	Bin	3,401	13,315	76	333
Apples	Granny Smith	Harvesting	$24.00	Bin	3,315	12,808	55	219
Apples	Honey Crisp	Harvesting	$25.00	Bin	2,176	8,486	47	197
Apples	Pink Lady	Harvesting	$25.00	Bin	849	3,296	7	30
Apples	Red Delicious	Harvesting	$20.00	Bin	3,233	12,553	68	284
Cherries	All varieties	Pruning	$11.00	Hour	617	2,468	59	256
Cherries	Red	Harvesting	$5.50	30 lb. lug	11,011	42,481	176	702
Cherries	Yellow	Harvesting	$6.00	20 lb. lug	2,628	10,221	55	231
Pears	All varieties	Pruning	$10.48	Hour	748	3,028	65	294
Pears	All varieties	Thinning	$9.47	Hour	471	1,850	19	88
Pears	Bartlett	Harvesting	$22.00	Bin	2,127	8,374	80	335
Pears	D'Anjou	Harvesting	$23.00	Bin	1,430	5,702	61	262
Pears	Other	Harvesting	$21.00	Bin	877	3,442	29	124

*Results include only commodity activities for which ESD received a sufficient sample size according to federal guidelines. The most commonly reported bin size for apple and pear harvest was 47" x 47" x 24-1/2". All other pear varieties include Bosc, Concorde, Starkrimson, Asian, Comice, Seckles, Forelles, Taylor's Gold and Packham. All varieties of apples include those listed in Figure 10, in addition to the following varieties: Cripps Pink; Aurora; Envy; Juici Delight; Lady Alice; Junami; Jazz; Pinova; Scilate; Scirose; Pazazz; Jonathan; Red Clap; Pink Pearl; Nicoter; RosaLynn; Pacific Rose; Sweet Tango; Pinata; Rome; Sugarbee; Scarlet; Ambrosia; Blush & Stripe; Scifresh.

Employers who hire workers through the ARS or the H-2A program may pay the prevailing piece rate or the AEWR for all varieties of apple, cherry and pear harvest. For all other orchard crop activities, employers must pay the AEWR when they use the ARS or H-2A program.

ESD received insufficient sample size to make a prevailing wage determination for many individual commodities included in the 2015 survey. As a result, we used the National Agricultural Statistical Service's (NASS) crop classification scheme to group some crops together before estimating a prevailing wage for activities associated with the "laborer" occupational classification.[9]

The crop groups are as follows: field crops (alfalfa, dry beans, corn, grasses, hops, turf grass and wheat); nursery crops (bedding plants, fruit and vegetable transplants, trees, cut Christmas trees, flower transplants and bulbs, cut flowers and shrubs); vegetables (asparagus, fresh beans, beets, broccoli, cabbage, carrots, green onions, herbs, kale, leeks, lettuce,

[9] U.S. Department of Agriculture, National Agricultural Statistics Service. "Statistics by Subject." https://www.nass.usda.gov/Statistics_by_Subject/?sector=CROPS (accessed July 1, 2016).

onions, potatoes, radishes and zucchini). We then estimated a prevailing wage rate for these crop groups by the occupational category "laborer" for most of the commodity activities reported in the survey.

ESD detected a distinct wage structure for asparagus, blueberry, grape, and fresh bean harvest workers. For each of these commodities, the majority of employers who hired a majority of employees in our sample reported paying a piece rate for harvesting but an hourly rate for other activities associated with the "laborer" occupational category.

Consequently, we separated harvest workers from the "laborer" occupation and estimated a distinct prevailing wage for asparagus, blueberry, grape, and fresh bean harvesters. This decision reduced the sample size below the threshold needed to make a separate prevailing wage determination for asparagus, grape and fresh bean harvest workers. For this reason, we do not report the results for these commodity activities.

Figure 11 shows the prevailing wage results for the following commodity activities or occupations: blueberry harvest, raspberry laborer, field crop laborer, grape laborer, nursery crop laborer, and vegetable laborer. The prevailing wage for blueberry harvest was $0.47 per pound. Employers who hire workers through the ARS or the H-2A program for blueberry harvest may pay the AEWR or the prevailing piece rate. In either case, the average hourly wage rate for blueberry harvest workers must be equal to, or greater than, the AEWR in any given week.

The prevailing wage for both raspberry laborers and nursery crop laborers was $9.47 per hour, which was equal to the 2015 Washington state minimum wage. For vegetable laborers, the prevailing wage was $10.00 per hour, and for grape laborers the prevailing wage was $11.00 per hour. The prevailing wage for field crop laborers was $11.25 per hour. For all these commodity occupations, employers who hire workers through the ARS or the H-2A program must pay their workers the AEWR, as it is highest applicable hour wage rate in Washington state.

Figure 11. Prevailing wages for row and nursery crop activities and occupations*
Washington state, 2015
Source: Employment Security Department/LMPA, 2015 Prevailing Wages and Practices Survey

Crop or crop group	Variety	Activity or occupation	Prevailing wage	Pay unit	Workers in survey	Estimated number of workers	Employers in survey	Estimated number of employers
Berries	Blueberries	Harvesting	$0.47	Pound	3,296	12,774	24	111
Berries	Raspberries	Laborer	$9.47	Hour	455	1,819	17	92
Field crops	N/A	Laborer	$11.25	Hour	1,198	4,761	28	145
Grapes	All	Laborer	$11.00	Hour	542	2,364	50	280
Nursery crops	N/A	Laborer	$9.47	Hour	1,123	4,568	28	249
Vegetables	N/A	Laborer	$10.00	Hour	537	2,333	32	180

*Results include only commodity activities or occupations for which ESD received a sufficient sample size according to federal regulations. Field crops include dry beans, alfalfa, grasses, hay and haylage, corn and wheat. Nursery crops include bedding plants, vegetable transplants, trees, cut Christmas trees, flowers, cut flowers and shrubs. Vegetables include asparagus, fresh beans, beets, broccoli, cabbage, carrots, green onions, herbs, kale, leeks, lettuce, onions, potatoes, radishes and zucchini. Finally, ESD determined that grape, asparagus and bean harvesters have a different wage structure than do workers who performed tasks associated with the occupation "farm laborer" in their respective crop groups. For all other crop groups, the occupation "farm laborer" includes harvesters.

Employers who hire workers through the ARS or the H-2A program must pay the AEWR for all row and nursery crop occupations, except blueberry harvesting, for which they may also pay the prevailing piece rate.

Prevailing and normal or common practices in Washington

Recall that a practice or benefit must apply to half of all employers who also hire half of all employees in our sample in order to be prevailing. The only practice included in the 2015 survey that is subject to the prevailing threshold is the provision of free housing to non-working family members. ESD did not make a separate family housing determination by variety, activity or occupation for any of the commodities or commodity groups included in the 2015 survey. We took this decision because we detected little variation in the percentage of employers who offer family housing by variety or activity for any of the commodities included in the 2015 survey.

Figure 12 shows that fewer than 50 percent of all employers offer free housing to non-working family members of workers hired to produce all crops or crop groups included in the 2015 survey. Likewise, fewer than 50 percent of all workers in the sample received an offer of housing for their non-working family members. Thus, family housing is not a prevailing practice among employers who grow any of the commodities included in the 2015 survey.

Figure 12. Prevailing practice results for family housing*
Washington state, 2015
Source: Employment Security Department/LMPA, 2015 Prevailing Wages and Practices Survey

Crop or crop group	Variety	Activity or occupation	Employers offering	Employers not offering	Workers offered	Workers not offered	Prevailing practice
Apples	All	All	36	271	2,825	44,369	No
Berries	All	All	9	55	804	3,412	No
Cherries	All	All	23	201	1,455	14,197	No
Field crops	N/A	All	0	37	0	1,345	No
Grapes	All	All	0	68	0	1,105	No
Nursery crops	N/A	All	0	49	0	1,165	No
Pears	All	All	17	115	1,109	4,562	No
Vegetables	N/A	All	4	41	93	782	No

*Results include only commodity activities for which ESD received a sufficient sample size according to federal regulations. For all crops and crop groups, ESD determined there is no difference in family housing practices by activity or occupation, so we report a single result for all activities by crop or crop group. Consequently, the employer counts represent the number of unique employer-responses by crop or crop group; however, we count any worker who performed multiple activities for the same employer, or who performed the same activity on multiple varieties for the same employer, more than once.

Offering free housing to non-working family members of migrant or seasonal workers is not a prevailing practice among employers who produce any of the crops or crop groups reported in the 2015 prevailing wages and practices survey.

Recall that there is no quantitative threshold for normal or common practices specified in ETA Handbook 398. As a result, ESD followed advice from DOL's Chicago National Processing Center (CNPC) when reporting minimum productivity and experience standards. According to CNPC, at least 33 percent of employers in a sample must report having any standard or practice before said practice is allowable as "normal or common."

In response to this advice, ESD chose first to determine whether 33 percent or more of the employers in our sample have any minimum productivity or experience standard. We then reported the most common, quantifiable standard (e.g., harvesting a certain number of apple bins per day) reported by employers in our sample. As of this writing (July 2016), DOL has not made a determination for normal or common practices allowable in agricultural job orders filed in Washington state.

Figure 13 shows the minimum productivity standard results for apple, blueberry, cherry and pear harvest. Note that we only report results for commodity activities for which we received sufficient sample size, for which we determined the prevailing wage to be a piece rate, and for which we determined a most commonly reported standard.

ESD detected no variation in the most commonly reported minimum productivity standard by apple variety, except for Red Delicious apples. The most commonly reported minimum productivity standard for Red Delicious apple harvest was four bins per day, while the most commonly reported standard for all other varieties of apple harvest was three bins per day.

ESD converted the productivity standards data for cherry harvesting because pay unit sizes varied among employers who reported having a productivity standard. For this conversion, we included everyone who reported paying a bin rate, paying by the pound, or paying by the lug in the productivity standards data. For respondents who reported paying by the lug or by the bin, we converted their stated productivity standard into a weight in pounds per day. Once we converted productivity standards into pounds per day, we divided the number of pounds per day by the weight of the most commonly reported lug size in our data. The most commonly reported lug size was 30 pounds for red cherries and 20 pounds for yellow cherries.

As shown in *Figure 13*, the most commonly reported standard for red cherry harvest was 14 thirty-pound lugs per day. For yellow cherry harvest, the most commonly reported standard was 12.5 twenty-pound lugs per day. As with wage rates, the difference in productivity standards reported for red and yellow cherry harvest is because yellow cherries are more sensitive to bruising. Consequently, workers must be more cautious when harvesting yellow cherries.

For blueberry harvest, the most commonly reported pay unit was the pound. As with cherry harvest, we converted the standards for any respondents who reported paying a piece rate into a weight in pounds per day. After making this conversion, ESD determined the most common minimum productivity standard for blueberry harvest was 152 pounds per day. ESD detected no variation in the most commonly reported minimum productivity standard for pear harvest. The most commonly reported standard for all varieties of pear harvest was four bins per day.

Figure 13. Normal or common practice results for minimum productivity standards*
Washington state, 2015
Source: Employment Security Department/LMPA, 2015 Prevailing Wages and Practices Survey

Crop or crop group	Variety	Activity	Employers with a standard	Employers with no standard	Percentage with a standard	Most common standard	Pay unit size
Apples	All (except Red Delicious)	Harvesting	179	121	59.7%	3 bins/day	47"x47"x24-1/2"
Apples	Red Delicious	Harvesting	42	31	57.5%	4 bins/day	47"x47"x24-1/2"
Berries	Blueberries	Harvesting	24	13	64.9%	152 lbs./day	N/A
Cherries	Red	Harvesting	83	80	50.9%	14 lugs/day	30 pounds
Cherries	Yellow	Harvesting	33	9	78.6%	12.5 lugs/day	20 pounds
Pears	All	Harvesting	62	67	48.1%	4 bins/day	47"x47"x24-1/2"

*Results include only those commodity activities or occupations for which ESD received a sufficient sample size according to federal regulations. Results also only include commodity activities for which at least 33 percent of the employers in the sample reported a productivity standard and for which ESD was able to determine a most commonly reported, quantifiable standard among employers in the sample. An "N/A" in the pay unit size indicates that it is not an applicable to the standard listed in the corresponding row. For all productivity standards, we assume an 8-hour workday.

The most commonly reported minimum productivity standard only varies by variety for apple harvest and cherry harvest.

Figure 14 shows the experience requirement results for apple harvesting, apple pruning, apple thinning, cherry pruning, cherry harvesting and pear pruning. These are the only commodity activities for which ESD determined that at least 33 percent of the employers in the survey sample reported experience requirements. Note also that these were the only commodity activities for which ESD detected a most commonly reported, quantifiable experience standard and had a sufficient sample size according to federal regulations.

There was no variation in experience requirements by variety for apple harvesting, apple pruning and apple thinning. As *Figure 14* shows, the most commonly reported experience standard for all varieties of apple harvest was three months. The most commonly reported experience standard for all varieties of apple pruning and thinning was 12 months.

ESD also detected no variation by variety for the most commonly reported experience standard for cherry pruning or cherry harvesting, though there was a significant difference in the percentage of employers reporting a standard for red and yellow cherry harvest. Consequently, we report separate experience requirements for red and yellow cherry harvest, even though there is no difference in the most commonly reported standard. As shown in Figure 14, the most commonly reported experience standard for all varieties of cherry pruning is 12 months, while the most commonly reported experience standard for both red and yellow cherry harvest is three months.

The only pear production activity for which at least 33 percent of employers reported an experience standard was pruning. ESD detected no variation in the most commonly reported standard by variety. Consequently, we reported one standard for all varieties of pear pruning. As shown in Figure 14, the most common experience standard for pear pruning is 12 months.

Figure 14. Normal or common practice results for experience requirements*
Washington state, 2015
Source: Employment Security Department/LMPA, 2015 Prevailing Wages and Practices Survey

Crop or crop group	Variety	Activity	Employers with a standard	Employers with no standard	Percentage with a standard	Most common standard
Apples	All	Harvesting	97	131	42.5%	3 months
Apples	All	Pruning	29	37	43.9%	12 months
Apples	All	Thinning	22	32	40.7%	12 months
Cherries	All	Pruning	31	23	57.4%	12 months
Cherries	Red	Harvesting	66	90	42.3%	3 months
Cherries	Yellow	Harvesting	28	26	51.9%	3 months
Pears	All	Pruning	23	17	57.5%	12 months

*Results include only those commodity activities or occupations for which ESD received a sufficient sample size according to federal regulations. Results also only include commodity activities for which at least 33 percent of the employers in the sample reported an experience requirement and for which ESD was able to determine a most commonly reported, quantifiable standard.

The most commonly reported experience requirement for all varieties of apple and cherry harvesting is three months. The most commonly reported requirement for all varieties of apple pruning, apple thinning, cherry pruning and pear pruning is 12 months.

Appendix

Appendix figure 1. Agricultural reporting areas 1 through 6

Washington state agriculture reporting areas

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

South Central Area 2
Klickitat and Yakima

North Central Area 3
Chelan, Douglas, Kittitas and Okanogan

Columbia Basin Area 4
Adams and Grant

South Eastern Area 5
Benton, Franklin and Walla Walla

Eastern Area 6
Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, Stevents and Whitman