



## **BRIEF #2:**

# **CALIFORNIA COFS SURVEY METHODS & DEMOGRAPHICS<sup>1</sup>**

**October 1, 2020**

## **Trusted Community Organizations and Researchers Successfully Reach California Farmworkers During the COVID-19 Pandemic**

### **Introduction to the COVID-19 Farmworker Study (COFS)**

During the current COVID-19 pandemic, all essential workers put themselves at risk when they show up for work in grocery stores, hospitals, packing houses, and agricultural fields. Farmworkers face additional risks because they lack critical social safety net support afforded to other members of society, despite working in one of the most dangerous industries in the country. The COVID-19 pandemic has exacerbated existing vulnerabilities farmworker communities face in their living, working, and health conditions.

California employs an estimated 800,000 farmworkers<sup>2</sup>. Most work at seasonal jobs--rarely holding full-time, year-round work-- and earn an average annual income of less than \$18,000<sup>3</sup>. An estimated 96% of California farmworkers were born in Mexico and approximately 57% are unauthorized to work in the United States<sup>4</sup>. Just 37% of California's hired crop farm workers have any form of health insurance<sup>5</sup>. Although there is a striking lack of data about

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<sup>1</sup> This is the second brief in a series reporting COFS findings. To view other briefs, visit: [www.covid19farmworkerstudy.org](http://www.covid19farmworkerstudy.org)

<sup>2</sup> Martin PL, Hooker B, Akhtar M, Stockton M. How many workers are employed in California agriculture? *Calif Agric.* 2017;71(1):30–34. doi:10.3733/ca.2016a0011.

<sup>3</sup> Martin P, Hooker B, Stockton M. Employment and earnings of California farmworkers in 2015. *Calif Agric.* 2017;72(2):107–113. <http://calag.ucanr.edu/Archive/?article=ca.2017a0043>.

<sup>4</sup> Calculations from the public use tape 2014 to 2016 California NAWS, done by Richard Mines using weight=pwtycrd.

<sup>5</sup> Carroll D California crop worker characteristics: preliminary 2015–2016 findings from the National Agricultural Workers Survey; 2017.

farmworkers who identify as indigenous and who speak indigenous languages from Mexico, there is a large population of these workers in California.

The [COVID-19 Farmworker Study](#) (COFS) is a collaboration between community organizations and researchers across California, Washington, and Oregon facilitated by the California Institute for Rural Studies. The goal of COFS is to collect critical information about how the COVID-19 pandemic is affecting farmworkers and identify disparities in risk for these essential workers. Identifying disparities in risk is important for allocating resources to prevent, identify, and treat COVID-19–related illness for already vulnerable groups of people. COFS is being conducted in two phases: Phase One is a survey on immediate impacts of COVID-19 in agricultural workers, Phase Two is a set of in-depth interviews with agricultural workers on social, economic and mental health impacts of the pandemic.

## **Brief #2 Summary: California Survey Methods & Demographics**

This brief describes the methods used to conduct the COFS survey in California, as well as the demographics of the 915 agricultural workers who were surveyed.

At the time of writing this brief, COFS has released a Preliminary Data Brief which reveals important recommendations for swift action to protect agricultural workers during the COVID-19 pandemic. This methods and demographics brief is the second released by COFS for an important reason: the methods that this survey employed to reach agricultural workers during the pandemic also warrant political and public attention. A close collaboration with frontline farmworker-serving organizations with wide networks of agricultural worker contacts allowed researchers to conduct a survey with a large group of workers who are often considered “hard-to-reach.” In spite of the challenges posed by doing research during a global pandemic, the CA COFS Survey Team was able to rapidly reach workers across the state, collecting some of the only data now available on how COVID-19 is affecting farmworkers. The way this survey was conducted offers a model for reaching agricultural workers with pandemic-related services like healthcare and financial support-- and offers insight into why state and local agencies have largely failed at reaching farmworkers during this health crisis.

As reported here, the COFS California Survey sample is not statistically representative of the agricultural worker population, since COFS employed a network-based snowball selection method in partnership with community-based organizations. However, despite this approach, the review of survey demographics in this brief reveals that the survey sample mirrors the characteristics of the agricultural worker population, with a few important deviations. This brief describes data on our survey participants including: gender, age, length of time in the United States, marital status, number of children

under 12, county of interview, country, region and state of origin, type of employer, crop and task, as well as other variables.

## Methods for California COFS Survey

### A. Survey Research Team

As COVID-19 shelter-in-place orders were being issued in the spring of 2020, a broad collective of community-based organizations and academic and non-academic researchers came together to design and launch COFS. The COFS team is large and extremely experienced, including preeminent farmworker organizers and researchers; a full list of all project partners and their roles in COFS are available on our website: [www.covid19farmworkerstudy.org](http://www.covid19farmworkerstudy.org).

Between May 19 and July 20, 2020 COFS conducted 915 surveys with a team of 51 surveyors managed by six community-based organizations with connections to farmworker communities: Alianza Ecologista, Central California Environmental Justice Network, Centro Binacional para el Desarrollo Indígena Oaxaqueña, Comité Cívico del Valle, Líderes Campesinas, and the Farmworker Care Coalition/Vista Community Clinic. The California Institute for Rural Studies and Dr. Rick Mines supported the team in collecting, cleaning and analyzing data from the survey. Meaningful collaboration between these partners was critical to connect with and give voice to agricultural workers during the pandemic and is helping to translate these findings into action at the federal, state and local levels.

<b>Table 1. Surveys by Organization</b>	<b>Number of Surveys</b>	<b>Percent</b>
Lideres Campesinas	343	37%
Centro Binacional Oaxaqueño	327	36%
Central California Env Justice Network	152	17%
Comité Cívico del Valle	40	4%
Alianza Ecologista	29	3%

Farmworker Care Coalition	22	2%
Frequency Missing = 2	913	100%

## B. Survey Instrument

The California COFS Survey instrument was developed collaboratively by members of the COFS team. Community-based organizations led the team to focus on particular issues to be studied, while seasoned survey researchers honed the questions for practicality. The survey forms went through many iterations and were piloted by the surveyors.

Core survey topics included:

- Demographic characteristics of workers
- Agricultural working conditions during COVID-19
- Worker suggestions for improving workplace safety during COVID-19
- Information on transportation to/from work during COVID-19
- Changes in worker household conditions during COVID-19
- Barriers to healthcare access during COVID-19
- Economic hardships caused by COVID-19

## C. Selection Protocol: California

The COFS selection of survey respondents was a convenience sample, not a random sample of the entire population of agricultural workers in California. By relying on six community-based, farmworker-serving organizations, we were able to utilize “snowball” sampling whereby 51 surveyors from these organizations relied on clients to engage others: fellow farmworkers, friends of fellow farmworkers, village networks, and others linked through long-time trusting relationships with members of the organizations. Surveys were conducted by telephone with individuals already in the networks of the interviewers.

While COFS did not implement a random sampling method, we were systematic in setting targeted numbers of surveys within each California agricultural region. We utilized the California Employment Development Department (EDD) Labor Market Information Division’s agricultural employment data to determine the target proportion of surveys to be conducted in each of the six agricultural regions identified by EDD. Monthly average employment data for each region during May and June in 2017, 2018, and 2019 were the basis for calculating the appropriate percent allocations for our target of 900 total surveys (see Appendix, Tables A1-2 for target calculations).

COFS also sought to survey workers from three employer types: grower/rancher, farm labor contractors, and packing houses. Upon reviewing Agricultural Employment data by type of employer (see Appendix, Table A-3), it was decided that targeting proportions of surveys by employee type was impractical in these research conditions. In addition, we intentionally included some workers on livestock, dairy, and other animal establishments.

In addition, our survey design team used National Agricultural Workers Survey (NAWS)<sup>6</sup> data from 2014 to 2016 to develop targets for gender, age, marital status, place of origin and number of years in the U.S. of our survey sample.

#### **D. Eligibility Criteria**

COFS established eligibility criteria for the survey to ensure that only agricultural workers over the age of 18, who were employed in California during the COVID-19 pandemic participated. The initial screening question asked if the participant had been employed in agriculture during the pandemic, which COFS defined as starting on March 15, 2020. If they had, they were invited to complete the survey and if not, they were thanked for their time and were not surveyed.

Agricultural workers were defined as persons who work for wages or a salary to produce an agricultural commodity intended for sale. This included all persons working on farms or ranches, whether hired directly by a producer operating one of these types of businesses, or hired indirectly through a labor market intermediary, such as a labor contractor, a crew leader or a management company. Because of the challenge of interviewing H-2A workers and because, in general, they are not recipients of the services of the interviewing agencies, these workers were excluded. (See Appendix note on H2-A workers.) Also, the survey excluded workers in the cannabis industry.

#### **E. Data Collection**

Phone surveys were conducted between May 19 and July 20, 2020. The study employed a train-the-trainer model whereby several individuals from each community-based organization were extensively trained by the study team, who then trained their staff to conduct surveys. In total, surveys were conducted by 51 individuals. Frequent meetings were held to discuss the survey process and resolve questions in order to maximize the validity of the results. During this time period, the team collected 915 fully-completed surveys, with 70 additional surveys discarded because of incomplete or inaccurate information.

Potential survey participants were identified by community organizations using their extensive local networks. Surveyors called potential participants, described the study, obtained verbal consent to participate, and either conducted the survey at that time, or scheduled another time

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<sup>6</sup> See <https://www.dol.gov/agencies/eta/national-agricultural-workers-survey/data/>

preferable to the farmworker. Surveys were conducted in Spanish, Triqui, Mixteco, Zapoteco and Otomi. Surveyors entered participant responses directly into an online survey form using Survey Monkey. Survey participants received a \$20 compensation in recognition of their time. After data collection ended and while the survey was in process, trained survey-researchers painstakingly cleaned the data correcting many inevitable errors to ensure that the survey dataset fully captured the experiences of agricultural workers during the pandemic.

A similar model of training and survey participant recruitment is underway in Oregon and Washington and will contribute to a comprehensive understanding of farmworker experiences during COVID-19 in the Pacific region.

# California COFS Survey Demographics

The COFS CA Survey attempted to gather a representative sample of the agricultural worker population. In many cases, we achieved or approximated our goals. In some demographic categories, the COFS sample is different than the overall farmworker population. The demographic data from COFS is reported here and followed by a discussion of the representivity of COFS data and a comparison with the National Agricultural Workers Survey (NAWS).

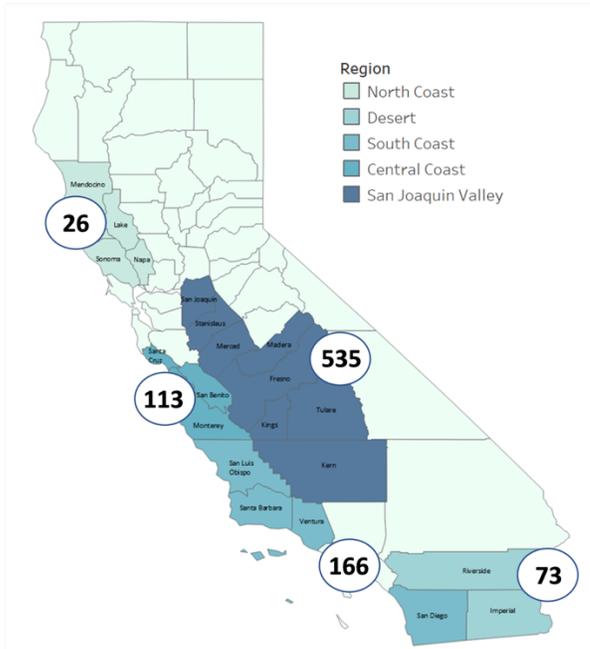
## *Agricultural Region*

Utilizing the target geographic allocation described above, surveys were conducted throughout California’s agricultural regions (see Table 2 below and appendix Table- A4 for surveys by county). Due to limited community networks in the Sacramento region, the target enrollment was not met in the Sacramento Valley. In other geographic regions, however, our sample is quite close to the distribution in EDD data used to allocate surveys. We conducted additional surveys in the San Joaquin Valley, the site of some of California’s largest agricultural counties.

<b>Table 2. COFS Surveys by EDD Agricultural Employment Region, May-July 2020</b>		
	<u>COFS Surveys</u>	
<i>EDD Agricultural Region</i>	Number	Percent
Central Coast	173	19%
Desert	73	8%
North Coast	26	3%
Sacramento Valley	0	0%
San Joaquin Valley	536	59%

South Coast	105	12%
Undetermined	2	0%
<b>California</b>	<b>915</b>	<b>100%</b>

**Map: California COFS Surveys by Agricultural Region**



Due to the large agricultural employment in the San Joaquin Valley, COFS established additional targets for the San Joaquin Valley agricultural region at the county level (Table 3 below), using Bureau of Labor Statistics Annual Average Employment data. Owing to the lack of published Monthly Employment data for three of the eight counties, the Annual Average data were used for this purpose.

**Table 3. COFS Surveys, Allocation by San Joaquin Valley County**

**Target Surveys vs. Actual Surveys**

	<u>Target Surveys</u>		<u>Actual Surveys</u>	
	Number	Percent	Number	Percent
Fresno	100	22%	144	27%
Kern	136	29%	152	28%
Kings	18	4%	17	3%
Madera	26	6%	46	9%
Merced	31	7%	32	6%
San Joaquin	35	8%	23	4%
Stanislaus	32	7%	28	5%
Tulare	84	18%	93	17%
<b>California</b>	<b>462</b>	<b>100%</b>	<b>535</b>	<b>100%</b>

### *Gender and Age*

Of the 915 surveys conducted, 465 were men (52%) and 435 were women (48%).<sup>7</sup> The median age for both men and women was 38 years.

### *Marriage (common law and legal) and Children*

In the COFS sample, 71% of survey respondents are married and 61% of respondents have children in their care who are under 12 years living in their household.

### *Indigenous Identity*

The California COFS survey did not ask interviewees to self-identify by indigenous group, which is the only sure way to assign indigenous status to individuals. However, 16% of our sample completed the survey in their native indigenous language, so we can confidently report that these surveys were conducted with indigenous Mexicans.

Of these, the majority were conducted in Mixteco (102), many were conducted in Triqui (26) and Zapoteco (21) while one was conducted by an Otomi speaker from Hidalgo. The overwhelming majority of these indigenous language interviewees came from Oaxaca or Guerrero.

Many more of the interviewees from Oaxaca and Guerrero that conducted the interview in Spanish would identify as indigenous. The organization Centro Binacional para el Desarrollo Indígena Oaxaqueño (CBDIO) works overwhelmingly with indigenous families making it highly likely that almost all of its 327 surveys (36% of the total surveys) were with indigenous workers. It is clear that indigenous farmworkers are well represented in our sample. A study completed in 2009 by California Rural Legal Services concluded that 16% of the farm labor force is indigenous. The abundance of indigenous agricultural workers in the COFS survey (who are often the most vulnerable to economic and health risks) has a hidden advantage: COFS has a big enough sample size to do meaningful analysis of COVID-19 effects on indigenous workers specifically.

### *Type of Employer*

The COFS goal was to survey about 40% of workers hired directly by farm owners (direct hires), 40% of workers hired by farm labor contractors (FLC) and a small number hired by packing houses and animal or livestock operations. COFS surveyed more workers employed by FLCs than our target. The high number of workers in our sample employed by FLCs is partially explained by the fact 68% of the workers surveyed by CBDIO (mostly indigenous workers) worked for FLC's. This is compared with 58% of overall survey respondents employed by FLCs. In general, indigenous workers who speak less Spanish (and may be more easily exploited for this reason) tend to work more for FLCs that have on average worse conditions than the direct hire employers.

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<sup>7</sup> We could not identify the gender in 15 cases.

It should be noted that farm labor employment is increasingly being put in the hands of FLCs.

Although the National Agricultural Workers Survey reports only 35% of employees work for FLCs for the 2014 to 2016 period, it is likely that the share is higher in California today. It should also be noted that this data point is difficult to assess because of the difficulty of distinguishing neatly between FLCs and direct hire employers. It is likely that many farmworkers, who deal only with the crew chief (or *mayordomo*), don't know the employer classification of their boss.

### *Migration from Abroad*

Ninety-six percent of our sample was born in Mexico or Central America. In order to get a representative sample of different groups of the foreign born, we aimed at sampling 50% of workers who had lived in the US 15 years or more, and 50% with 14 years or less in the US. About 60% of our sample has lived in the US 15 years or more while 40% have been in the US 14 years or less. COFS achieved a good representation of both groups.

The oldest migration networks come from the Northwest with the longest median stay in the US of 20 years. Central Americans are relative newcomers with the shortest median stay of 11 years. Migrants from Southern Mexico, also from relatively newer networks have a lower median stay of 17 years. These data reflect known migration patterns and confirm the validity of our data.

### *Crops*

The top five crops included in this survey are vegetables, fruit and nut trees, grapes, field fruit (strawberries) and citrus (they represent 93% of the crops mentioned). We have ample numbers of interviews from different crop environments to check the impacts of COVID-19 across these industry groups. It should be noted that the percentages here report the number of times that workers mentioned a crop and many people reported working in more than one crop. Below, one can see that of the 894 workers that mention a crop, 88% mentioned just one, but 12% mentioned more than one (see chart below).

**Table 4. Crops Worked by COFS Survey Respondents**

(n=894, crops mentioned 1,087 times by these 894 workers)

Vegetables	27%
Fruit and nut	20%
Grapes	18%
Field Fruit	17%
Citrus	10%
Nursery	2%
Field crops	2%
Dairy	1%
Livestock	1%
Gardening	1%

<b>Table 5. Number of Crops mentioned by workers, n=894</b>	
<b>Number of crops mentioned</b>	<b>Percent</b>
<b>1</b>	<b>88.3%</b>
<b>2</b>	<b>8.2%</b>
<b>3</b>	<b>3.0%</b>
<b>4</b>	<b>0.4%</b>
<b>5</b>	<b>0.1%</b>

*Tasks Performed at Work*

We have ample numbers of interviewees performing different agricultural tasks to check the impacts of COVID-19 across these groups of workers in multiple agricultural industries. Our data show harvest work is the number one task, which is consistent with the current understanding of farmworker occupational data.

**Representivity of the CA COFS Survey: Comparison with NAWS Data**

In order to better understand how well the COFS survey data reflects the overall population of farmworkers in California, we compared our data with the National Agricultural Workers Survey (NAWS) data from 2014 to 2016. which is considered the *gold standard* for California agricultural worker demographic characteristics. It is a weighted, statistical sample of California's farmworkers.

As mentioned above, the COFS survey (unlike the NAWS) is not a statistical sample. However, this comparison makes it clear that COFS demographics largely match the NAWS data on the population of farmworkers in California. Places where COFS deviates from NAWS data include: percentage of workers with children in the household, percentage of married workers, and the distribution of state of origin of workers.

The patterns of distribution by age and gender are similar in the two surveys. Both surveys show proportionally more men (and fewer women) in the older and younger groups (18 to 25 and 50 plus) and proportionally fewer men (and more women) in the middle age groups (26 to 49). Although we were unable to mimic the age distribution of the NAWS, the gender makeup within the age groups is similar to the NAWS, indicating that our selection of farmworkers represents faithfully the composition of the farmworker universe. Additionally, the median age of 38 years is identical in the two surveys (see Table 6 below).

<b>Table 6: Gender and Age Comparison, NAWS vs. COFS</b>				
	CA NAWS		COFS	
Reported Gender	N Obs	Median	N Obs	Median
man	2604	36	465	38
woman	651	39	435	38

The NAWS finds 71% of farmworkers are men. Our goal was to include 60% men in the sample. The California COFS survey included 52% men and 48% women. COFS gathered more surveys from workers in the 26 to 49 age group (middle years) and fewer among older and younger workers when compared to the NAWS. However, considerable numbers of all groups were surveyed.

In the NAWS, 62% of the sample is married, in the COFS sample, 71% is married. Among the COFS sample, 61% of interviewees have children in their care who are under 12 years living in their household. In the NAWS sample, the share is much lower, only 42% have children under 15 years living in the household. Both the percent married and the percent with children in the household indicate that our sample may have underrepresented unaccompanied workers (mostly men) whose family resides outside the US. This is not surprising since they are the most difficult to find and interview, especially by telephone in these terrifying times. They are less likely to be in the networks of the CBOs (who conducted the survey) since they are more likely to be undocumented and fearful of maintaining contacts with people outside their trusted networks.

In addition our sample shows the median for age of arrival is 20 years, while for the California NAWS sample the average is 19 years. COFS data track the NAWS data well on this point.

According to the NAWS, farmworkers are mostly comprised of people from the “traditional” migratory states of Michoacán, Jalisco and Guanajuato (from what is referred to as the Northwest). In recent decades, migrants from the states of Oaxaca and Guerrero in Southern Mexico are becoming more numerous in the farmworker population. In the COFS survey, 94% of respondents come from Mexico, 4% are US born (mostly the children of farmworkers) and only 2% are from Central America. This corresponds closely to data from the NAWS in which 96% of respondents are from Mexico.

As seen in Table 4 below, the region of southern Mexico is overrepresented in our sample (see Appendix Table A-5 for States of Origin by Region). As mentioned above, one of our survey partners, CBDIO, specializes in delivering services to the indigenous Mexican farmworker population. Most CBDIO contacts are from Oaxaca and Guerrero.

**Table 4. Comparison of Mexican State of Origin, NAWS and COFS**

State of Origin in the CA NAWS 2014-2016			State of Origin in the COFS		
State	#	%	State	#	%
Michoacán	764	26%	Oaxaca	332	37.2%
Jalisco	409	14%	Guerrero	110	12.3%
Guanajuato	392	13%	Michoacán	80	9.0%
Oaxaca	373	13%	Guanajuato	48	5.4%
Guerrero	147	5%	Jalisco	42	4.7%
<b>TOTAL</b>	<b>2085</b>	<b>70%</b>	<b>TOTAL</b>	<b>612</b>	<b>68.6%</b>

## Conclusion

COFS united community-based organizations and experienced survey researchers to gather a large data set during very difficult times. COFS data is now the only worker-reported data of its kind available in California on the effects of COVID-19 on farmworkers. Sadly, this failure to track the spread of COVID-19 in farmworker communities is another chapter in a long history of systematic exclusion and intentional neglect of these workers by government agencies.

As described in detail in the COFS Preliminary Data Brief, the COVID-19 Farmworker Study (COFS) provides strong evidence that the current pandemic amplifies existing inequities that have long been endured by California farmworkers. Farmworkers and organizations that work with them have many productive suggestions for improving the safety of workplaces and communities. Preliminary findings from data collected through surveys of farmworkers during the pandemic reveal the following:

1. Farmworkers experience dramatic loss of work and income during the COVID-19 pandemic.
2. Farmworkers lack healthcare access and experience fear using medical services.
3. Farmworkers are vigilant about COVID-19 prevention practices outside of the workplace.
4. Farmworkers report low numbers of employers provide masks and face coverings.
5. Farmworkers have valuable suggestions to improve workplace COVID-19 prevention efforts.
6. Farmworkers are systematically excluded from important safety-net programs, which heightens their vulnerabilities and those of their family members.

Just as the findings of COFS demand action to address long-standing inequities in farmworker communities, the methods used to gather COFS data illustrate the critical need for partnerships between government agencies at all levels and community-based organizations who serve farmworkers. For these organizations, farmworkers are not “hard-to-reach” populations-- they are neighbors, relatives and friends. The outreach workers speak the languages of the farmworkers, know their neighborhoods, and are familiar with the challenges they face. If state and local COVID-19 supports are truly going to reach farmworker communities, programs must be designed and conducted in deep, respectful collaborations with these groups.

## **Next Steps for COFS**

Topic-specific data briefs will be released throughout August, September, and October and will be focused on workplace conditions, transportation to/from work, housing conditions, access to medical care, and other basic needs. Farmworker surveys in Washington and Oregon are being conducted and will enhance our understanding of the experience of farmworkers in the west during the COVID-19 pandemic. A second phase of the study is underway and will further explore the social and economic effects of COVID-19 on farmworkers, their families, and communities.

**Contact:** Ildi Carlisle-Cummins ([icarlisle-cummins@circinc.org](mailto:icarlisle-cummins@circinc.org))

**Website:** <http://covid19farmworkerstudy.org/>

## **About the COVID-19 Farmworker Study (COFS)**

COFS is an extremely collaborative research project with participation from a wide group of community-based organizations, researchers and policy advocates. A full list of project partners and supporters is available at [www.covid19farmworkerstudy.org](http://www.covid19farmworkerstudy.org). The study has been generously supported by the UC Davis Western Center for Agricultural Health and Safety, The California Endowment, The California Wellness Foundation, The 11th Hour Project of the Schmidt Family Foundation, and the San Joaquin Valley Health Fund and The Center at Sierra Health Foundation.

## Appendix

### COFS Sample Design: Based on Hired Farm Worker Labor Demand

The COFS is not a random sample of the population of Agricultural Workers. At the same time, it is possible to ensure that all workers employed in each of California’s Agricultural Employment Regions are represented proportionate to their regional share of labor demand. Not only can each region be represented in this way, there is also the ability to take account of seasonal variation of labor demand as well as by the type of agricultural business.

The Agricultural Employment report<sup>[1]</sup> prepared by the California Employment Development Department’s Labor Market Information Division provides monthly estimates of employment by month and by NAICS codes for both the state and for each of the six defined Agricultural Employment regions.

The main goal of constructing a sample is to ensure that every worker have a chance to participate in the survey. Constructing a sample protocol that seeks to represent participants in proportion to regional labor demand is a logical first step.

**Table A-1**  
**3-year Average Monthly Employment During May-June 2017-2019**  
**California, by Agricultural Employment Region and Employer Category**  
*Source: Agricultural Employment, California EDD/LMID*

<i>Region</i>	<i>Crop production</i>	<i>Animal production</i>	<i>Contract Labor</i>	<i>Fresh Processing Labor</i>	<i>All AFF</i>	<b>% CA</b>
Central Coast	39,800	767	30,367	17,183	88,117	<b>18.9%</b>
Desert	12,283	2,000	9,250	5,483	29,016	<b>6.2%</b>
North Coast	7,767	1,467	7,533	300	17,300	<b>3.7%</b>
Sacramento Valley	15,900	1,950	9,983	2,417	30,250	<b>6.5%</b>
San Joaquin Valley	64,067	21,267	120,833	29,117	235,517	<b>50.5%</b>

South Coast	48,017	1,533	10,361	6,383	66,394	<b>14.2%</b>
		28,9				
California	187,834	84	188,328	60,883	466,595	<b>100%</b>

*Trapping, which have very small employment.*

Table A-1 presents the distribution of average monthly California Agricultural Employment for May-June during 2017-2019. It is important to understand the Agriculture Sector, by definition under terms of the North American Industrial Classification System agreement, comprises crop and livestock production and support services for crop and livestock production, as well as Forestry and Logging, Fishing, Hunting and Trapping (commonly abbreviated AFF). Accordingly, Table A-1 includes employment within all of these sectors in the column denoted: “All AFF.”

The San Joaquin Valley has the largest share of AFF employment: 50.5%. If 915 interviews were completed in the COFS survey, then 462 would be the target number of surveys for that region. The North Coast, mostly wine grape production, has just 3.7% mostly because May-June is well before the usual harvest season.

Owing to the large geographic size of the San Joaquin Valley and the correspondingly large number of target surveys for that region, it was agreed that a similar method be developed to allocate survey, similarly proportional to labor demand, in each of the eight counties of the San Joaquin Valley.

**Table A-2**  
**3-year Annual Average of Monthly Employment, 2016-2018**  
**San Joaquin Valley by County and Employer Category**  
*Source: Bureau of Labor Statistics, QCEW Searchable Databases<sup>21</sup>*

<i>County</i>	<i>Crop production</i>	<i>Animal production</i>	<i>Services for production</i>	<i>All AFF</i>	<b>Percent CA</b>
Fresno	13,263	2,154	30,163	45,580	<b>21.7%</b>
Kern	18,444	1,587	41,884	61,915	<b>29.4%</b>
Kings	1,804	1,784	3,736	7,324	<b>3.5%</b>

Madera	2,060	1,367	8,575	12,002	<b>5.7%</b>
Merced	5,312	3,211	5,395	13,918	<b>6.6%</b>
San Joaquin	6,840	1,424	7,822	16,086	<b>7.6%</b>
Stanislaus	4,714	3,076	6,702	14,492	<b>6.9%</b>
Tulare	7,212	5,930	25,345	38,487	<b>18.3%</b>
<i>California</i>	59,649	20,533	129,622	209,804	<b>99.7%</b>

*Note: All AFF includes employment in the categories shown as well as for Forestry, Fishing, Hunting and Trapping, which have very small employment.*

The Bureau of Labor Statistics, Quarterly Census of Employment & Wages (QCEW) does not provide monthly Agricultural Industry employment data for Kings, Madera, Merced and Tulare counties owing to confidentiality requirements. This restriction precluded the possibility of computing three-year, monthly employment averages for May-June. However, Bureau of Labor Statistics searchable QCEW files allowed construction of the data presented in Table 2, and the corresponding distribution of the 3-year annual average employment among the eight counties of the San Joaquin Valley.

The largest share of target surveys was 29.4% for Kings County, a county noted for its extremely large acreage of citrus, grapes, other tree fruit, tree nuts and diverse vegetable production. The smallest share of target surveys was 3.5% for Kings County where dairy farms and field crops predominate.

#### Allocation of California-wide target surveys by Type of Employer

It is possible to devise a labor-demand-based allocation of target surveys in proportion to the share of employment by the type of employer. The basic data is already summarized in the California totals in Table A-1.

**Table A-3**  
**3-year Average Monthly Employment During May-June 2017-2019**  
**California, by Employer Category**

*Source: Agricultural Employment, California EDD/LMID*

	<i>Crop &amp; Animal production</i>	<i>Contract Labor</i>	<i>Fresh Processing Labor</i>	<i>All AFF</i>
<i>California</i>	216,818	188,328	60,883	466,595
<b>Percent CA</b>	<b>46.5%</b>	<b>40.4%</b>	<b>13.0%</b>	<b>99.9%</b>

According to the calculations presented in Table A-3, 40% of the statewide COFS interviews are anticipated to be of participants who were employed by businesses that provide on-farm contract services. Similarly, 13% are expected to be with persons employed by fruit or vegetable packer-shippers.

The proportion of hire employees of labor contractors varies considerably among Agricultural Employment regions, and with months of each year. Nevertheless, these statewide estimates may serve as a reference comprising the actual proportions during the May-June period.

Non-immigrant, temporary foreign workers in U.S. agriculture (H-2A)

Both the Agricultural Employment report from California EDD and the Quarterly Census of Employment and Wages include H-2A visa-holders in employer reports of all persons on their payroll. The latest Disclosure report of H-2A certified agreements by employers seeking workers, for the FY2020 period through June 30, 2020, indicates 19,716 workers had been contracted for employment during at least a portion of the duration of the pandemic in California.<sup>[3]</sup>

Of particular note is that about half, 9,432 individuals, were contracted for work in the Central Coast Agricultural Employment Region and about one-fifth for jobs in the South Coast Agricultural Employment Region. Relatively few, just 8%, were contracted for jobs in the San Joaquin Valley Agricultural Employment Region.

Most H-2A workers, 14,505 in all, were contracted by farm labor contractors. Of the 6,074 workers contracted for work in Monterey County during the pandemic, 5,516 were hired by farm labor contractors.

This large concentration of H-2A workers in Monterey County, employed by farm labor contractors, may have displaced workers who were likely disadvantaged in the local labor market when production was disrupted by the collapse of the wholesale foodservice marketplace in late March. Workers lacking authorization for U.S. employment, as well as indigenous migrants, women and older workers might have been prominent among those displaced.

**Table A-4. Surveys by California county**

<b>County</b>	<b>Frequency</b>	<b>Percent</b>	<b>County</b>	<b>Frequency</b>	<b>Percent</b>
Kern	152	19.2%	San Joaquin	23	2.9%
Fresno	145	18.3%	San Diego	19	2.4%
Monterey	133	16.8%	Santa Cruz	19	2.4%
Tulare	93	11.7%	Kings	17	2.1%
Santa Barbara	48	6.1%	San Benito	15	1.9%
Madera	46	5.8%	Napa	12	1.5%
Ventura	43	5.4%	Sonoma	10	1.3%
Imperial	41	5.2%	Lake	3	0.4%
Merced	32	4.0%	San Luis Obispo	3	0.4%

Riverside	32	4.0%	Mendocino	1	0.1%
Stanislaus	28	3.5%	Frequency Missing = 2	915 TOTAL	

**Table A-5. States of Origin by Region**

<b>North Mexico</b>	<b>South Mexico</b>	<b>México City and Central México</b>	<b>Northwest Mexico</b>	<b>Central America</b>	<b>US</b>
Baja California	Chiapas	Ciudad de Mexico	Jalisco	Guatemala	All US states
Chihuahua	Guerrero	Hidalgo	Michoacán	Honduras	
Nuevo Leon	Oaxaca	Mexico	Nayarit	Nicaragua	
Tamaulipas	Puebla	Queretaro	Zacatecas	Salvador	
Sinaloa	Veracruz	Tlaxcala	Colima		
	Yucatan	Morelos	Durango		

		Tlaxcala			
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Appendix Footnotes:

[1] <https://www.labormarketinfo.edd.ca.gov/data/ca-agriculture.html>

[2] <https://www.bls.gov/cew/data.htm>

[3] [https://www.dol.gov/sites/dolgov/files/ETA/oflc/pdfs/H-2A\\_FY2020\\_Q3.xlsx](https://www.dol.gov/sites/dolgov/files/ETA/oflc/pdfs/H-2A_FY2020_Q3.xlsx)