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# **NCAE Farm Labor Survey 2022 Summary of Preliminary Findings**

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# NCAE Farm Labor Survey 2022

## Summary of Preliminary Findings

By Zachariah Rutledge,<sup>1</sup> J. Edward Taylor,<sup>2</sup> Edward Whitney,<sup>3</sup> and Dahye Kim<sup>4</sup>

Recent studies reveal that the supply of farm workers from rural Mexico, the main source of labor for agriculture in the United States (US), is decreasing (Charlton and Taylor, 2016). Because the vast majority of hired farm workers in the US are from Mexico, a negative trend in farm labor migration from Mexico creates challenges for American farmers. For example, Rutledge and Mérel (2022) find that the declining farm labor supply could have economically significant impacts for California's specialty crop producers, with potential losses in the billions of dollars over the course of a decade.

Growing labor scarcity creates incentives for farmers to adjust their production, labor management, and technologies, as documented in a [2019 California Farm Bureau Federation \(CFBF\) – University of California, Davis \(UCD\) survey](#). The COVID-19 pandemic may have strengthened these incentives, encouraging farmers to switch to more labor-saving technologies or crops or to seek new ways of recruiting workers. The purpose of the NCAE 2022 Farm Labor Survey was to collect information about how farmers and farm labor contractors are adapting to reduced farm worker availability, how the COVID-19 pandemic has impacted farming operations (including costs), and the extent to which labor-saving technologies are helping mitigate problems stemming from labor shortages. This report describes the survey response and summarizes a number of key preliminary findings.

### Survey Sample and Response

The survey was sent to all members of the National Council of Agricultural Employers (NCAE) in the summer of 2022. The generalizability of responses to the population of US farm employers depends on (a) how representative NCAE members are of that population, and (b) whether those who chose to complete the survey are similar statistically to those who did not. A total of 145 farmers and 31 farm labor contractors responded to the survey. Forty-three respondents indicated that they were neither farmers nor farm labor contractors, or that they did not know what type of employer they were. Those respondents were disqualified from the survey, and we did not record their responses. Not all respondents answered all questions, so sample sizes vary from one question to another. The response reflects a broad survey coverage across US states and commodities.

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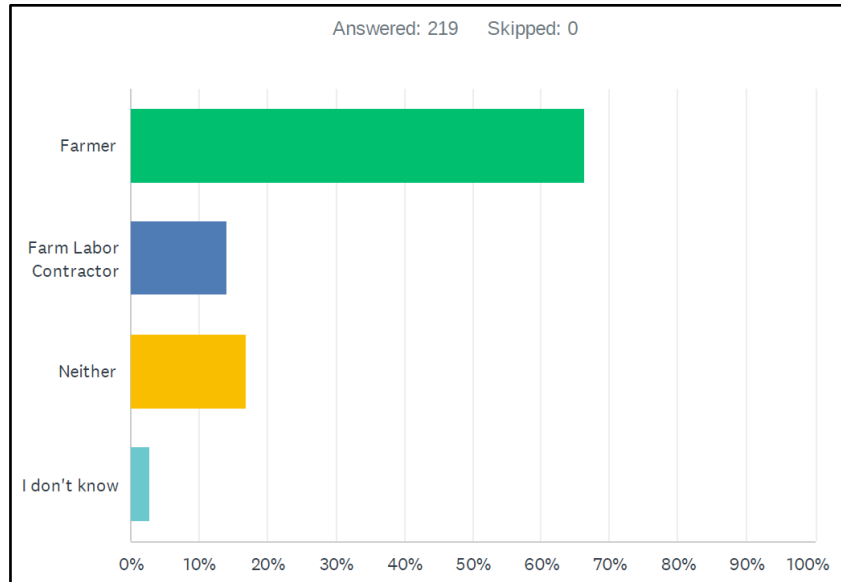
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### Type of Agricultural Employer

Two-thirds of the 219 NCAE respondents (66%) were farmers, 14% were farm labor contractors, 17% were neither, and three percent said they did not know.

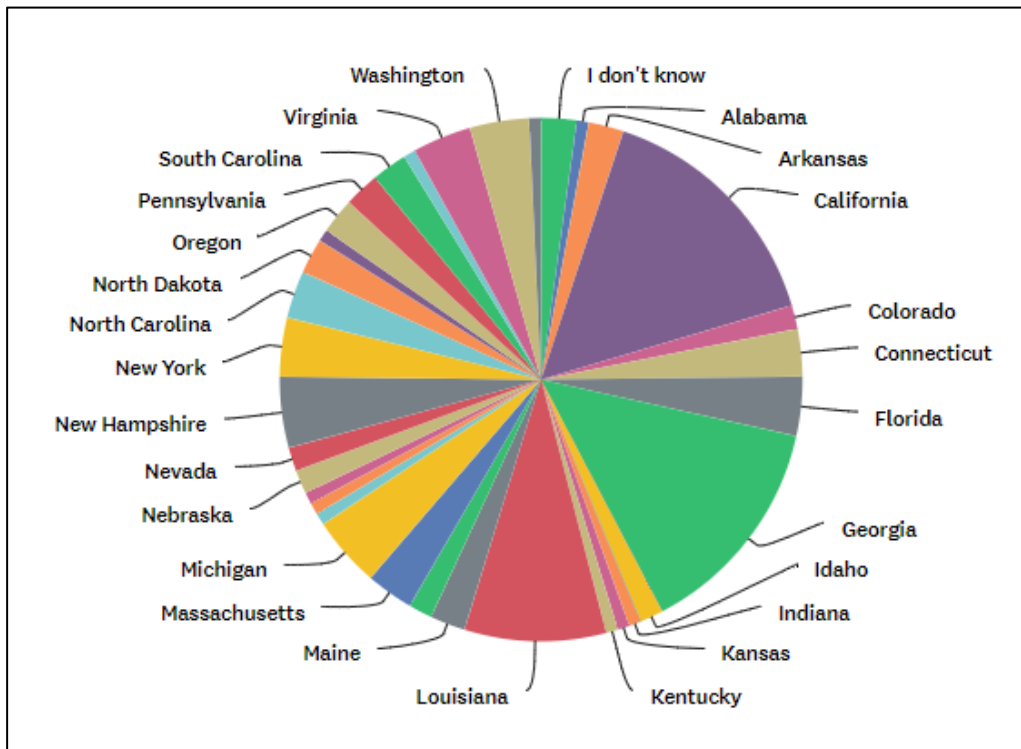


**Figure 1.** Answer to question: “What type of agricultural employer are you?” Sample size: 219

### Responses from Direct Hire Farm Employers

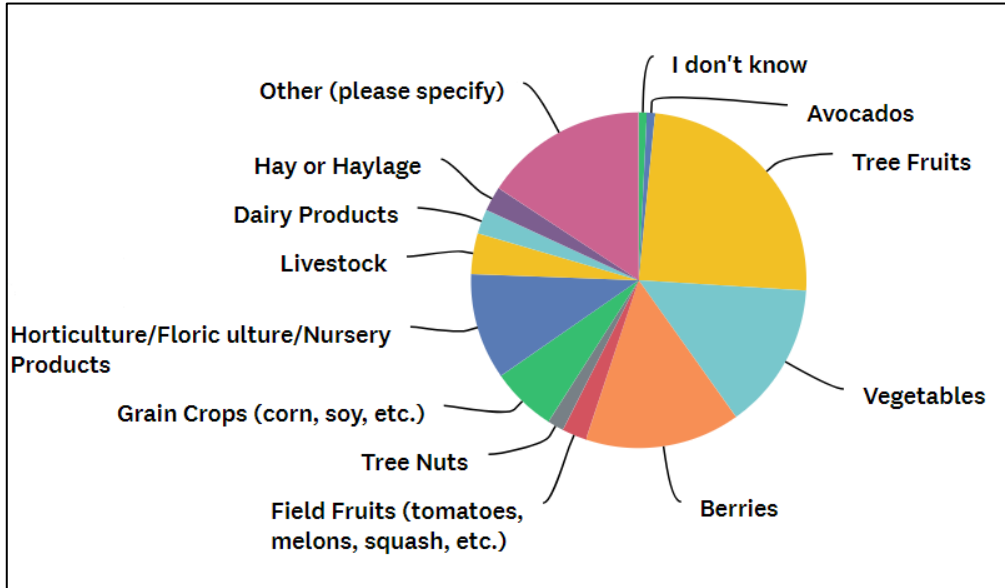
#### States and commodities generating the highest share of total sales

Our survey respondents were asked to identify the state in which they produced the highest percentage of their total sales during 2020. The top five states (in terms of the number of respondents) are California (15%), Georgia (14%), Louisiana (9%), Michigan (4%), and New Hampshire (4%), amounting to 46% of all respondents.



**Figure 2.** Answer to question: “In which state did you produce the highest percentage of your total sales during 2020?” Sample size: 137

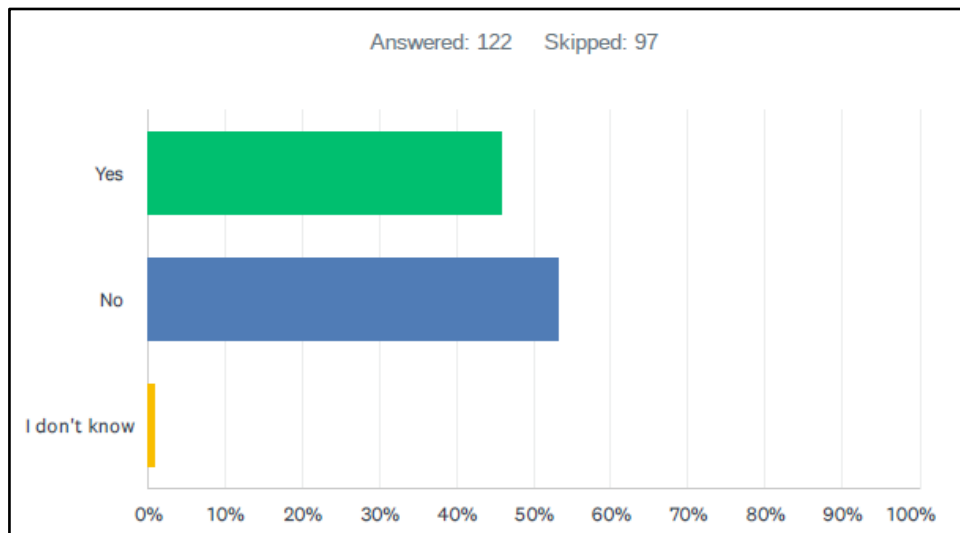
Our survey respondents were asked to identify the commodity group that represented the highest percentage of their total sales in their main production state in 2020. There were a wide variety of crops grown, but the top three crop types comprised roughly 53% of the sample. These leading categories were tree fruits (24%), berries (15%), and vegetables (14%), followed by horticulture/floriculture/nursery products (10%) and grain crops (corn, soy, etc.) (6%). Sixteen percent of the respondents did not select one of our canned answers but instead selected the “Other (please specify)” option. The most prominent “other” answers were sugar beets/sugar/sugar cane, honey, potatoes, and Christmas trees.



**Figure 3.** Answer to question: “Which commodity produced during 2020 in [your main state] generate the highest percentage of your total sales?” Sample size: 127

### Farm Labor Shortages

Nearly half of the farmers (46%) reported a labor shortage in 2020, while 53% did not, and 1% did not know.

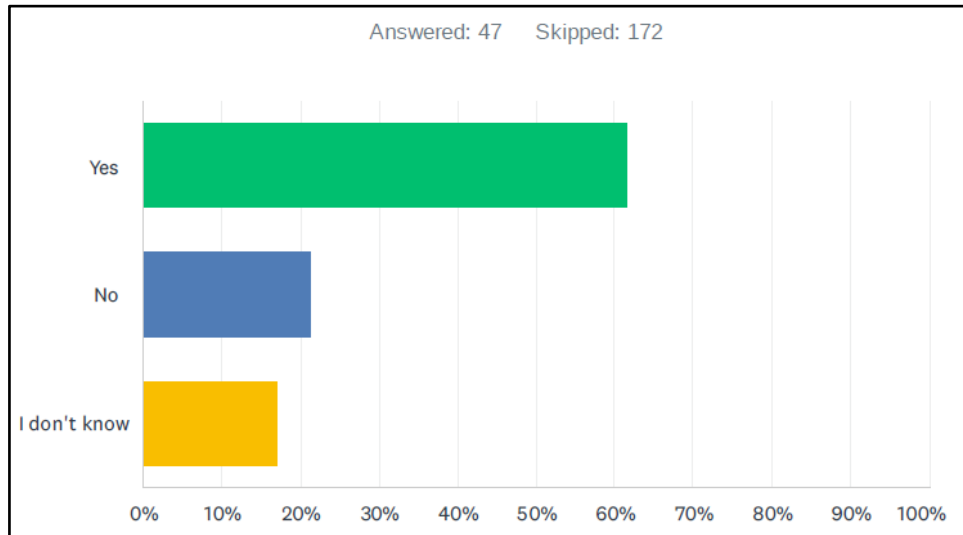


**Figure 4.** Answer to question: “During 2020, were you ever unable to hire all of the employees you wanted for the production of [your main crop] in [your main state]?” Sample size: 122

We asked farmers who responded “Yes” to the previous question “In percentage terms, approximately how many employees did you lack for the production of [your main crop] in [your main state]?” The responses ranged from 1% to 100%, and the average and median were 27% and 15%, respectively.

### Impacts of COVID-19 on Labor Shortages

Forty-seven of the 56 farmers who reported a labor shortage in 2020 responded to a question about whether COVID-19 caused them to experience additional labor shortages in 2020. Sixty-two percent responded “Yes,” 21% responded “No,” and 17% said they did not know.



**Figure 5.** Answer to question: “During 2020, did COVID-19 cause you to experience additional labor shortages in the production of [your main crop] in [your main state]?” Sample Size: 47

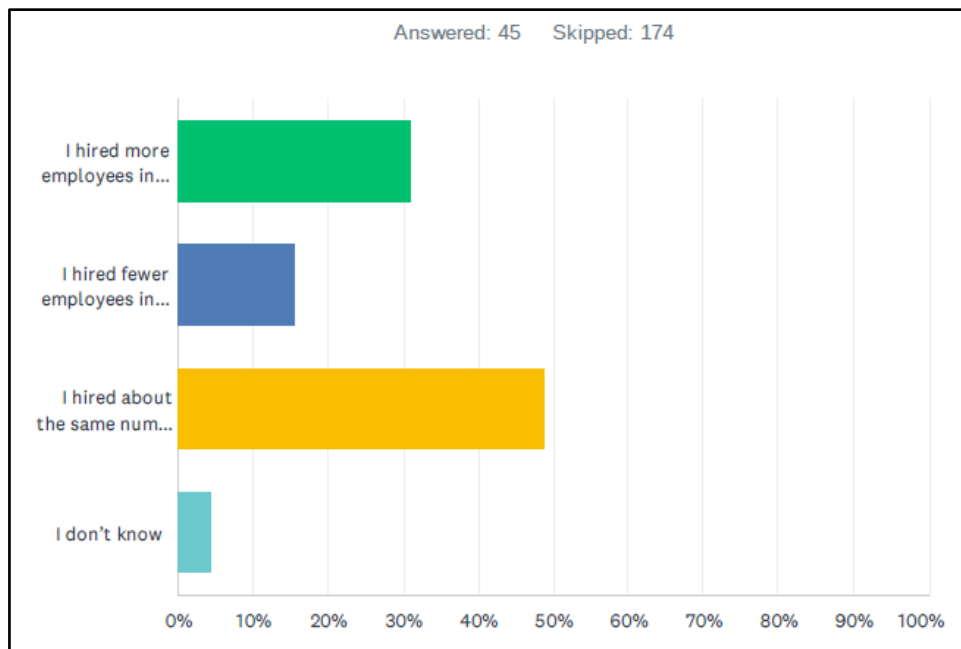
We asked those who indicated that COVID-19 had caused them to experience additional labor shortages in 2020 to explain why, by selecting from a list of ways in which COVID-19 led to additional labor shortages in 2020. Respondents could select more than one option. The most common responses were that employees had been exposed to COVID-19 or were quarantined (with 70% of farmers selecting this option), that employees were diagnosed with or suspected of being infected with COVID-19 (56%), that employees’ family members or close friends had been exposed or were quarantined (52%), or that employees did not have childcare options available to them (52%). The next most common responses were that employees were unable to work due to government-mandated shelter-in-place or quarantine orders (37%) or that employees’ family members or close friends had needed COVID-19 related care (37%). Some farmers reported other reasons not listed among the options we provided them. The most common “other” answers were related to travel restrictions.



ANSWER CHOICES	RESPONSES	
Employees were unable to work due to local or state quarantine, shelter-in-place, or shelter-at-home orders	37.04%	10
Employees were exposed to COVID-19 or were quarantined	70.37%	19
Employees were diagnosed with or suspected of infection with COVID-19	55.56%	15
Employees were in a high-risk group	25.93%	7
Employees had family member/household member/close friend in high-risk group	33.33%	9
Employees had family member/household member/close friend exposed or quarantined	51.85%	14
Employees had family member/household member/close friend in need of COVID-19 related care	37.04%	10
Employees did not have childcare options available to them	51.85%	14
I don't know	7.41%	2
Other (please specify)	22.22%	6
Total Respondents: 27		

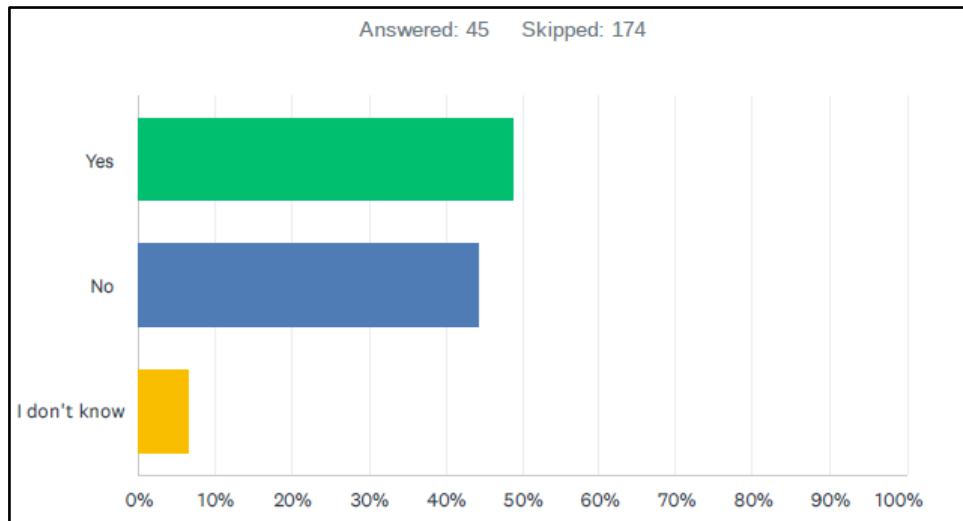
**Table 1.** Responses to the question “During 2020, which COVID-19 factors led to additional labor shortages in [your main crop] in [your main state]? (please select all that apply).” Sample size: 27

Among the farmers who indicated they had a labor shortage in 2020, we asked whether they experienced the same labor shortage problems in 2021. Thirty-one percent responded that they had hired more employees in 2021, 16% indicated that they hired fewer employees in 2021, and 49% stated that they hired about the same number of employees in 2020 and 2021.



**Figure 6.** Response to the question “Did you experience the same labor shortage problems in 2021 for the production of [your main crop] in [your main state]?” Sample size: 45

We also asked farmers who experienced a labor shortage in 2020 whether they also had a labor shortage in 2019. Forty-nine percent responded “Yes” while 44% said “No.” Seven percent reported that they did not know.



**Figure 7.** Response to question “A year earlier, during 2019, did you have too few [your main crop] employees in [your main state]?” Sample size: 45

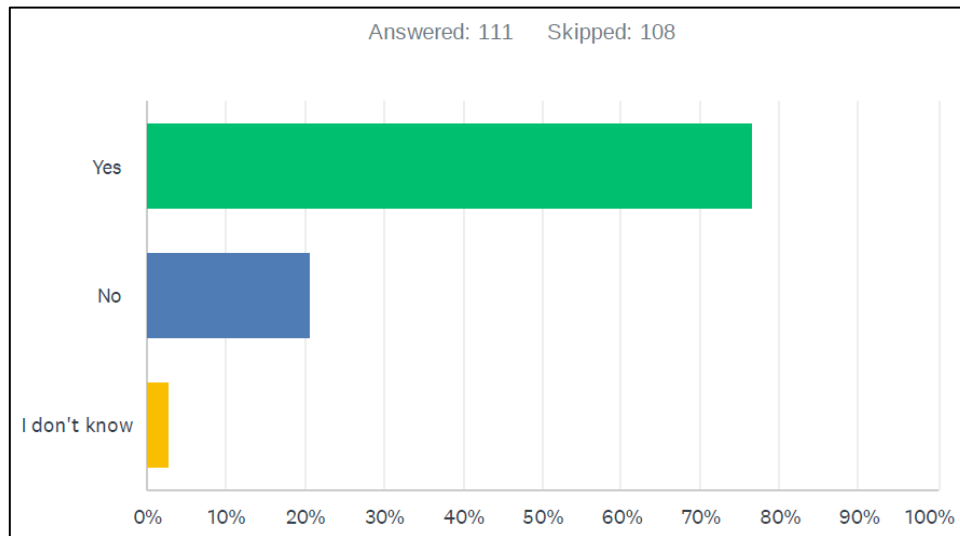
For the farmers who experienced a labor shortage in 2019 and 2020, we asked which year the labor shortage was worse. Forty-eight percent responded that they had worse labor shortages in 2020, while 4% said the labor shortage was worse in 2019. Forty-eight percent said that the labor shortage was about the same in both years.

ANSWER CHOICES	RESPONSES	
I had a harder time finding employees in 2020 than I did in 2019	47.83%	11
I had a harder time finding employees in 2019 than I did in 2020	4.35%	1
I had about the same amount of difficulty finding employees in 2019 and 2020	47.83%	11
I don't know	0.00%	0
TOTAL		23

**Table 2.** Response to the question “Was your [your main crop] labor shortage in [your main state] worse in 2019 or 2020?” Sample size: 23

### COVID-19 Costs

We asked all the farmers whether they incurred additional costs related to the implementation of social distancing or other COVID-19 prevention measures. Seventy-seven percent indicated that they had incurred additional COVID-related costs while 21% reported that they had not, and 3% said they did not know.



**Figure 8.** Response to question “During 2020, did you incur any additional costs related to the implementation of social distancing or other COVID-19 prevention measures?” Sample size: 111

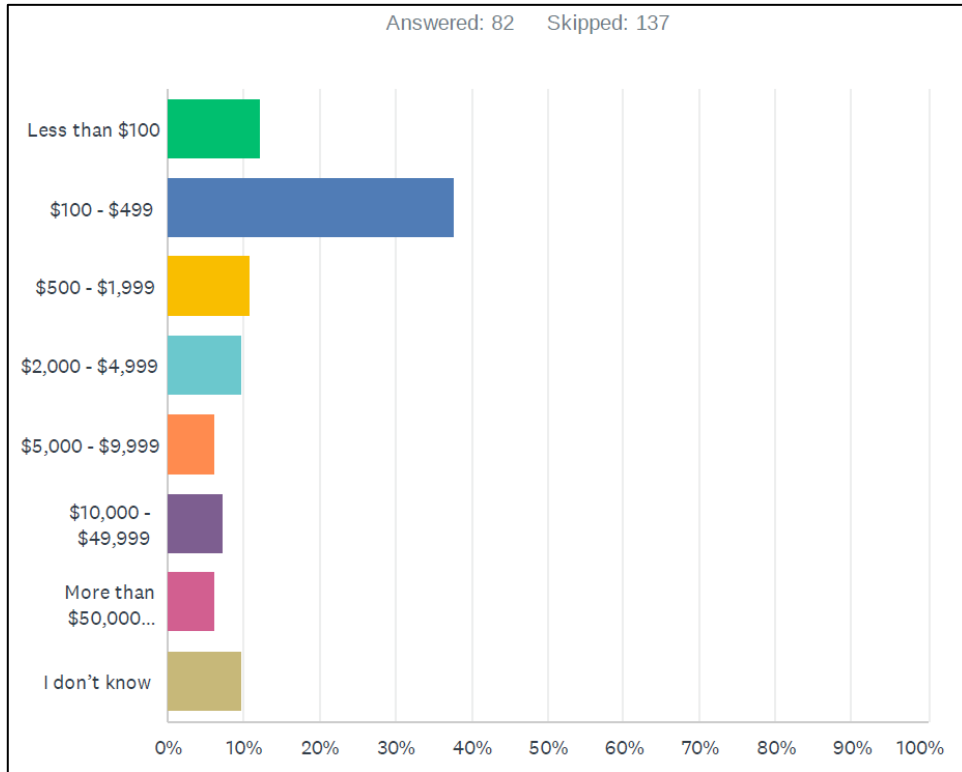
The 85 farmers who indicated that they had incurred additional costs related to COVID-19 prevention measures were asked what types of costs they incurred. Respondents could select more than one option. The leading responses were for additional cleaning/sanitization activities (93%), followed by protective equipment for employees (89%), additional sanitation facilities/equipment (82%), workplace accommodations for social distancing (65%), and employee screening measures (61%). Other responses included paying additional sick leave and education regarding the pandemic.

ANSWER CHOICES	RESPONSES	
Personal protective equipment for employees	89.02%	73
Additional cleaning/sanitization activities	92.68%	76
Additional sanitation facilities/equipment	81.71%	67
Employee screening measures	60.98%	50
Additional transportation for employees	42.68%	35
Additional housing to accommodate H-2A employees	40.24%	33
Workplace accommodations for social distancing	64.63%	53
I don't know	0.00%	0
Other (please specify)	8.54%	7
Total Respondents: 82		

**Table 3.** Responses to the question “During 2020, which of the following caused you to incur these additional costs? (please select all that apply).” Sample size: 82

The 111 farmers who indicated that they had incurred additional costs related to COVID-19 prevention measures were asked how much they spent per employee. The most common response was between \$100 and \$499 (38%), followed by less than \$100 (12%), and \$500 to

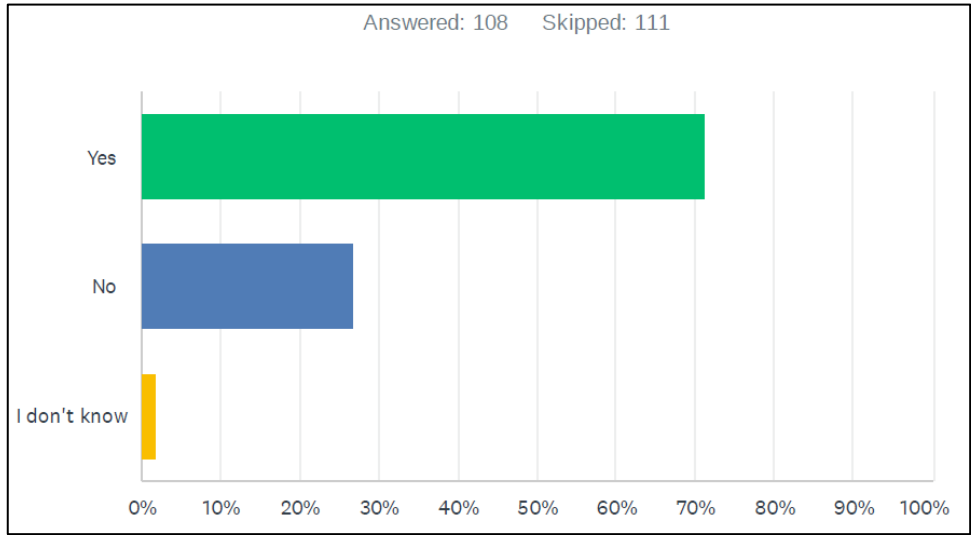
\$1,999 (11%). About ten percent of farmers indicated that they spent between \$2,000 and \$4,999 while 20% indicated that they spent at least \$5,000, and 10% did not know. Six percent of the farmers indicated that they spent over \$50,000 per employee.



**Figure 9.** Response to question “During 2020, approximately how much additional expenses did you incur per employee on efforts related to social distancing or COVID-19 prevention measures? (please select one option).” Sample size: 82

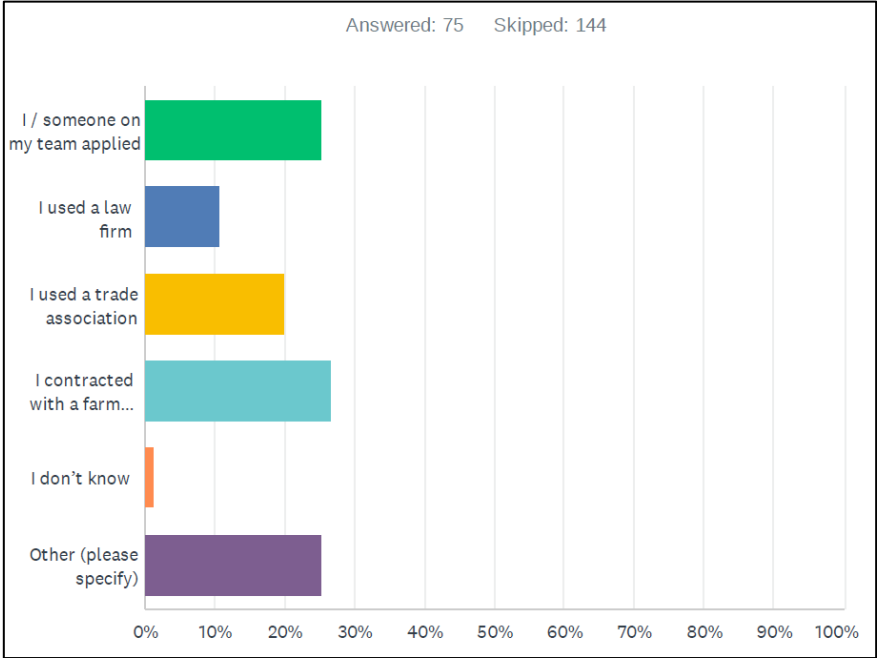
### H-2A Visa Use

A large share (71%) of our survey respondents reported using the H-2A visa program to bring in employees to produce their main crop in their main state. Twenty-seven percent reported that they did not use the program, and 2% did not know.



**Figure 10.** Response to question “During 2020, did you enroll in the H-2A visa program to bring in employees to produce your [your main crop] in [your main state]? (please select one option).” Sample size: 108

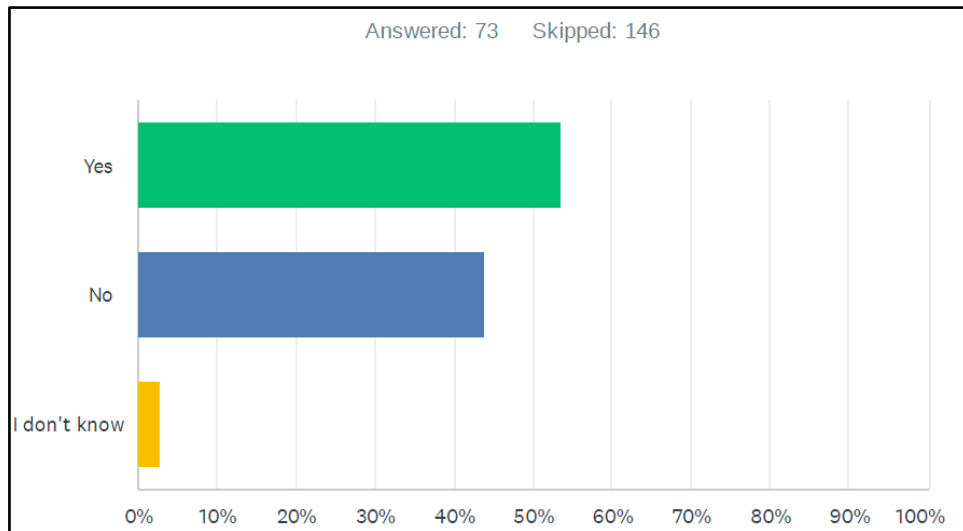
Farmers who responded “Yes” to the previous question were asked how they navigated the H-2A visa application process. Twenty-seven percent reported hiring a farm labor contractor who provided the H-2A workers, 25% applied on their own, 20% used a trade association, and 11% hired a law firm. Twenty-five percent specified “other” responses including the use of consulting firms, agencies such as Mas Labor, and grower councils, such as the New England Apple Council.



**Figure 11.** Response to question “How did you navigate the application process for H-2A employees in 2020? (please select all that apply or click “I don’t know”).” Sample size: 75

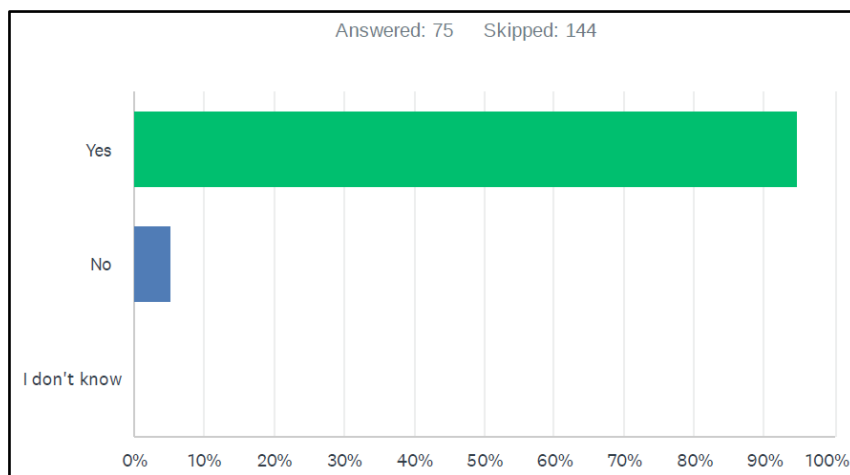
We asked farmers who used the H-2A program in 2020 approximately how much of their main crop labor force in their main state was comprised of H-2A workers. Answers ranged from 1% to 100%, and the average and median were 75% and 85%, respectively.

Among the farmers who used the H-2A program in 2020, we asked if they would utilize workers for more than the maximum of 10 months if it were allowed. Fifty-three percent responded “Yes,” 44% responded “No,” and 3% did not know.



**Figure 12.** Response to question “H-2A employees are normally restricted to a maximum of 10 months of work in the U.S. Would you employ them longer if you could?” Sample size: 73

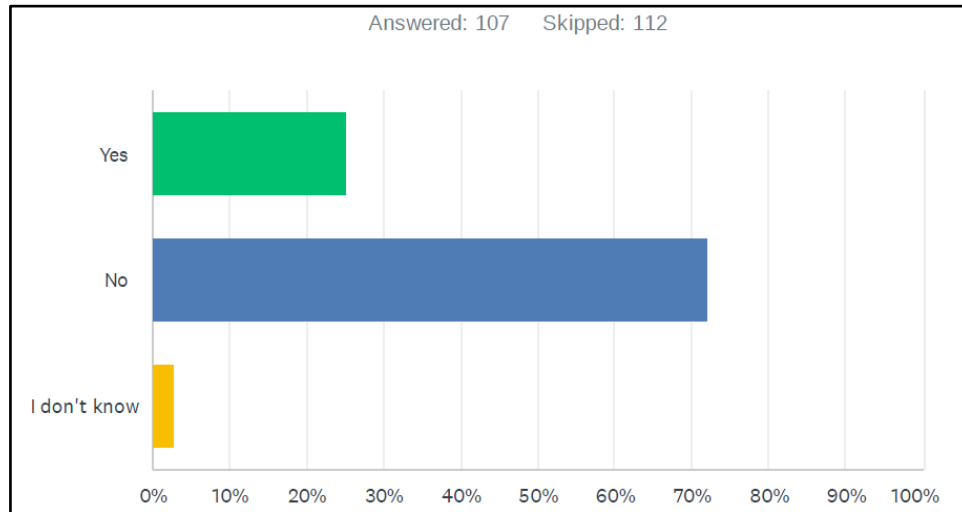
Among the farmers who utilized the H-2A visa program in 2020, 95% indicated that they also had used the program in 2019, whereas 5% said they had not.



**Figure 13.** Response to question “A year earlier, during 2019, did you employ any H-2A employees to produce [your main crop] in [your main state]?” Sample size: 75

### Labor-Saving Technology Adoption

Farmers were asked whether they implemented any new labor-saving technologies to reduce the number of employees required to produce their main crop in their main state in 2020. Twenty-five percent responded “Yes,” while 72% responded “No,” and 3% did not know.



**Figure 14.** Response to question “During 2020, did you implement any new labor-saving technologies to reduce the number of employees you required to produce [your main crop] in [your main state]?” (please select one option).” Sample size: 107

When asked which labor-saving technology reduced their labor needs the most for the production of their main crop in their main state, the leading answers were specialized tractor attachment (15%), mechanical planter (11%), and mechanical harvester (11%). Twenty-six percent of farmers did not choose one of our pre-selected options but instead provided an “Other” answer, such as robots.

ANSWER CHOICES	RESPONSES	
Mechanical planter	11.11%	3
Mechanical harvester	11.11%	3
Updated irrigation equipment	7.41%	2
Pre-pruner	7.41%	2
In-field conveyor-belt or packaging platform	3.70%	1
Specialized tractor attachment	14.81%	4
Mechanical weeder or thinner	7.41%	2
I don't know	11.11%	3
Other (please specify)	25.93%	7
TOTAL		27

**Table 4.** Responses to the question “During 2020, which labor-saving technology reduced [your main crop] labor needs the most in [your main state]?” Sample size: 27

Farmers were asked to report the percentage of the main crop in their main state that the labor-saving technology was used on. Answers ranged from a low of 1% to a high of 100%, with the average and median responses being 59% and 75%, respectively.

We also asked farmers the reasons why they chose to use the labor-saving technology. Most farmers (78%) indicated that rising labor costs caused them to adopt the technology. Labor-availability issues not related to COVID-19 (43%) and related to COVID-19 (35%) were the second and third most common responses.

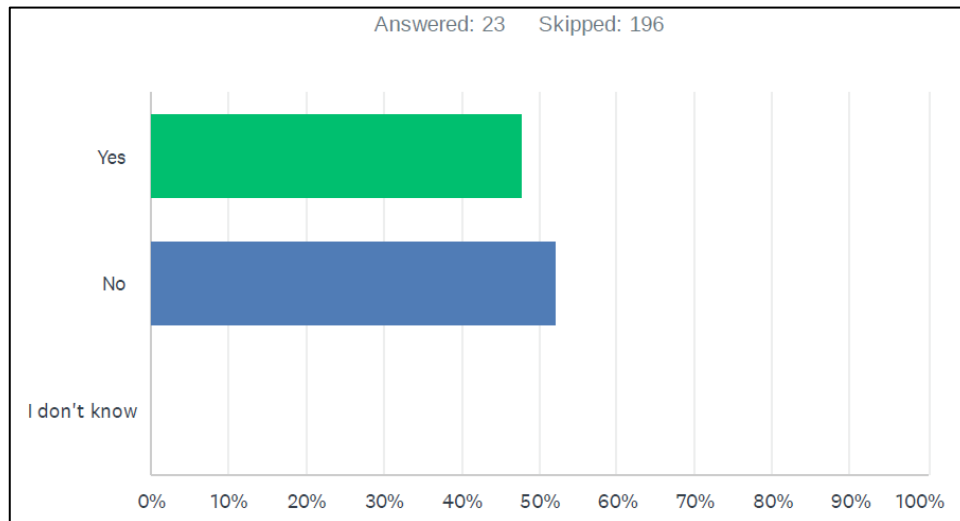
ANSWER CHOICES	RESPONSES	
Crop prices	4.35%	1
Rising labor costs	78.26%	18
Non-labor input prices	8.70%	2
Labor-availability issues related to COVID-19	34.78%	8
Labor-availability not related to COVID-19	43.48%	10
I don't know	0.00%	0
Other (please specify)	8.70%	2
Total Respondents: 23		

**Table 5.** Responses to the question “Why did you use the [labor-saving technology] to produce [your main crop] in [your main state] during 2020? (please select all that apply).” Sample size: 23

We asked farmers that adopted a new labor-saving technology in 2020 to report how much the labor-saving technology reduced their labor needs (in percentage terms) for their main crop in their main state during 2020. Answers ranged from a low of 4% to a high of 80%, and the mean and median were 23% and 10%, respectively.

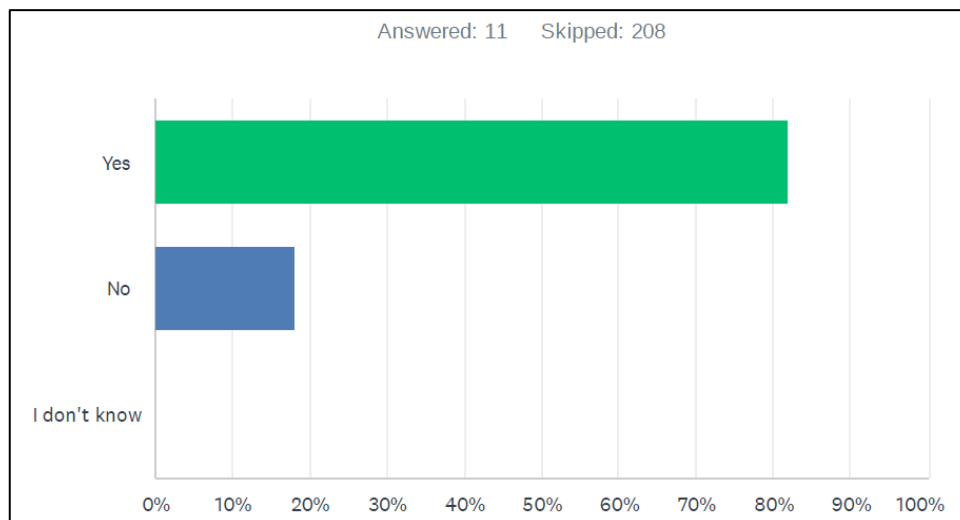
We asked farmers who used a labor-saving technology in 2020 whether they also had used that technology in 2019. Forty eight percent responded “Yes” while 52% responded “No.”





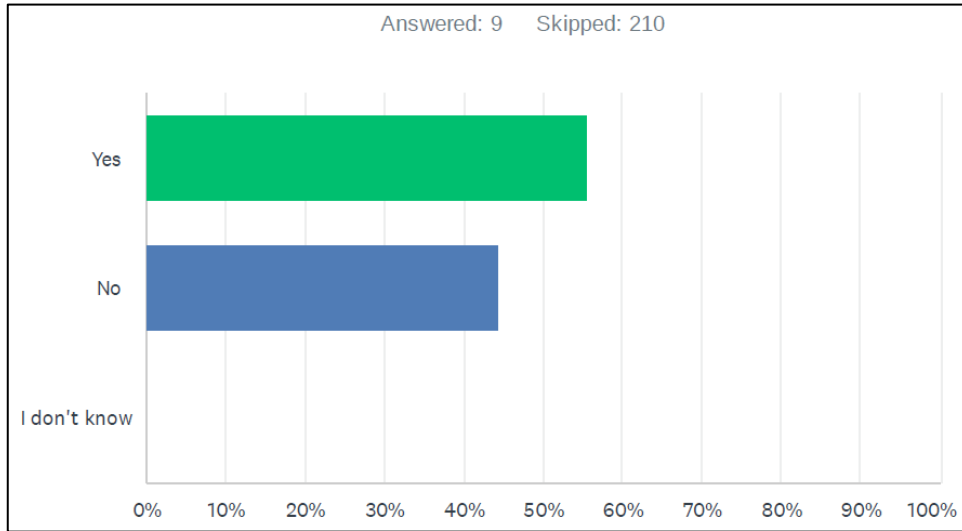
**Figure 15.** Response to question “A year earlier, during 2019, did you also use the [labor-saving technology] to produce [your main crop] in [your main state]?” (please select one option).” Sample size: 23

Farmers who used the labor-saving technology in both 2019 and 2020 were asked whether they increased their use of the technology in 2020 relative to 2019. Eighty-two percent responded “Yes,” while 18% responded “No.”



**Figure 16.** Response to question “Relative to 2019, did you increase your use of the [labor-saving technology] for [your main crop] in [your main state] during 2020?” (please select one option).” Sample size: 11

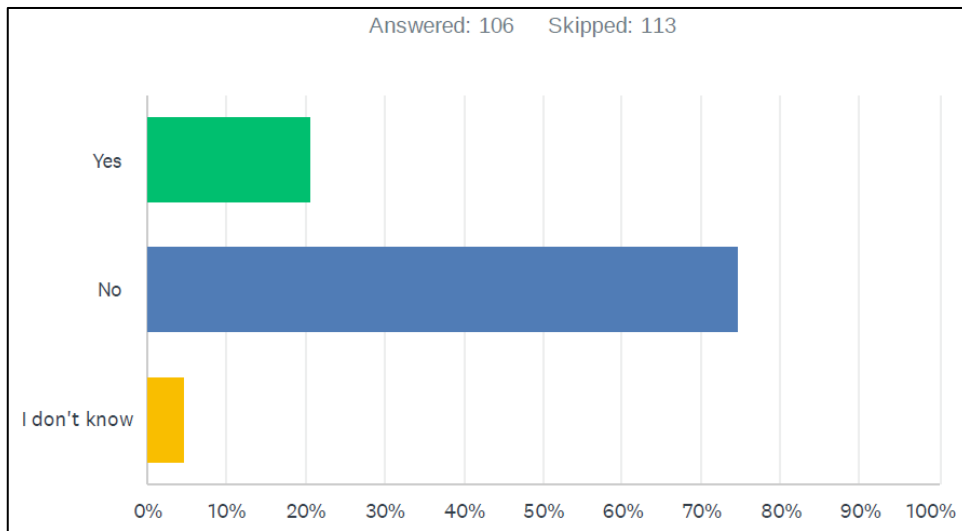
Among the nine farmers who increased their use of the labor-saving technology between 2019 and 2020, five farmers (56%) indicated that the increase was due to COVID-19 while four (44%) said it was not.



**Figure 17.** Response to question “Was your decision to increase your use of the [labor-saving technology] during 2020 related to COVID-19 labor availability issues? (please select one option).” Sample size: 9

### Mechanical Harvest Aids

We asked a series of questions about the adoption of mechanical harvest aids. Twenty-one percent of the 106 farmers who responded indicated that they had used a mechanical harvest aid during 2020, while 75% said they had not, and 5% did not know.



**Figure 18.** Response to question “Mechanical harvesters for grapes and grain crops essentially replace the human(s) in the harvesting task. Devices like conveyors to carry bins of harvested strawberries out of the row in place of the harvest employee carrying the bins to the end of the row would be an example of mechanical harvest aid. During 2020, did you use any type of mechanical harvest aid for the production of [your main crop] in [your main state]? (please select one option).” Sample size: 106

When asked whether they owned or rented the mechanical aid, 73% of the 22 farmers who reported using a mechanical harvest aid indicated that they owned it while 14% said they did not. Three farmers (14%) identified “other” responses, including they owned some and rented some and outsourced.

ANSWER CHOICES	RESPONSES	
I owned the mechanical harvest aid	72.73%	16
I rented/leased the mechanical harvest aid	13.64%	3
I don't know	0.00%	0
Other (please specify)	13.64%	3
TOTAL		22

**Table 6.** Responses to the question “During 2020, did you own or rent the mechanical harvest aid for the production of [your main crop] in [your main state]?” Sample size: 22

When asked the reason for using the mechanical harvest aid, the most common response, chosen by 80% of those using a mechanical harvest aid, was to harvest faster. The second and third most frequent responses were to reduce the number of employees they needed due to ongoing labor shortages (70%), reduce the number of employees they needed due to COVID-19 labor shortages (25%), and to increase their harvest (25%).

ANSWER CHOICES	RESPONSES	
To reduce the number of employees I needed due to COVID-19 labor shortages	25.00%	5
To reduce the number of employees I needed due to ongoing labor shortages	70.00%	14
To increase my harvest	25.00%	5
To harvest faster	80.00%	16
To increase the number of times my employees could cover the land	20.00%	4
I don't know	0.00%	0
Total Respondents: 20		

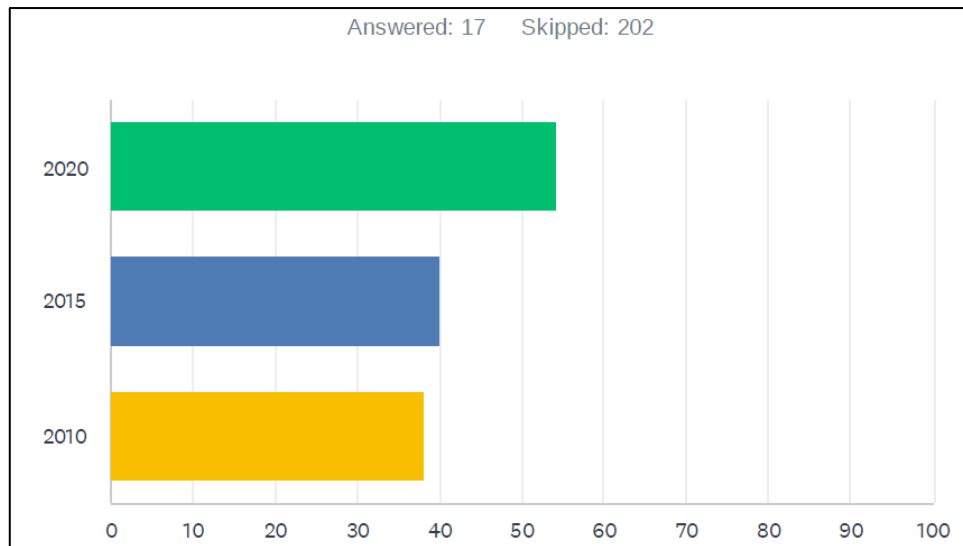
**Table 7.** Responses to the question “During 2020, why did you use the mechanical harvest aid? (please select all that apply).” Sample size: 20

We asked farmers to report the type of mechanical harvest aid that boosted the efficiency of their workforce the most. Forty-one percent of the 22 farmers who responded to this question selected an in-field conveyor belt or packaging platform, 23% reported a hydraulic platform, and 5% reported a hand-held power tool. Twenty-three percent chose an option other than our canned answers while 9% did not know. The “other” responses include mechanical harvesters, mechanized netting machines, harvest containers, and handling equipment.

ANSWER CHOICES	RESPONSES	
In-field conveyor-belt or packaging platform	40.91%	9
Hydraulic platform	22.73%	5
Hand-held power tool	4.55%	1
I don't know	9.09%	2
Other (please specify)	22.73%	5
TOTAL		22

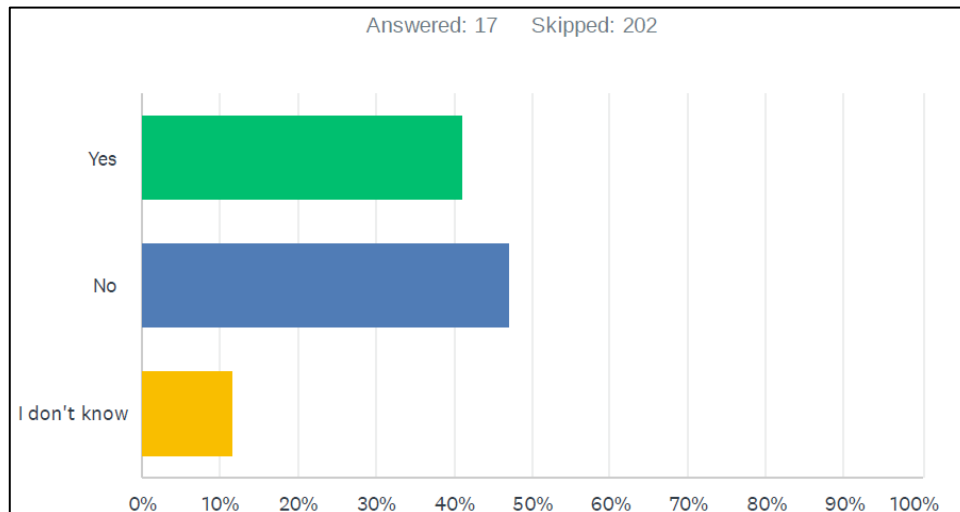
**Table 8.** Responses to the question “During 2020, what type of mechanical harvest aid increased the efficiency of [your main crop] workforce in [your main state] the most? (please select one option).” Sample size: 22

When farmers were asked what percentage of their main crop the mechanical harvest aid was used on in 2010, 2015, and 2020, they reported an average of 38% of their crop in 2010, 40% in 2015, and 54% in 2020.



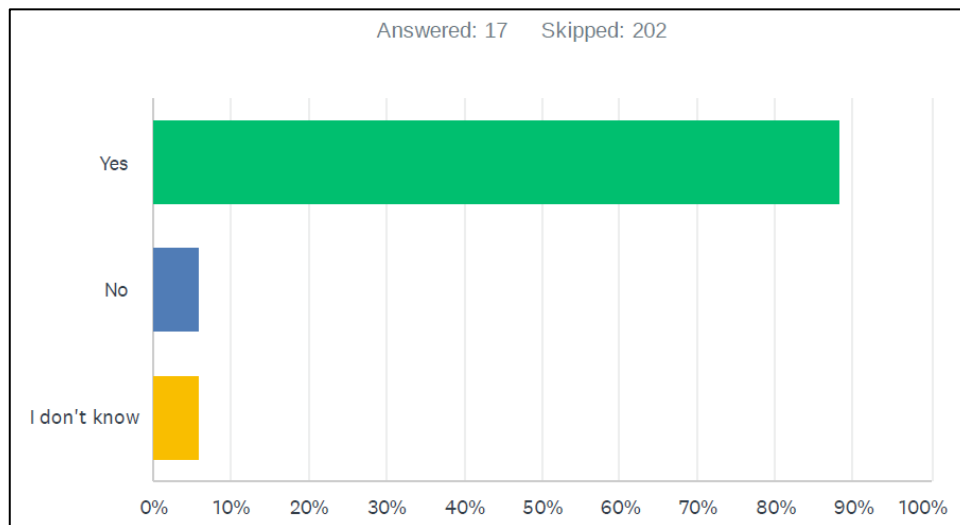
**Figure 19.** Response to question “Approximately what percentage of [your main crop] was the [mechanical harvest aid] used on in [your main state] during the years listed below?” Sample size: 17

Farmers were asked whether the mechanical harvest aid would enable them to feasibly maintain the current level of production of their main crop in their main state if fewer employees were available. Forty-one percent of the 17 farmers who responded to this question said “Yes” while 47% said “No.” Twelve percent did not know.



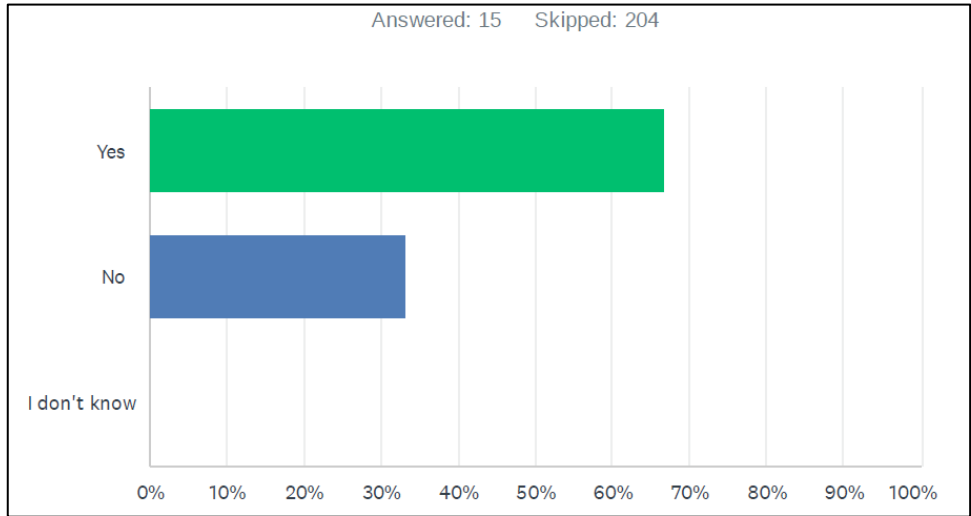
**Figure 20.** Response to question “If fewer employees were available, would the [mechanical harvest aid] enable you to feasibly maintain your current production of your [main crop] in [your main state]? (please select one option).” Sample size: 17

We asked farmers who used the mechanical harvest aid in 2020 whether they also used it in 2019. Eighty-eight percent said “Yes” while 6% said “No,” and 6% did not know.



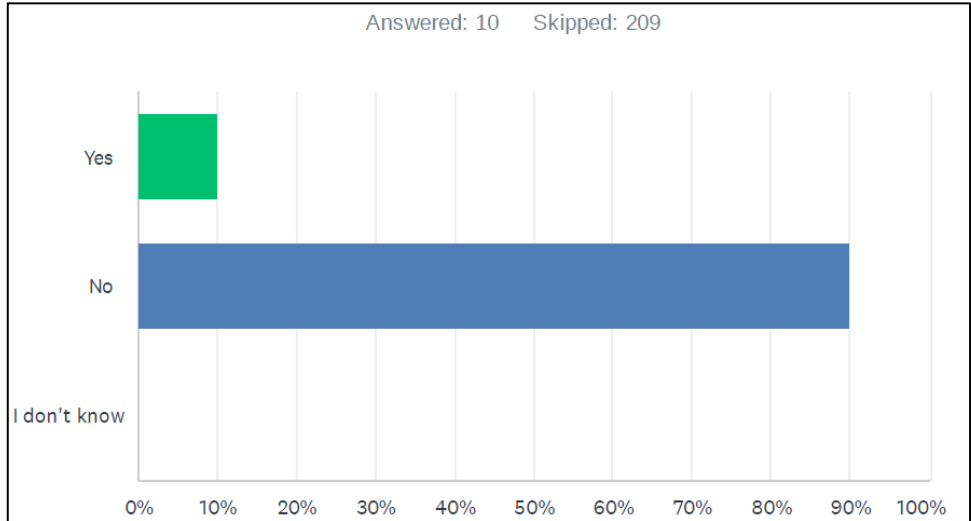
**Figure 21.** Response to question “A year earlier, during 2019, did you also use the [mechanical harvest aid] to produce [your main crop] in [your main state]? (please select one option).” Sample size: 17

Of the farmers who indicated they used the mechanical harvest aid in 2019 and 2020, 67% indicated that they increased their use of it in 2020 relative to 2019 while 33% said they did not.



**Figure 22.** Response to question “Relative to 2019, did you increase the use of the [mechanical harvest aid] to produce [your main crop] in [your main state] in 2020? Sample size: 15

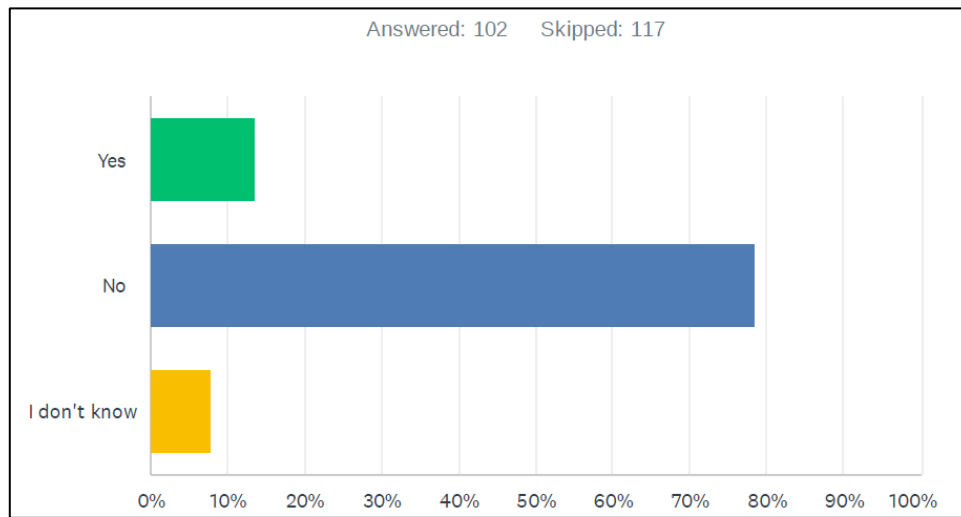
Of the farmers who increased their use of the mechanical harvest aid during 2020 relative to 2019, 10% indicated that they did so due to COVID-19 labor-availability issues while 90% said it was not related to COVID.



**Figure 23.** Response to question “Was your decision to increase your use of the [mechanical harvest aid] to produce [your main crop] in [your main state] during 2020 related to COVID-19 labor availability issues? (please select one option).” Sample size: 10

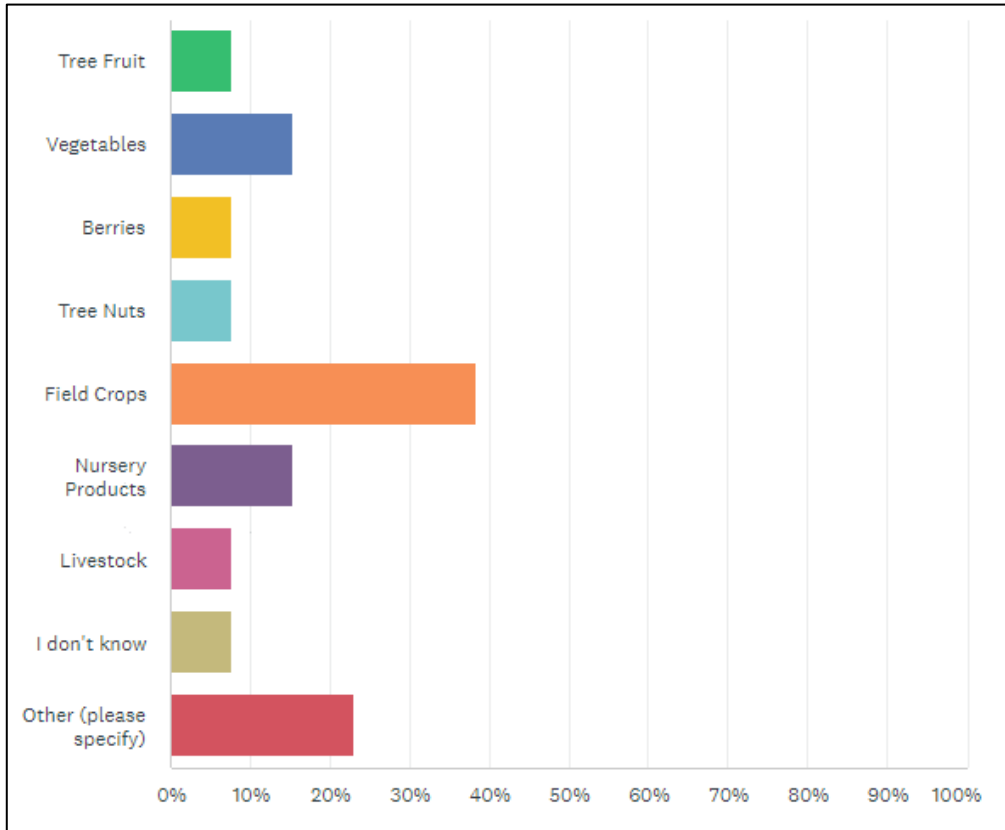
**Changes in Crop Mix**

We asked farmers whether they have switched or plan to switch any acreage out of the production of their main crop in their main state into the production of another crop that requires less labor to produce. Fourteen percent of the 102 farmers who responded to this question said “Yes” while 78% responded “No,” and 8% indicated that they did not know.



**Figure 24.** Response to question “Have you switched or do you plan to switch any of [your main crop] production in [your main state] into the production of a crop that requires less labor to produce?” Sample size: 102

Among the farmers who indicated that they had switched or are planning to switch acreage out of their main crop in their main county into the production of another crop, we asked what crop they were switching into. The leading response was field crops (38%), followed by nursery products (15%) and vegetables (15%). Tree fruit, berries, tree nuts, and livestock each had 8%. Twenty-three percent of farmers reported a crop we did not list in our set of pre-selected options. Among those “other” crops were crawfish and floriculture crops.

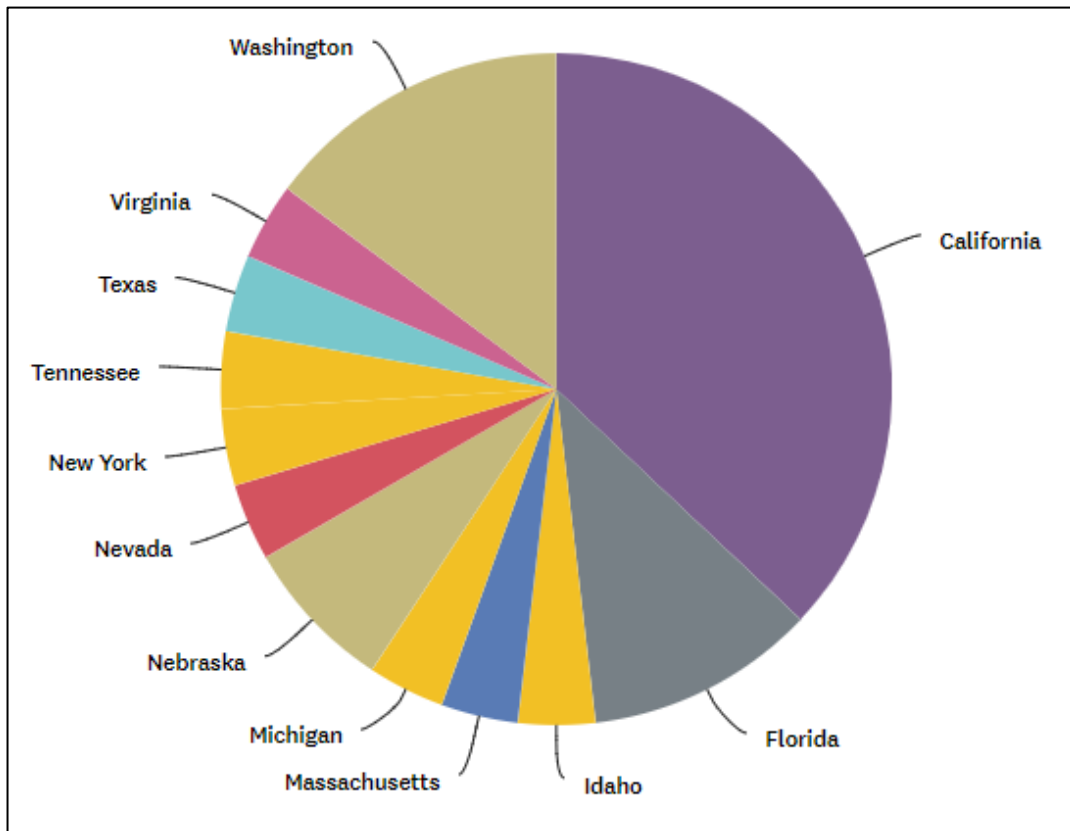


**Figure 25.** Response to question “You indicated that you have switched or are planning to switch some of [your main crop] production in [your main state] into a crop that requires less labor to produce. Which crop(s) did you produce or are you planning to produce instead of [your main crop] in [your main state]? (please select all that apply).” Sample size: 13

### Responses from Farm Labor Contractor Employers

Our survey respondents who were farm labor contractors were asked to identify the state where they employed the highest percentage of their workforce in 2020. The top three states where survey respondents reported employing the largest share of their workforce were California (37%), Washington (15%), and Florida (11%). Other states include Nebraska (7%), Idaho, Massachusetts, Michigan, Nevada, New York, Tennessee, Texas, and Virginia (each with 4%).





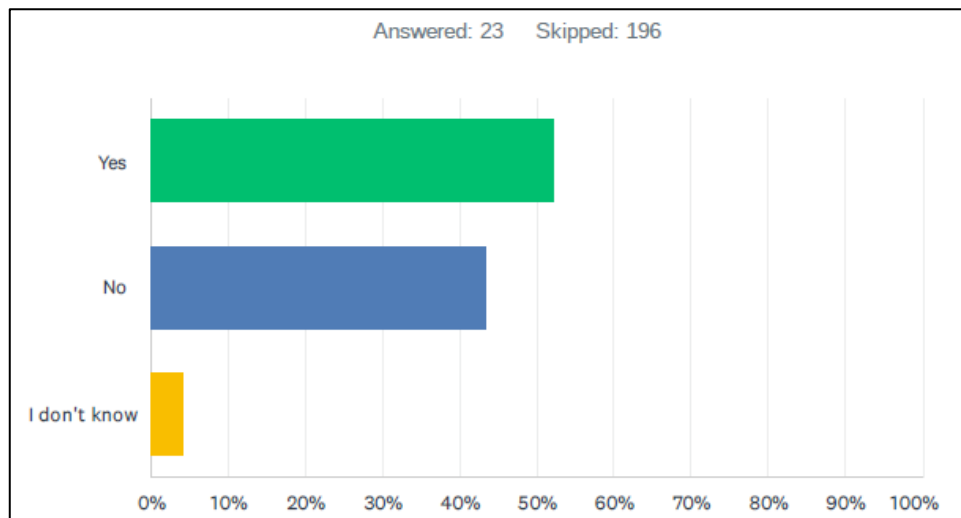
**Figure 26.** Answer to question: “In which U.S. state did you employ the highest percentage of your workforce during 2020? (please select one option by clicking on the box below and scrolling up or down from the drop-down menu)” Sample size: 27

Farm labor contractors were asked to identify the commodity group in their main state that the highest percentage of their workforce was employed in during 2020. The three top crop types comprised roughly 60% of the sample. These leading categories were tree fruits (28%), vegetables (24%), and horticulture/floriculture/nursery products (8%). Sixteen percent of the respondents did not select one of our canned answers but instead selected the “Other (please specify)” option and typed in the main crop their main workforce employed for. The “other” responses were tobacco, cotton gin, and fertilizer spreading.

ANSWER CHOICES	RESPONSES	
I don't know	4.00%	1
Avocados	4.00%	1
Tree Fruits	28.00%	7
Vegetables	24.00%	6
Berries	4.00%	1
Table Grapes	0.00%	0
Wine Grapes	4.00%	1
Raisins	0.00%	0
Field Fruits (tomatoes, melons, squash, etc.)	0.00%	0
Tree Nuts	0.00%	0
Grain Crops (corn, soy, etc.)	4.00%	1
Nursery/Horticulture	0.00%	0
Horticulture/Floriculture/Nursery Products	8.00%	2
Livestock	4.00%	1
Dairy Products	0.00%	0
Forage	0.00%	0
Hay/Haylage	0.00%	0
Other (please specify)	16.00%	4
TOTAL		25

**Table 9.** Responses to the question “During 2020, in [your main state], which commodity group did the highest percentage of your workforce work in? (please select one option).” Sample size: 25.

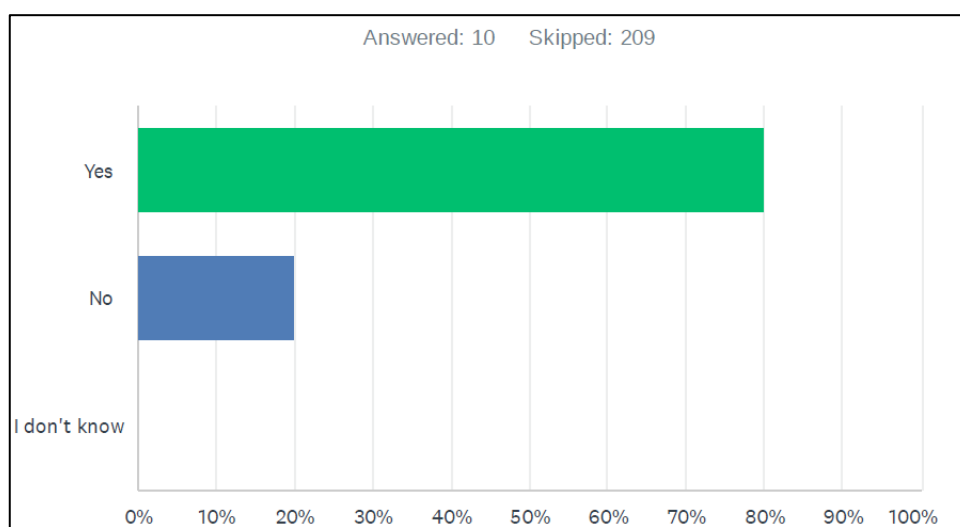
We asked farm labor contractors whether they were ever unable to hire all of the employees they wanted for their main crop workforce in their main state. Nearly half of the respondents (52%) responded “Yes,” 43% responded “No,” and 4% said they did not know.



**Figure 27.** Response to question “During 2020, were you ever unable to hire all of the employees you wanted for your [main crop] workforce in [your main state]? (please select one option).” Sample size: 23

Farm labor contractors who experienced a labor shortage in 2020 were asked to identify the percentage of workers they were short in their main crop workforce in their main state. Responses were as low as 10% and as high as 90%, and the mean and median labor shortage were 48% and 45%, respectively.

The farm labor contractors who reported experiencing labor shortages in 2020 responded to a question about whether COVID-19 caused them to experience additional labor shortages in their main crop workforce in their main state in 2020. Eighty percent responded “Yes” and 20% responded “No.”



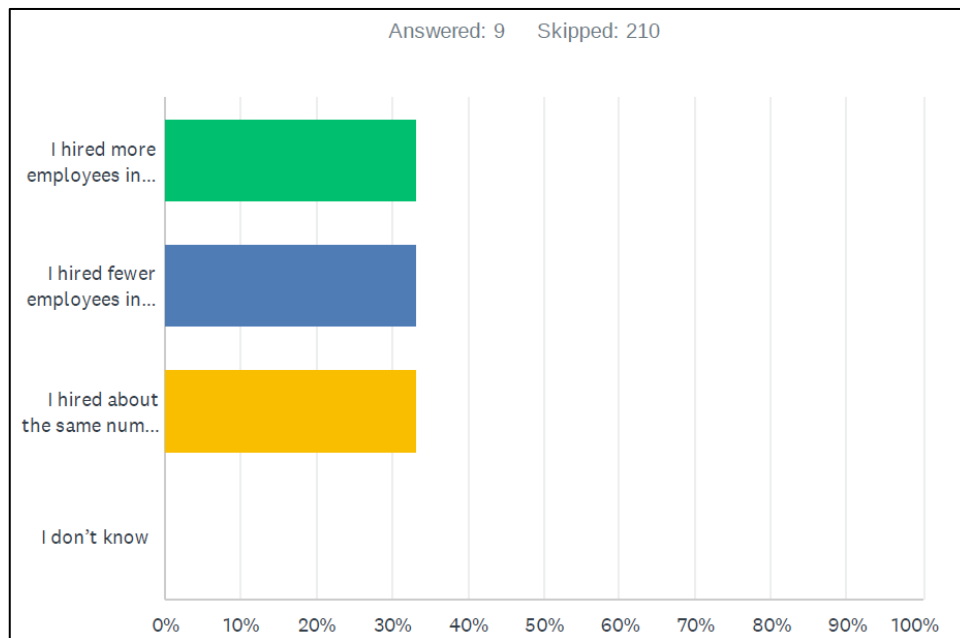
**Figure 28.** Response to question “During 2020, did COVID-19 cause you to experience additional labor shortages in your [main crop] workforce in [your main state]?” (please select one option).” Sample size: 10

We asked those who indicated that COVID-19 had caused them to experience additional labor shortages in 2020 to explain why, by selecting from a list of ways in which COVID-19 led to additional labor shortages in 2020. Respondents could select more than one option. The most common responses were that employees were exposed to COVID-19 or were quarantined (71%), that employees did not have childcare options available to them (71%), employees were diagnosed with or suspected of being infected with COVID-19 (57%), or that employees’ family members or close friends had been exposed or were quarantined (57%). The next most common responses were that employees were in a high-risk group (43%). One “other” response was “H2A employees were not able to obtain visa or travel from Peru.”

ANSWER CHOICES	RESPONSES	
Employees were unable to work due to local or state quarantine, shelter-in-place, or shelter-at-home orders	28.57%	2
Employees were exposed to COVID-19 or were quarantined	71.43%	5
Employees were diagnosed with or suspected of infection with COVID-19	57.14%	4
Employees were in a high-risk group	42.86%	3
Employees had family member/household member/close friend in high-risk group	28.57%	2
Employees had family member/household member/close friend exposed or quarantined	57.14%	4
Employees had family member/household member/close friend in need of COVID-19 related care	28.57%	2
Employees did not have childcare options available to them	71.43%	5
I don't know	0.00%	0
Other (please specify)	14.29%	1
Total Respondents: 7		

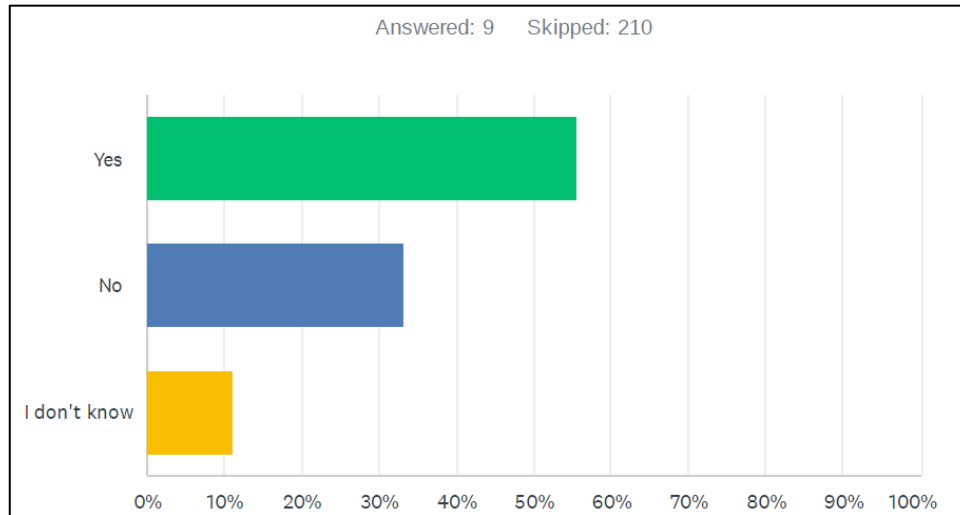
**Table 10.** Responses to the question “During 2020, which COVID-19 factors led to additional labor shortages in your [main crop] workforce in [your main state]? (please select all that apply).” Sample size: 7

Among the farm labor contractors who indicated there a labor shortage in 2020, we asked whether they experienced the same labor shortage problems in 2021. One-third responded that they had hired more employees in 2021, 33% indicated that they hired fewer employees in 2022, and 33% stated that they hired about the same number of employees in 2020 and 2021.



**Figure 29.** Response to question “Did you experience the same labor shortage problems in 2021 in your [main crop] workforce in [your main state] as you had in 2020? (please select one option).” Sample size: 9

We also asked the farm labor contractors who experienced a labor shortage in 2020 whether they also had a labor shortage in 2019. Fifty-six percent responded that they had too few employees in 2019. A third of the respondents said they did not have a labor shortage in 2019 and 11% said they did not know.



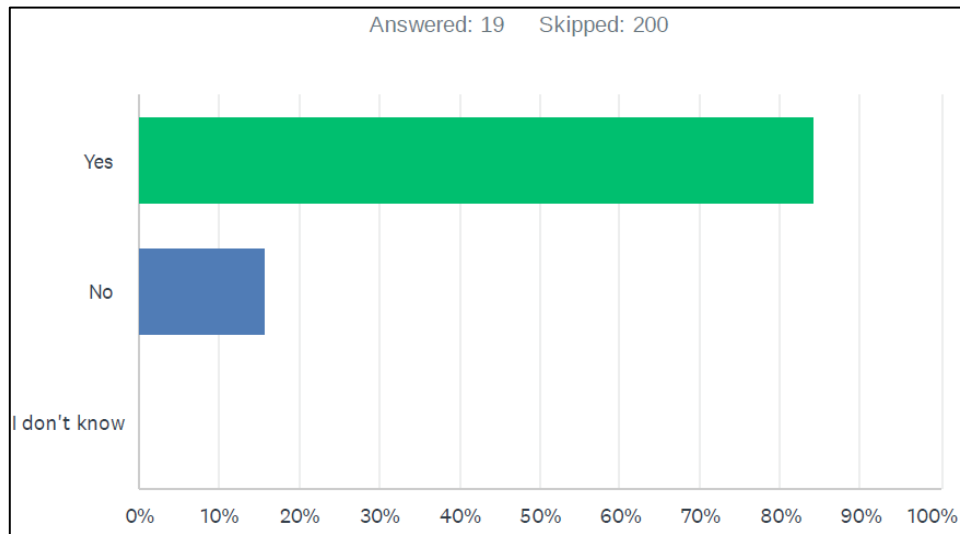
**Figure 30.** Response to question “A year earlier, during 2019, did you have too few [your main crop] employees in [your main state]? (please select one option).” Sample size: 9

For the farm labor contractors who experienced a labor shortage in 2019 and 2020, we asked which year the labor shortage was worse. Sixty percent responded that they had worse labor shortages in 2020, while 40% said the labor shortage was about the same in both years.

ANSWER CHOICES	RESPONSES
I had a harder time finding employees in 2020 than I did in 2019	60.00% 3
I had a harder time finding employees in 2019 than I did in 2020	0.00% 0
I had about the same amount of difficulty finding employees in 2019 and 2020	40.00% 2
I don't know	0.00% 0
TOTAL	5

**Table 11.** Responses to the question “Was your [main crop] labor shortage in [your main state] worse in 2019 or 2020? (please select one option).” Sample size: 5

We asked the farm labor contractors whether they incurred additional costs related to the implementation of social distancing or other COVID-19 prevention measures in 2020. Eighty-four percent indicated that they had incurred additional COVID-related costs while 16% reported that they had not.



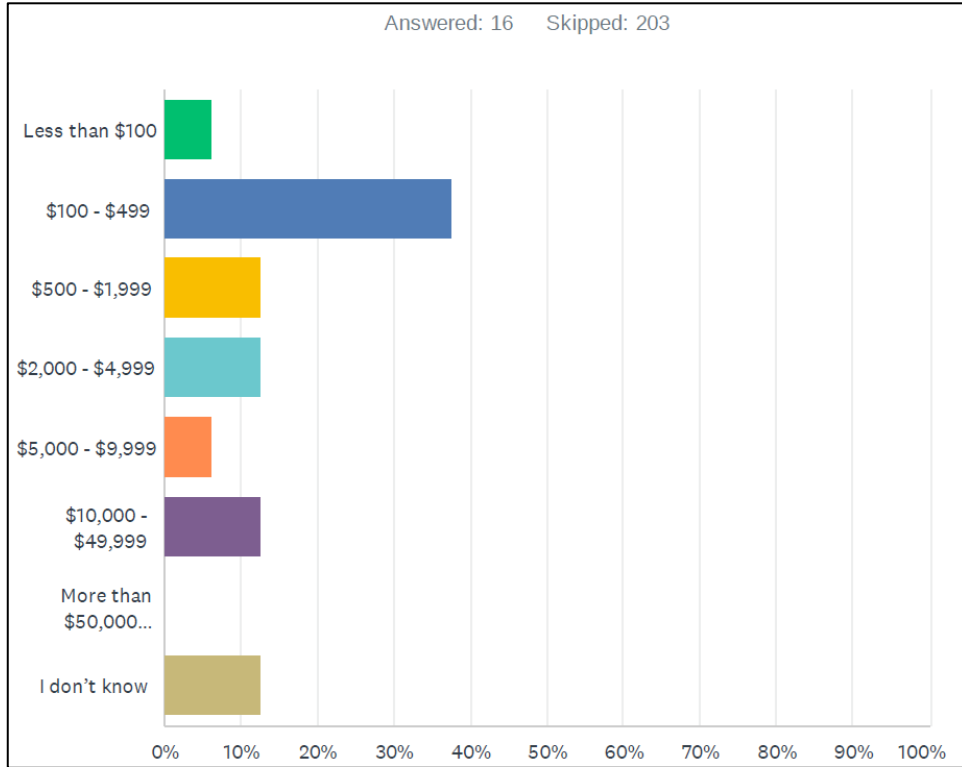
**Figure 31.** Response to question “During 2020, did you incur any additional costs related to the implementation of social distancing or other COVID-19 prevention measures? (Please select one option).” Sample size: 19

The 16 farm labor contractors who indicated that they had incurred additional costs related to COVID-19 prevention measures were asked what types of costs they incurred. Respondents could select more than one option. The leading responses were additional cleaning/sanitization activities (100%), followed by personal protective equipment for employees (94%), employee screening measures (88%), additional transportation for employees (88%), workplace accommodations for social distancing (88%), and additional housing to accommodate H-2A employees (81%). Nineteen percent selected “Other (please specify).” Other responses included medication, COVID-19 tests, and benefits during quarantine.

ANSWER CHOICES	RESPONSES	
Personal protective equipment for employees	93.75%	15
Additional cleaning/sanitization activities	100.00%	16
Additional sanitation facilities/equipment	75.00%	12
Employee screening measures	87.50%	14
Additional transportation for employees	87.50%	14
Additional housing to accommodate H-2A employees	81.25%	13
Workplace accommodations for social distancing	87.50%	14
I don't know	0.00%	0
Other (please specify)	18.75%	3
Total Respondents: 16		

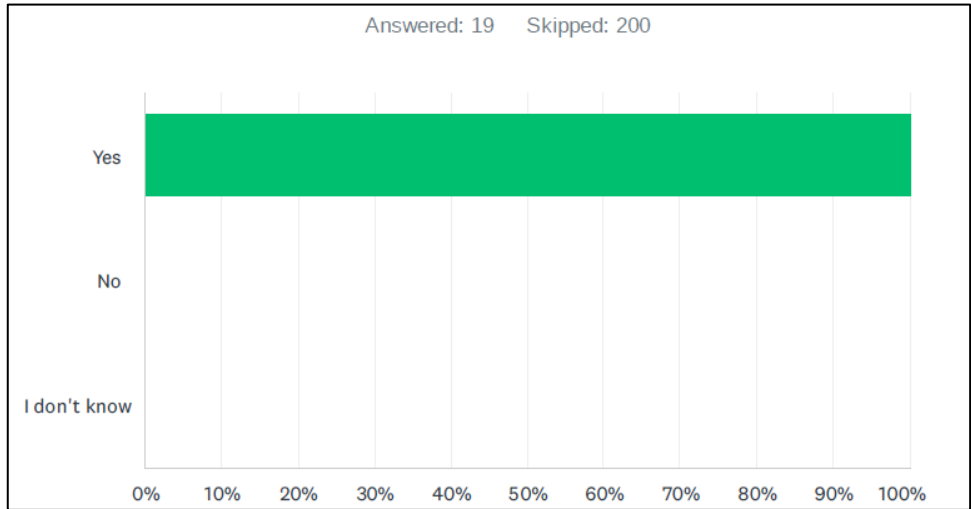
**Table 12.** Responses to the question “During 2020, which of the following caused you to incur these additional costs? (please select all that apply).” Sample size: 16

Farm labor contractors were also asked the following question: “During 2020, approximately how much additional expenses did you incur per employee on efforts related to social distancing or COVID-19 prevention measures? (please select one option).” Six percent of the respondents incurred additional expenses less than \$100. Roughly one-third (38%) of them incurred between \$100 and \$499, while 13% incurred between \$500 and \$1,999, and roughly one-third of respondents incurred \$2,000 or more.



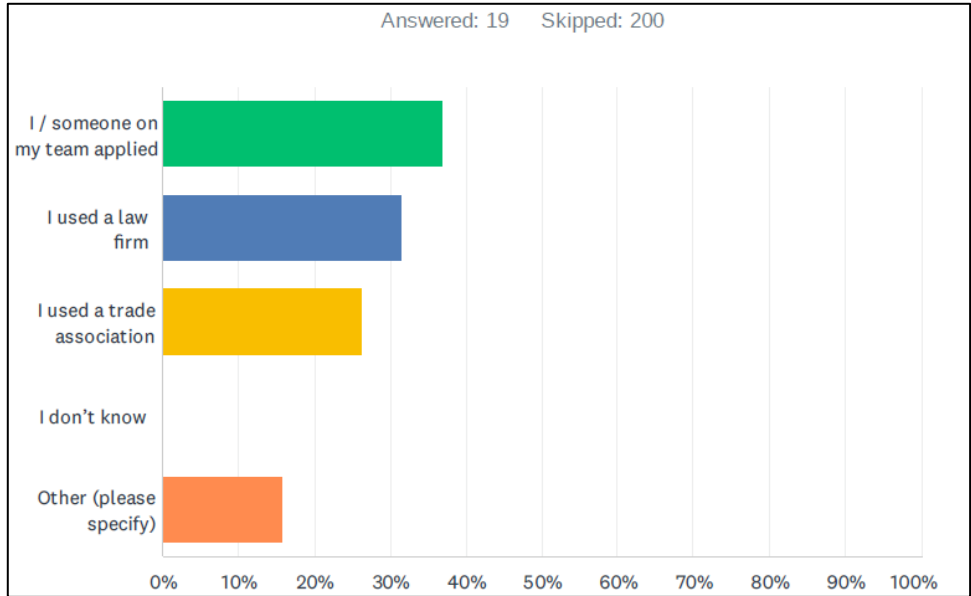
**Figure 32.** Response to question “During 2020, approximately how much additional expenses did you incur per employee on efforts related to social distancing or COVID-19 prevention measures? (please select one option).” Sample size: 16

All the farm labor contractors who responded to this question indicated that they enrolled in the H-2A visa program to bring in employees for their main crop workforce in their main state in 2022.



**Figure 33.** Response to question “During 2020, did you enroll in the H-2A visa program to bring in employees for your [main crop] workforce in [your main state]? (please select one option).” Sample size: 19

Farm labor contractors who responded “Yes” to the previous question were asked how they navigated the H-2A visa application process in 2020. Thirty-seven percent reported that they applied on their own, 32% hired a law firm, and 26% used a trade association. Sixteen percent specified “other” responses which include H-2A consulting firms, agencies, and other organizations such as MAS Labor.

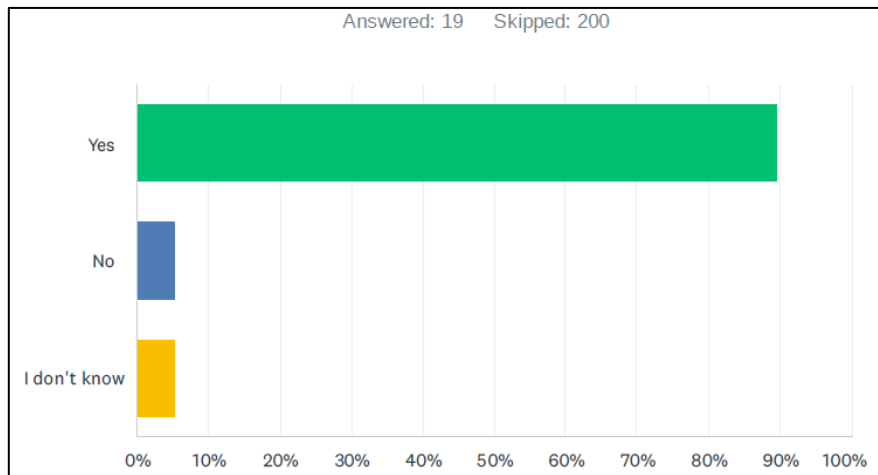


**Figure 34.** Response to question “How did you navigate the application process for H-2A employees in 2020? (please select all that apply or click “I don't know”).” Sample size: 19



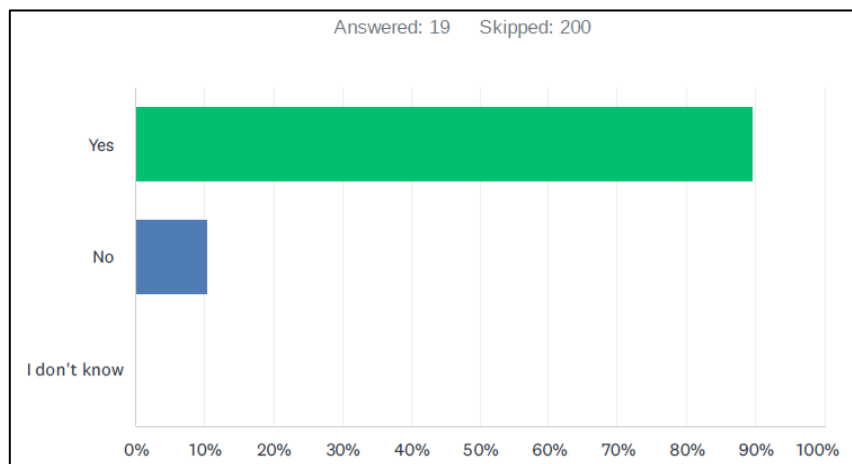
We asked farm labor contractors to identify the share of their main crop workforce in their main state that were H-2A workers. The average and median responses were 76% and 90%, respectively, while the min and max were 10% and 100%, respectively.

Among the farm labor contractors who used the H-2A program in 2020, we asked if they would utilize workers for more than the maximum of 10 months if it were allowed. Eighty-nine percent responded “Yes,” five percent responded “No,” and five percent did not know.



**Figure 35.** Response to question “H-2A employees are normally restricted to a maximum of 10 months of work in the U.S. Would you employ them for longer if you could? (please select one option).” Sample size: 19

We also asked farm labor contractors whether they had employed any H-2A employees in their main crop workforce in their main state in 2019. Eighty-nine percent responded “Yes” while 11% said “No.”



**Figure 36.** Response to question “A year earlier, during 2019, did you employ any H-2A employees in your [main crop] workforce in [your main state]? (please select one option).” Sample size: 19

## **Conclusion**

We surveyed a broad sample of US farmers and farm labor contractors covering many different states and crop types. These employers reported issues with labor scarcity. Nearly half of the agricultural employers reported having difficulty hiring all the workers they wanted to produce their main crop in their highest revenue producing county during 2020. Among the employers who reported labor shortages, the average farmer (resp. farm labor contractor) shortage was 27% (resp. 48%) of the labor force they would have otherwise hired. To put this in perspective, if a farmer (resp. farm labor contractor) who faced a labor shortage would have normally hired 100 workers, she may have only been able to hire 73 (resp. 52) during 2020.

COVID-19 also played a role in labor shortage issues that farmers reported during 2020 with nearly two-thirds reporting that COVID-19 caused them to experience additional labor shortages in that year. Farmers also reported incurring additional costs related to COVID-19, including purchasing additional personal protective equipment, extra cleaning and sanitation activities, and adding sanitation facilities for workers. Among the farmers who incurred additional COVID-19 related costs, the largest share incurred between \$100 and \$499 of additional expenses per employee, although some farmers reported incurring thousands of dollars of expenses for each employee.

A majority of survey respondents (71% of the farmers and 100% of the 19 farm labor contractors) employed H-2A workers. A recent USDA publication reveals that the H-2A program is rapidly expanding (Castillo, Martin, and Rutledge, 2022).

Farmers also reported using labor-saving technologies and mechanical harvest aids to help them mitigate problems stemming from labor scarcity. Of the farmers who reported using them in 2020, their main labor-saving technology was used on an average of 59% of their main crop production in their main county. With respect to mechanical harvest aids, farmers reported increasing their use between 2010 and 2020. The average farmer who used a mechanical harvest aid used it on 38% of their crop in 2010, 40% of their crop in 2015, and 54% of their crop in 2020. The main reasons for using labor saving technologies and mechanical harvest aids were rising labor costs and the ability to harvest faster, respectively.

Overall, US agricultural employers continued to report issues stemming from a lack of labor while many are struggling to navigate the situation. While employers are clearly making efforts to mitigate production and profit losses stemming from labor shortages, they continue to be a major challenge for American farmers and the farm labor contractors who provide workers to perform various tasks on farms.