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2021 Agricultural peak employment wage and practices employer and worker survey results



**Employment
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WASHINGTON STATE

2021 Agricultural peak employment wage and practices employer and worker survey results

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Executive summary

Background

The Washington State Employment Security Department's (ESD) Data Architecture, Transformation and Analytics (DATA, formerly Labor Market and Economic Analysis, LMEA) division has conducted an agricultural wage and practice survey annually since 2015, surveying for occupations and activities for which employers have requested temporary foreign laborers through the agricultural recruitment system (ARS). Prior to 2015, DATA conducted an agricultural wage and practice survey on a biennial basis for select agricultural commodities.

Role of State Employment Security Agencies

USDOL provides funding to State Employment Security Agencies (SESAs) to conduct surveys that help its regional offices establish prevailing wages and prevailing or normal and common practices in agriculture. The guidelines to conduct these surveys are contained in ETA Handbooks 385 and 398. ETA Handbook 385 requires SESAs to conduct a prevailing wage survey for any agricultural activity or occupation 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 several different areas in the country (ETA Handbook 385, p. I-115).

Key findings

The 2021 Agricultural Peak Employment Wage and Practice Surveys received 31.31 percent and 51.50 percent response rates for the employer and worker surveys respectively; this equates to 394 eligible employers and 704 workers responding to the surveys.

In addition, the 2021 prevailing wage finding process identified 118 different combinations of agricultural commodities ; of these commodities 10 commodity-activities meet or exceed USDOL thresholds for wage determinations. Of the 10 combinations of commodity-activity that meet USDOL determination thresholds, four are for apple activities and six are for cherry activities. No berry or pear activities met the USDOL thresholds for wage determination. Three commodity-activity wage structures that meet USDOL determination thresholds increased from the previous 2020 iteration wage finding process. These commodity-activity wage structures are:

- Cherry harvesting, \$0.23 per pound (+\$0.02 per pound);
- Cherry pruning, \$15.00 per hour (+\$0.50 per hour);
- Dark red cherry harvesting, \$0.25 per hour (+\$0.03 per pound).

Only one commodity-activity saw a decrease from the previous iteration, which is Sweetheart cherry harvesting, \$0.20 per pound (-\$0.01 per pound).

Two commodity-activities, Cripps Pink apples harvesting and pruning, moved from piece rate to hourly. This year's survey resulted in the addition of four more commodity-activities. The new apple commodity-activities are Cosmic Crisp harvesting and thinning. Red and Skeena cherry harvesting are the new cherry activities.

Moreover, no employment practices measures, to include experience requirements, the provision of family housing and minimum productivity standards, passed the prevailing practices or normal and common practices thresholds as most employer survey responses indicated that all three employment practices were either not applicable or skipped the questions.

2021 results

Employer estimates

For estimating the total number of employers to have participated in the production of a given agricultural commodity and employed migrant or seasonal laborers, DATA utilized a log-linear approach to an abundance estimator known as a capture-recapture estimator.¹

This type of population estimator has three general requirements:

1. At least two capture occasions are necessary to generate an estimate. An example of this would be having at least two agricultural survey iteration results available and in the same structural format;
2. The capture occasions occur over a relatively short period of time; and
3. All occasions of the search procedure (e.g., survey iterations) remain conceptually equivalent.

Additionally, this type of estimator takes three universal assumptions:

1. The population in question is finite;
2. Immigration into the population area is negligible. An example of this would be the number of new agricultural employers established on a yearly basis is small; and
3. Mortality rates are negligible, meaning the number of agricultural employers going out of business is small.

Procedurally, this approach to population estimation enables the determination of the probability of employers to experience responding to a survey iteration and therefore the expected number of employers, regarding a given agricultural commodity, can be formulated and re-expressed as a log-linear model. This model re-expression then allows the fitting of specific linear regressions that have the capacity to estimate the number of employers that did not respond to a survey iteration, controlling survey nonresponse and producing a population estimate of the total number of employers participating in the production of a particular agricultural commodity.

During the 2021 survey iteration, 118 distinct and varying levels of agricultural commodities were reported; however, only 26 commodities received high enough reporting frequencies over four survey iterations to warrant employer estimation. *Figure 1* details the models chosen to generate employer populations by agricultural commodity, metrics to assess model fit and 95 percent confidence intervals for each commodity. Employer estimates were generated using 2018, 2019, 2020 and 2021 employer survey iterations.

¹ For more detailed information see: Rivest, L.P. & Baillargeon, S. (2007). "Rcapture: Loglinear Models for Capture-Recapture in R". *Journal of Statistical Software*, 19(5).

Figure 1. 2021 employer estimates

Washington state, 2022

Source: Employment Security Department/DATA, 2018, 2019, 2020, 2021 Agricultural Wage and Practices Employer Surveys

Commodity	Estimation model	Employer estimate	Standard error	Confidence interval (95%)
Apples	Mth Chao	1,129	60.47	1,024 - 1,262
Apples, Ambrosia	Mth Poisson2	72	22.92	47 - 153
Apples, Cosmic Crisp	Mth Chao	78	14.85	59 - 122
Apples, Cripps Pink	Mth Chao	185	36.24	134 - 286
Apples, Fuji	Mth Poisson2	497	72.99	385 - 680
Apples, Gala	Mth Poisson2	867	88.58	721 - 1074
Apples, Golden Delicious	Mth Poisson2	474	50.13	394 - 595
Apples, Granny Smith	Mth Poisson2	386	53.55	305 - 521
Apples, Honeycrisp	Mth Poisson2	564	50.63	482 - 683
Apples, Jazz	Mth Poisson2	15	2.62	14 - 26
Apples, Red Delicious	Mth Poisson2	477	59.46	384 - 623
Berries	Mth Poisson2	376	39.06	314 - 471
Berries, Blueberries	Mth Poisson2	247	36.62	193 - 342
Cherries	Mth Poisson2	995	57.22	896 - 1,122
Cherries, Bing	Mth Poisson2	720	61.64	618 - 863
Cherries, Darkred	Mth Poisson2	808	55.21	715 - 933
Cherries, Lapin	Mth Chao	277	39.69	217 - 379
Cherries, Rainier	Mth Poisson2	584	71.44	470 - 757
Cherries, Red	Mth Poisson2	573	74.28	456 - 754
Cherries, Skeena	Mth Chao	281	51.12	207 - 419
Cherries, Sweetheart	Mt	245	17.06	217 - 284
Cherries, Yellow	Mth Poisson2	598	71.51	484 - 771
Pears	Mth Chao	671	49.82	587 - 785
Pears, Bartlett	Mth Poisson2	647	61.53	547 - 792
Pears, Bosc	Mth Poisson2	341	60.30	252 - 500
Pears, Danjou	Mth Poisson2	476	75.37	362 - 668

Employment estimates

The estimation method used for the 2021 survey iteration to estimate total employment by commodity-activity is an iterative proportional fitting procedure, more commonly referred to in survey analysis as a “raking algorithm.”²

The raking algorithm chosen to estimate total employment by commodity-activity incrementally post-stratifies employer survey responses so that the marginal totals from the survey match (equal) specified marginal control totals, where the sample marginal totals would be the number of employers

² For more detailed information see: Lumley, T. (2004). “Analysis of complex survey samples”. *Journal of Statistical Software*, 9(1), 1-19.

responding for a particular commodity and the control marginal total are defined as the employer population estimates detailed previously. The raking procedure then results in the production of calibration weights to adjust reported employment. These weights are then multiplied by the reported employment for a given commodity-activity to generate total estimated employment levels.

Figure 2 shows the resulting total estimated employment levels by commodity-activity for which DATA could generate an estimate and fulfill USDOL determination requirements.³ Additionally, Figure 2 conveys total reported employment and the necessary integer and percent thresholds outlined by the USDOL.

Figure 2. 2021 employment estimates by commodity-activity

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Activity	Total reported employment	Total estimated employment	USDOL percent threshold	Determination threshold	Determination
Apples, Cosmic Crisp	Harvesting	2,312	5,385	15%	43%	Yes
Apples, Cosmic Crisp	Thinning	1,407	3,111	15%	45%	Yes
Apples, Cripps Pink	Harvesting	2,117	13,525	15%	16%	Yes
Apples, Cripps Pink	Thinning	1,387	8,270	15%	17%	Yes
Cherries	Harvesting	4,813	28,050	15%	17%	Yes
Cherries	Pruning	456	3,103	15%	15%	Yes
Cherries, Darkred	Harvesting	4,675	31,031	15%	15%	Yes
Cherries, Red	Harvesting	3,800	20,853	15%	18%	Yes
Cherries, Skeena	Harvesting	1,271	7,109	15%	18%	Yes
Cherries, Sweetheart	Harvesting	2,065	7,873	15%	26%	Yes

Prevailing wage rates

Figure 3 presents prevailing wages for those commodity activities for which DATA could generate an estimate and a determination from the results of the 2021 Agricultural Peak Employment Wage and Practice Employer Survey. When prevailing wages are hourly rates lower than the Adverse Effect Wage Rate (AEWR), employers must pay hired laborers through the Agricultural Recruitment System (ARS) or H-2A program the current AEWR. According to federal guidelines, employers who hire laborers through the ARS or the H-2A program can pay the AEWR or the prevailing piece rate to those laborers 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 laborers must ensure their average hourly wage rate in a given week is equal to or greater than the AEWR; further details on the prevailing wage finding process can be found in *Appendix 1*.

Figure 3 contains two combination levels of commodity-activity wage structures, ranging from generalized high levels (e.g., apple-harvesting) to a one step lower level (e.g., apple-red delicious-harvesting) that all qualify for wage determinations.

For piece rate wages, DATA surveyed for hourly earnings guarantee, which is the minimum an employer must pay to an agricultural laborer, regardless of activity or amount of work, and the dimension of the base wage unit. For apple and pear base wage units, reported dimensions and base

³ For employment estimates that did not meet USDOL thresholds, see Figure A3-1 in Appendix 3.

wages were normalized to meet the industry standard linear bin dimension (47" x 47" x 24.5") recorded and identified in 2021 employer job orders. When a reported linear bin dimension differed from the standard linear bin dimension, the cubic inches for the differing linear bin were calculated and the base wage reported was adjusted proportionally to meet the standard linear bin dimension. When bin dimensions were reported by weight, DATA identified the most common bin weight from the 2021 Agricultural Peak Employment Wage and Practice Employer Survey and equated it to the standard linear bin dimension given the commodity in question. The most common bin weights reported were 900 pounds and 1,000 pounds for apples and pears respectively. This enabled DATA to proportionally adjust the base wage for bin dimensions reported by weight to meet the standard linear bin dimension. The result of normalizing base wages and wage unit dimensions drastically increases the number of employers represented in the prevailing wage finding process, aiding in ensuring a robust distribution of commodity activity wages structures.

Figure 3. 2021 prevailing wage rates

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Activity	Prevailing wage	Base wage	Wage unit	Hourly guarantee	Dimension	Bonus amount	Bonus unit
Apples, Cosmic Crisp	Harvesting	\$16.34	\$16.34	Hour	N/A	N/A	\$0.00	No bonus
Apples, Cosmic Crisp	Thinning	\$16.34	\$16.34	Hour	N/A	N/A	\$0.00	No bonus
Apples, Cripps Pink	Harvesting	\$16.34	\$16.34	Hour	N/A	N/A	\$0.00	No bonus
Apples, Cripps Pink	Thinning	\$16.34	\$16.34	Hour	N/A	N/A	\$0.00	No bonus
Cherries	Harvesting	\$0.23	\$0.23	Pound	N/A	N/A	\$0.00	No bonus
Cherries	Pruning	\$15.00	\$15.00	Hour	N/A	N/A	\$0.00	No bonus
Cherries, Darkred	Harvesting	\$0.25	\$0.25	Pound	N/A	N/A	\$0.00	No bonus
Cherries, Red	Harvesting	\$0.21	\$0.21	Pound	N/A	N/A	\$0.00	No bonus
Cherries, Skeena	Harvesting	\$0.23	\$0.23	Pound	N/A	N/A	\$0.00	No bonus
Cherries, Sweetheart	Harvesting	\$0.20	\$0.20	Pound	N/A	N/A	\$0.00	No bonus

*N/A means not applicable

Prevailing or normal and common employment practices

Regulations contained at 20 CFR Part 655, subpart B, and 20 CFR Part 653, subpart F, define the “prevailing” and “normal and common” practices for seasonal U.S. agricultural workers that USDOL may allow in job orders filed through the ARS.⁴

Prevailing practices

Family Housing

DATA analyzed the provision of family housing first by crop-variety-activity to identify if there was notable distinction. As those specific crop-variety-activities received similar responses with regard to the provision of family housing, DATA grouped crop varieties when arraying the data for family housing analysis. For those commodity-activity combinations which had sufficient reported employment to fulfill USDOL determination requirements (see *Figure 2*), DATA found no variation

⁴ For more information see *Appendix 2* of this report.

in the results. *Figure 4* illustrates the percent of estimated employment and employers reported in order to dictate a prevailing practice.

Figure 4. 2021 provision of family housing*

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Activity	Housing	Housing amount (per week)	Percent estimated employment reported	Percent estimated employers reported
Apples, Cosmic Crisp	Harvesting	Yes	0	2.97%	5.56%
Apples, Cosmic Crisp	Harvesting	No	N/A	7.66%	25.00%
Apples, Cosmic Crisp	Thinning	No	N/A	3.92%	19.44%
Apples, Cripps Pink	Harvesting	No	N/A	1.97%	7.27%
Apples, Cripps Pink	Thinning	No	N/A	0.98%	5.45%
Cherries	Harvesting	Yes	0	2.97%	1.80%
Cherries	Harvesting	No	N/A	12.89%	12.46%
Cherries	Pruning	No	N/A	13.85%	13.59%
Cherries, Dark Red	Harvesting	No	N/A	9.57%	11.01%
Cherries, Dark Red	Harvesting	Yes	0	1.96%	1.57%
Cherries, Red	Harvesting	Yes	0	3.84%	2.30%
Cherries, Red	Harvesting	No	N/A	9.12%	6.89%
Cherries, Skeena	Harvesting	Yes	0	3.24%	2.23%
Cherries, Skeena	Harvesting	No	N/A	9.49%	5.57%
Cherries, Sweetheart	Harvesting	No	N/A	14.49%	10.93%
Cherries, Sweetheart	Harvesting	Yes	0	7.09%	3.64%

*N/A means not applicable

Normal and common practices

Experience requirements

DATA first calculated experience requirements by commodity-activity to determine if there were differences across specific crop-variety-activities. As all specific crop-variety-activity combinations indicated “no experience requirements,” DATA grouped crop varieties when arraying the data for experience requirement analysis. It was found that there was no variation in experience requirements, and that the majority of employers included in the analysis indicated “no months required,” or skipped the question. *Figure 5* details the percent of estimated employment and employers reported in order to determine a finding by months of experience required to be employed.

Figure 5. 2021 experience requirements

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Activity	Experience (months)	Percent estimated employment reported	Percent estimated employers reported
Apples, Cosmic Crisp	Harvesting	0	28.13%	29.55%
Apples, Cosmic Crisp	Thinning	0	24.71%	20.00%
Apples, Cripps Pink	Harvesting	0	7.69%	8.22%
Apples, Cripps Pink	Thinning	0	8.39%	8.62%
Cherries	Harvesting	0	13.09%	12.23%
Cherries	Harvesting	12	0.97%	0.93%
Cherries	Pruning	0	12.28%	11.32%
Cherries	Pruning	12	0.80%	0.94%
Cherries, Dark Red	Harvesting	0	10.84%	10.30%
Cherries, Dark Red	Harvesting	1	0.61%	0.44%
Cherries, Dark Red	Harvesting	12	1.31%	1.22%
Cherries, Red	Harvesting	0	9.62%	7.72%
Cherries, Skeena	Harvesting	0	8.37%	6.73%
Cherries, Sweetheart	Harvesting	0	16.27%	12.78%

Minimum productivity standards

For all commodity-activities with sufficient reported employment to fulfill USDOL determination requirements, the majority of employers either skipped the question or responded as a minimum productivity standard was not applicable. *Figure 6* shows the percent of estimated employment and employers reported for given minimum productivity standards.

Figure 6. 2021 minimum productivity standards*

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Activity	Productivity standard	Productivity unit	Productivity frequency	Percent estimated employment reported	Percent estimated employers reported
Apples, Cosmic Crisp	Harvesting	N/A	N/A	N/A	38.90%	23.29%
Apples, Cosmic Crisp	Thinning	N/A	N/A	N/A	45.23%	33.34%
Apples, Cripps Pink	Harvesting	N/A	N/A	N/A	15.40%	8.22%
Apples, Cripps Pink	Thinning	N/A	N/A	N/A	16.78%	9.09%
Cherries	Harvesting	Don't know	Don't know		1.19%	0.73%
Cherries	Harvesting	N/A	N/A	N/A	12.08%	10.74%
Cherries	Pruning	N/A	N/A	N/A	14.27%	13.33%
Cherries, Dark Red	Harvesting	Don't know	Don't know		0.91%	0.82%
Cherries, Dark Red	Harvesting	N/A	N/A	N/A	11.82%	9.23%
Cherries, Dark Red	Harvesting	4	Buckets	Per hour	0.50%	0.37%
Cherries, Red	Harvesting	N/A	N/A	N/A	13.66%	7.84%
Cherries, Skeena	Harvesting	N/A	N/A	N/A	12.84%	7.07%
Cherries, Sweetheart	Harvesting	N/A	N/A	N/A	19.04%	12.09%

*N/A means not applicable

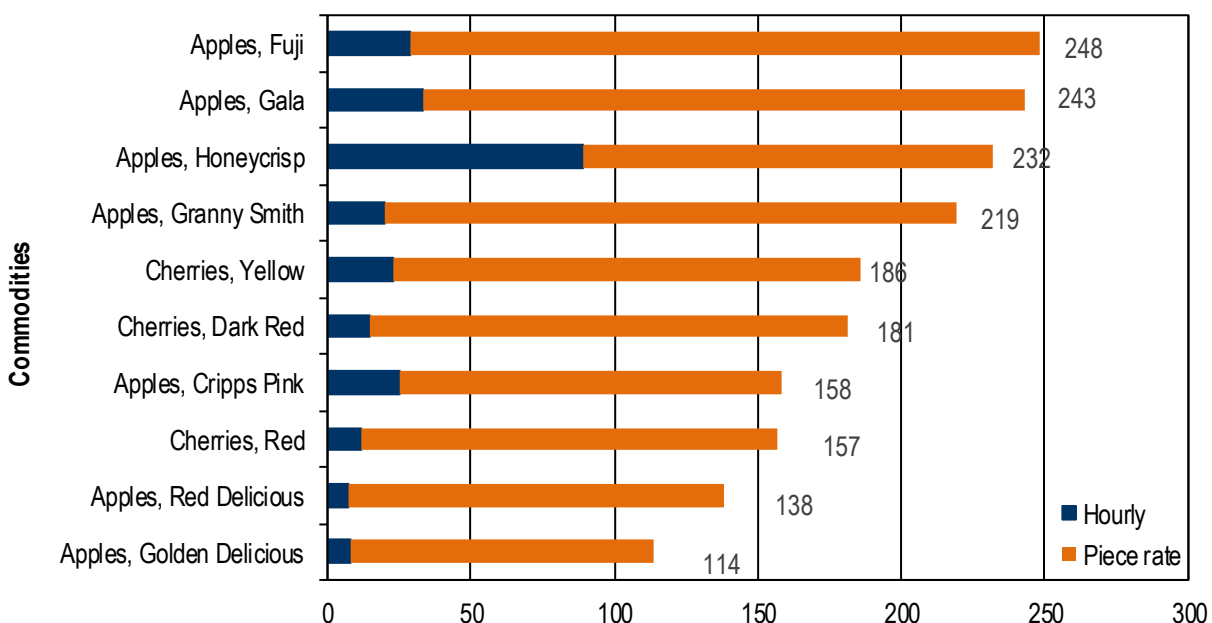
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Consistent with USDOL guidance, DATA submits ETA 232 forms based solely on employer responses. Due to COVID, the 2021 worker survey field (“paper”) administration was not conducted. The survey was instead conducted via telephone interview, receiving 704 responses. Breakdown of agricultural commodities by crop variety and reported wage unit, can be found in *Figure 7*.

Figure 7. 2021 worker survey responses by commodity and wage unit

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey



Apple and cherry wage rate comparison by wage structure

In order to draw a comparison between worker and employer wage structure responses, DATA employed the Kruskal-Wallis rank sum test (a non-parametric ANOVA on ranks).⁵ This test does not require the assumption that the distributions follow a normal curve, nor does it assume equal variance among groups (e.g., employer and worker survey responses). Under the assumption that distribution types are similar between groups, the Kruskal-Wallis test compares the medians of the groups while it compares mean ranks when distribution shapes differ between them: if the samples share a distribution with the same shape, then the Kruskal-Wallis test can be considered to compare the medians; however, if the samples come from different distributions (e.g., one is left skewed, one is right skewed or one has a much larger variance than the other), then the Kruskal-Wallis test compares relative position of the mean in which a rejection of the null hypothesis indicates the

⁵ For more information see: Hollander, M. & Wolfe, D. (1973), "Nonparametric Statistical Methods". New York: John Wiley & Sons. Pages 115–120

central tendency of the sample differ between groups. For apple and cherry harvest, a standard significance level of 0.01 was chosen to assess the results of the Kruskal-Wallis test.

As *Figure 8* details, 15 out of 20 wage rate tests found a statistically significant difference between the employer and worker wage rate distribution shapes (“Reject null”). In contrast, only five wage rate tests found no statistically significant difference between employer and worker wage rate distribution shapes (“Fail to reject null”)⁶.

Figure 8. Comparison of 2021 employer and worker harvesting wage rates and wage structures

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity wage structure	P Value	Results	Employer median	Worker median
Apples, Ambrosia, per lug-bin	0.000008	Reject null	\$28.00	\$32.50
Apples, Cosmic Crisp, per hour	0.000000	Reject null	\$16.34	\$16.00
Apples, Cosmic Crisp, per lug-bin	0.465179	Fail To reject null	\$33.00	\$30.00
Apples, Cripps Pink, per hour	0.000001	Reject null	\$16.34	\$16.22
Apples, Cripps Pink, per lug-bin	0.000029	Reject null	\$32.00	\$30.00
Apples, Fuji, per hour	0.445041	Fail To reject null	\$16.34	\$16.34
Apples, Fuji, per lug-bin	0.106315	Fail To reject null	\$28.50	\$30.00
Apples, Gala, per hour	0.069305	Fail To reject null	\$16.34	\$16.33
Apples, Gala, per lug-bin	0.000505	Reject null	\$28.00	\$28.00
Apples, Golden Delicious, per lug-bin	0.000014	Reject null	\$28.00	\$26.00
Apples, Granny Smith, per hour	0.000000	Reject null	\$16.34	\$16.63
Apples, Granny Smith, per lug-bin	0.000078	Reject null	\$28.00	\$28.00
Apples, Honeycrisp, per hour	0.000070	Reject null	\$16.34	\$16.31
Apples, Honeycrisp, per lug-bin	0.009297	Reject null	\$35.00	\$35.00
Apples, Red Delicious, per lug-bin	0.000000	Reject null	\$25.00	\$22.00
Apples, Sugarbee, per lug-bin	0.077925	Fail To reject null	\$40.00	\$35.00
Cherries, Red, per hour	0.000000	Reject null	\$16.34	\$13.50
Cherries, Red, per lug-bin	0.000000	Reject null	\$4.00	\$4.50
Cherries, Yellow, per hour	0.000000	Reject null	\$16.34	\$15.00
Cherries, Yellow, per lug-bin	0.000000	Reject null	\$5.50	\$6.50

Apple and cherry employment practices comparison

For employment practices, DATA calculated the percent of workers reporting a provision of family housing, experience requirements and minimum productivity standards. DATA held this percent to the same standards as the employer responses and determined if it fit either the double-majority rule or the 33 percent indicative of a normal and common practice. *Figure 9*, *Figure 10* and *Figure 11* detail the percent of employers reporting and workers reporting to have indicated employment practices.

⁶ More precisely, 15 of the 20 wage rate tests reject the null hypotheses, meaning that at the .01 significance level there is sufficient evidence to reject the claim that the wage rate response distribution shapes are similar between employers and workers. In contrast, five wage rate tests provide insufficient evidence to reject the claim that the wage rate response distribution shapes are similar between employers and workers.

Figure 9. Comparison of 2021 employer and worker family housing responses*

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Housing	Housing cost (per week)	Percent workers reporting	Percent employers reporting
Apples	No	N/A	94.12%	81.56%
Apples	Yes	\$0	2.94%	14.89%
Cherries	No	N/A	94.83%	86.76%
Cherries	Yes	\$0	3.10%	12.50%

*N/A means not applicable

Figure 10. Comparison of 2021 employer and worker experience requirement responses

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Experience (months)	Percent workers reporting	Percent employers reporting
Apples	0	85.91%	83.50%
Apples	12	0.92%	5.83%
Cherries	0	86.67%	86.79%
Cherries	12	1.33%	6.60%

Figure 11. Comparison of 2021 employer and worker productivity responses*

Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practices Employer Survey

Commodity	Productivity	Standard	Productivity unit	Productivity frequency	Percent workers reporting	Percent employers reporting
Apples	N/A	N/A	N/A	N/A	67.33%	78.72%
Apples	Yes	4	Bin	Per day	9.11%	3.55%
Apples	Yes	3	Bin	Per day	4.55%	3.55%
Cherries	N/A	N/A	N/A	N/A	80.13%	75.73%

*N/A means not applicable

Appendices

Appendix 1: Prevailing wage rate finding process

Prevailing wage finding process

ETA Handbook 385 provides guidelines for determining the prevailing wage in each agricultural activity or occupation. According to federal guidelines and found in *Appendix figure A1-1*, the suggested sample size in terms of the percentage of total domestic employment decreases as the level of total domestic employment in each activity increases.

Appendix figure A1-1. U.S. Department of Labor prevailing wage rate threshold requirements
Washington state, 2022

Source: U.S. Department of Labor, Employment and Training Administration, Handbook No. 385: p. I-114

Level of estimated employment in commodity activity area	Percent needed to make a determination
100 – 349	100%
350 – 499	60%
500 – 799	50%
800 – 999	40%
1,000 – 1,249	35%
1,250 – 1,599	30%
1,600 – 2,099	25%
2,100 – 2,999	20%
3,000 or more	15%

After collecting wage information for agricultural commodities and activities, DATA calculates the prevailing wage rate according to one of two rules. The first is the 40 percent rule, which states that if there is one pay rate paid to 40 percent or more of domestic seasonal employment for a given commodity activity, then that rate becomes the prevailing wage. If two separate wage rates are paid to 40 percent of domestic seasonal employment for a given commodity activity, then both are considered prevailing.

The second is the 51 percent rule. This rule requires arraying wage rates in descending order and counting the cumulative level of domestic seasonal employment, until 51 percent of domestic seasonal employment is covered. If there is not a single unit of payment (e.g., hour, bin) SESAs are to determine which payment unit is applicable to the largest level of employment and then determine the prevailing wage rate according to either the 40 percent rule or the 51 percent rule.

As required by USDOL, DATA identified the prevailing wage rates based on responses to the 2021 employer survey according to federal guidelines contained in ETA Handbook 385. Because a raking algorithm was used to estimate the level of total domestic seasonal employment, the total estimated level of domestic seasonal employment was used to identify and establish the prevailing wage rates.

Appendix 2: Estimating prevailing or normal and common practices

Per ETA Handbook 398, SESAs are required to determine the conditions of employment for U.S. seasonal workers in each agricultural activity surveyed. This portion of the survey is to ensure employers who hire foreign workers, “conform the job offer to conditions and standards which are ‘prevailing,’ ‘normal,’ or ‘common’ practices or standards of other employers who hire U.S. workers in the same area and in the same occupation” (ETA Handbook 398, p. II-5).

The concept of a “prevailing practice” has a specific quantitative threshold. If at least 50 percent of all employers who also employ at least 50 percent of all U.S. workers in a given activity engage in a practice, then it is prevailing.⁷ This is referred to as the “double-majority” rule. The following practices are subject to the prevailing threshold:

1. The provision of family housing
2. Transportation and subsistence costs
3. Frequency of payment

However, the quantitative threshold for normal and common standards is not specified in ETA Handbook 398. Instead, normal and common are defined as:

...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 (ETA Handbook 398, p. II-7).

When setting the quantitative threshold for normal and common practices or benefits, USDOL’s Regional Administrators (RAs) use their discretion. The following practices are subject to the “normal and common” threshold:

1. Minimum productivity standards
2. Provision of tools and equipment
3. Occupational qualifications (e.g., experience requirements)
4. Positive recruitment of U.S. Nationals.

SESAs do not use the same sampling universe for every practice surveyed to make a prevailing or normal and common determination. Of the practices listed previously, SESAs are required to survey both H-2A and non-H-2A employers about the following:

1. Provision of tools and equipment
2. Provision of family housing
3. Frequency of payment

⁷ Regulatory definitions, see: 20 CFR 655.103(b) and 20 CFR 655.1300(c).

SESAs are required to survey only non-H-2A employers concerning the following practices:⁸

1. Transportation and subsistence costs
2. Positive recruitment of U.S. Nationals
3. Occupational qualifications

The employers to be surveyed and the threshold to be used are less clear for productivity standards. Additional guidance from USDOL led us to survey both H-2A and non-H-2A employers, and to apply the “normal and common” threshold, for productivity standards.

Prevailing practices

According to USDOL guidance, a practice or standard must apply to half of all employers who also hire half of all workers in our sample in order to be considered prevailing (the double-majority rule). The only practice or benefit included in the 2021 survey that is subject to the prevailing threshold is the provision of family housing. For our prevailing practice recommendations, we used the same sample size rules used to estimate prevailing wages.

Family housing

DATA, following guidance from USDOL, surveyed for all family housing offered and the cost associated on a weekly basis. ETA Handbook 398 states:

In arriving at a determination as to whether the provision of family housing is a prevailing practice, RAs and SESAs must look beyond the threshold question on the basic availability of housing which is suitable for families. They must also determine whether it is the active practice of employers to offer this housing as a benefit to migrant workers who need and request it.

Transportation and subsistence costs and frequency of payments

ESD did not include questions about transportation and subsistence costs on the 2020 or 2021 survey. ETA Handbook 398 states the following about transportation and subsistence costs:

H-2A employers must offer to advance transportation and subsistence costs (or otherwise provide them) to U.S. workers when it is the prevailing practice of non-H-2A employers in the area and occupation to do so (or when transportation is advanced for H-2A workers) (ETA Handbook 398 p. II-10).

In addition, 20 CFR 655.1305(e)5 states:

During the period of employment that is the subject of the labor certification application, the employer will... Provide transportation in compliance with all applicable Federal, State or local laws and regulations between the worker’s living quarters (i.e., housing provided by the employer under 20 CFR 655.104(d)) and the employer’s worksite without cost to the worker.

It is our understanding that the language in ETA Handbook 398 and 20 CFR 655.1305 require employers to provide advance transportation and subsistence costs.⁹ Therefore, we did not survey employers about the advancement of transportation or subsistence costs in the 2019 survey.

⁸ For more information, see: 20 CFR 655.122, § 655.150-158, and § 655.1305.

⁹ In addition, see: 20 CFR 655.122.

DATA also did not include questions related to the frequency of payment on the 2020 or 2021 survey. According to 20 CFR 655.122(m):

The employer must state in the job offer the frequency with which the worker will be paid, which may be at least twice monthly or according to the prevailing practice in the area of intended employment, whichever is more frequent.

Due to the language included in the regulation, making reference to a minimum requirement of twice a month, DATA decided to not include questions, beginning on the 2019 survey, related to the frequency of payment.

Normal and common practices

There is no quantitative threshold for normal or common practices specified in ETA Handbook 398. As a result, we followed advice received in an email communication, dated January 5, 2016, with the CNPC to arrive at our normal and common practices recommendations for minimum productivity standards and experience requirements.

According to this guidance, at least 33 percent of employers in a sample must report engaging in a practice before the practice is considered “normal and common.” However, DATA received no instruction regarding the percentage of employers who must use a specific standard (e.g., 4 bins/day, or 3 months of experience) in order to determine maximum allowable standards in H-2A job orders. As a result, DATA decided that the next step should be to determine the most common quantifiable standard reported.

Minimum productivity standards

For all commodity-activities with a sufficient sample size to report findings, DATA did not have any occurrences by commodity-activity where minimum productivity standards were normal and common, as the majority of the employers either skipped the question or answered “no.”

Experience requirements

ETA Handbook 398 states that experience requirements (occupational qualifications) are subject to the normal and common threshold.

In determining the appropriateness of occupational qualification, the regional office should consider normal, accepted practice of non-H-2A employers in the same or comparable occupations and crops as a first step (ETA Handbook 398, pp. II-13 – II 14).

Reference checks

As of April 2021, there have been no requirements or guidelines that require a normal and common practice determination for employee references. DATA was notified that USDOL previously challenged employers on the reference requirement issue and lost the case before an administrative law judge. The decision indicated that, if experience requirements are deemed “normal and common,” the USDOL must allow employers to require a reference in their job orders when they choose to do so. Although DATA collected information on reference checks for the 2015 survey iteration, given the administrative law judge decision that employers must be allowed to require references when they chose to, DATA did not include the question for the 2020 or 2021 surveys.

Provision of tools and the positive recruitment of U.S. Nationals

DATA did not include questions about the provision of tools on the 2021 survey. ETA Handbook 398 states the following about the provision of tools:

Normally, employers must provide, without charge, all tools, supplies and equipment to the workers, if they are required to perform the tasks described in the job offer ... Absent a specific, justifiable, approved request from an employer, the RA must require that employers provide necessary tools, supplies and equipment without charge to the worker (ETA Handbook 398 pp. II-9).

In addition, 20 CFR 655.122(f) states that, “The employer must provide to the worker, without charge or deposit charge, all tools, supplies and equipment required to perform the duties assigned.”

DATA also did not include questions on the 2020 or 2021 surveys related to the positive recruitment of U.S. Nationals. Since the majority of employers report bypassing the ARS for the recruitment of domestic workers, almost all job orders received in the state of Washington go through the H-2A system. We know that the recruitment of U.S. Nationals is a requirement of the H-2A system. Therefore, we did not survey employers about the positive recruitment of U.S. Nationals.

Appendix 3: Supplemental data

Appendix figure A3-1. 2021 employment estimates by commodity-activity that did not meet USDOL thresholds
Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practice Employer Survey

Commodity	Activity	Total reported employment	Total estimated employment	USDOL percent threshold	Determination threshold	Determination
Apples	Full time farm work	(D)	(D)	(D)	(D)	No
Apples	General	(D)	(D)	(D)	(D)	No
Apples	Harvesting	4,391	74,026	15%	6%	No
Apples	Mowing	(D)	(D)	(D)	(D)	No
Apples	Planting	(D)	(D)	(D)	(D)	No
Apples	Pruning	1,062	11,488	15%	9%	No
Apples	Spraying	(D)	(D)	(D)	(D)	No
Apples	Thinning	2,218	44,680	15%	5%	No
Apples	Training	(D)	(D)	(D)	(D)	No
Apples, Cosmic Crisp	Pruning	271	942	40%	29%	No
Apples, Cosmic Crisp	Training	(D)	(D)	(D)	(D)	No
Apples, Cosmic Crisp	Planting	(D)	(D)	(D)	(D)	No
Apples, Cripps Pink	Pruning	128	1,558	30%	8%	No
Apples, Fuji	Harvesting	2,473	32,814	15%	8%	No
Apples, Fuji	Pruning	357	4,756	15%	8%	No
Apples, Fuji	Thinning	1,646	21,330	15%	8%	No
Apples, Gala	Harvesting	3,016	56,452	15%	5%	No
Apples, Gala	Pruning	522	7,679	15%	7%	No
Apples, Gala	Thinning	1,959	37,496	15%	5%	No
Apples, Gala	Full time farm work	(D)	(D)	(D)	(D)	No
Apples, Golden	Harvesting	2,346	30,280	15%	8%	No
Apples, Golden	Pruning	264	4,689	15%	6%	No
Apples, Golden	Thinning	1,384	17,598	15%	8%	No
Apples, Golden	Training	(D)	(D)	(D)	(D)	No
Apples, Golden Delicious	Full Time Farm Work	(D)	(D)	(D)	(D)	No
Apples, Granny Smith	Harvesting	2,437	24,186	15%	10%	No
Apples, Granny Smith	Pruning	367	4,009	15%	9%	No
Apples, Granny Smith	Thinning	1,455	14,614	15%	10%	No
Apples, Granny Smith	Training	(D)	(D)	(D)	(D)	No
Apples, Honeycrisp	Harvesting	2,840	36,084	15%	8%	No
Apples, Honeycrisp	Pruning	525	5,042	15%	10%	No
Apples, Honeycrisp	Thinning	1,719	22,754	15%	8%	No
Apples, Honeycrisp	General	(D)	(D)	(D)	(D)	No
Apples, Honeycrisp	Mowing	(D)	(D)	(D)	(D)	No
Apples, Honeycrisp	Spraying	(D)	(D)	(D)	(D)	No
Apples, Red	Harvesting	2,338	32,015	15%	7%	No

Commodity	Activity	Total reported employment	Total estimated employment	USDOL percent threshold	Determination threshold	Determination
Apples, Red	Pruning	272	4,344	15%	6%	No
Apples, Red	Thinning	1,434	19,380	15%	7%	No
Cherries	General	(D)	(D)	(D)	(D)	No
Cherries	Slopping	(D)	(D)	(D)	(D)	No
Cherries		(D)	(D)	(D)	(D)	No
Cherries	Harvest Support	(D)	(D)	(D)	(D)	No
Cherries	Spraying	(D)	(D)	(D)	(D)	No
Cherries	Thinning	16	114	100%	14%	No
Cherries, Bing		(D)	(D)	(D)	(D)	No
Cherries, Bing	Harvesting	2,251	17,748	15%	13%	No
Cherries, Bing	Pruning	285	2,595	20%	11%	No
Cherries, Bing	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Bing	Thinning	(D)	(D)	(D)	(D)	No
Cherries, Darkred		(D)	(D)	(D)	(D)	No
Cherries, Darkred	Pruning	530	4,023	15%	13%	No
Cherries, Darkred	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Darkred	Thinning	(D)	(D)	(D)	(D)	No
Cherries, Darkred	Slopping	(D)	(D)	(D)	(D)	No
Cherries, Rainier	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Rainier	Thinning	(D)	(D)	(D)	(D)	No
Cherries, Rainier	Harvesting	1,271	12,320	15%	10%	No
Cherries, Rainier	Pruning	223	2,632	20%	8%	No
Cherries, Red		(D)	(D)	(D)	(D)	No
Cherries, Red	Harvest Support	(D)	(D)	(D)	(D)	No
Cherries, Red	Pruning	369	3,605	15%	10%	No
Cherries, Red	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Red	Slopping	(D)	(D)	(D)	(D)	No
Cherries, Skeena	Slopping	(D)	(D)	(D)	(D)	No
Cherries, Skeena	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Skeena	Harvest Support	(D)	(D)	(D)	(D)	No
Cherries, Skeena	Pruning	155	2,182	20%	7%	No
Cherries, Sweetheart		(D)	(D)	(D)	(D)	No
Cherries, Sweetheart	Pruning	95	691	50%	14%	No
Cherries, Yellow	Harvesting	1,315	11,926	15%	11%	No
Cherries, Yellow	Pruning	271	3,098	15%	9%	No
Cherries, Yellow	Spraying	(D)	(D)	(D)	(D)	No
Cherries, Yellow	Thinning	(D)	(D)	(D)	(D)	No

*(D) indicates data has been suppressed due to non-disclosure policies and regulations set at both the state and federal level.

Appendix figure A3-2. 2021 commodities that received too few responses to estimate employment
Washington state, 2022

Source: Employment Security Department/DATA, 2021 Agricultural Wage and Practice Employer Survey

Commodity			
Animals, Bees	Apples, Jonagold	Berries, Organic Berries	Cherries, Santana
Animals, Goats	Apples, Juicy	Berries, Raspberries	Cherries, Selah
Animals, Sheep	Apples, Kanzi	Berries, Raspberries Meeker	Cherries, Sonata
Apples, Ambrosia	Apples, Kingston Black	Berries, Raspberries	Cherries, Staccato
Apples, Ambrosia - Organic	Apples, Liberty	Berries, Strawberries	Cherries, Tieton
Apples, Autumn Glory	Apples, Lucy Rose	Berries, Tayberries	Cherries, Van
Apples, Braeburn	Apples, Maslin	Cherries, Adelise	Pears
Apples, Braeburn Organic	Apples, Multiple Heirloom	Cherries, Attika	Pears, Asian
Apples, Cameo	Apples, Opal	Cherries, Benton	Pears, Bartlett
Apples, Cosmic Crisp - Organic	Apples, Piñata	Cherries, Black Pearl	Pears, Bartlett-Green
Apples, Crimson Delight	Apples, Pinova	Cherries, Black Republicans	Pears, Bartlett-Red
Apples, Davenette	Apples, Plumac	Cherries, Chelan	Pears, Bosc
Apples, Enterprise	Apples, Red Delicious Organic	Cherries, Coral Champagne	Pears, Concorde
Apples, Envy	Apples, Smitten	Cherries, Cristalina	Pears, Crimson
Apples, Fuji-Early	Apples, Sugarbee	Cherries, Dark Sweet	Pears, Danjou
Apples, Fuji-Late	Apples, Sugarbee-Organic	Cherries, Early Robin	Pears, D'Anjou-Red
Apples, Fuji-Organic	Apples, Tsugaru	Cherries, Glory	Pears, Starkrimson
Apples, Gala Sport	Berries	Cherries, Index	
Apples, Gala-Organic	Berries, Blueberries	Cherries, Kiowa	
Apples, Ginger Gold	Berries, Blueberries - Organic	Cherries, Lambert	
Apples, Golden - Organic	Berries, Blueberries Draper	Cherries, Lapin	
Apples, Granny Smith - Organic	Berries, Blueberries Liberty	Cherries, Light Sweet	
Apples, Gravenstein	Berries, Blueberries Reka	Cherries, Montmorency	
Apples, Honeycrisp-Organic	Berries, Cranberries	Cherries, Red Delicious	
Apples, Jazz	Berries, Duke	Cherries, Regina	