

Workforce Needs for the Agriculture Industry in Kansas

Final Report

Prepared for

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Conducted by

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Purpose

Lack of a skilled agriculture workforce is a top inhibitor of growth and expansion for many Kansas agriculture entities. To help support growth in agriculture, the Kansas Department of Agriculture (KDA) seeks to help the industry better understand workforce needs among agricultural employers in the state. To link the supply of human capital to the needs of Kansas agribusiness enterprises, KDA conducted the first Kansas Agriculture Workforce Needs Assessment Survey in 2016. As needs change over time, a second survey was conducted in 2022. The survey will help KDA to identify the number and types of jobs required to sustain and grow the Kansas agriculture sector.

Outline

This report provides the findings of the research study and an analysis of the data reflecting the current and future demand for workers in Kansas' agribusiness sector. This report is organized into four main sections. Section 1 is an introduction to the study. Section 2 is an explanation of the economic significance of the agribusiness sector in Kansas. Section 3 details the results of the survey, and the report concludes with Section 4, implications and recommendations.

Section 1: Introduction to the Study

The Kansas Department of Agriculture, in conjunction with the Land Use Survey Office (LUSO) of Kansas State University, conducted the first Agriculture Workforce Needs Assessment Survey in 2016 to determine the needs of the agriculture industry to gather information about the industry's current and future workforce needs and the types of skills required to support economic growth in the state. These groups collaborated again in 2022 to conduct the second Agriculture Workforce Needs Assessment Survey. As in 2016, the objective of the 2022 research is to determine the workforce needs of the agriculture industry in Kansas. As part of these efforts, this report summarizes the findings of the 2022 survey conducted by the LUSO for KDA. The survey allowed participants the opportunity to identify their current and future workforce needs and potential training opportunities for employees. Specifically, this report attempts to answer two key questions and provide recommendations based on the responses to those questions as follows:

- What is the likely source of future employment demand from the agriculture industry for workers?
- What programs and strategies can be developed within KDA to respond to the needs of the agriculture sector so that the knowledge and skills acquired by potential employees match future employment opportunities?

Methodology

Survey Participants

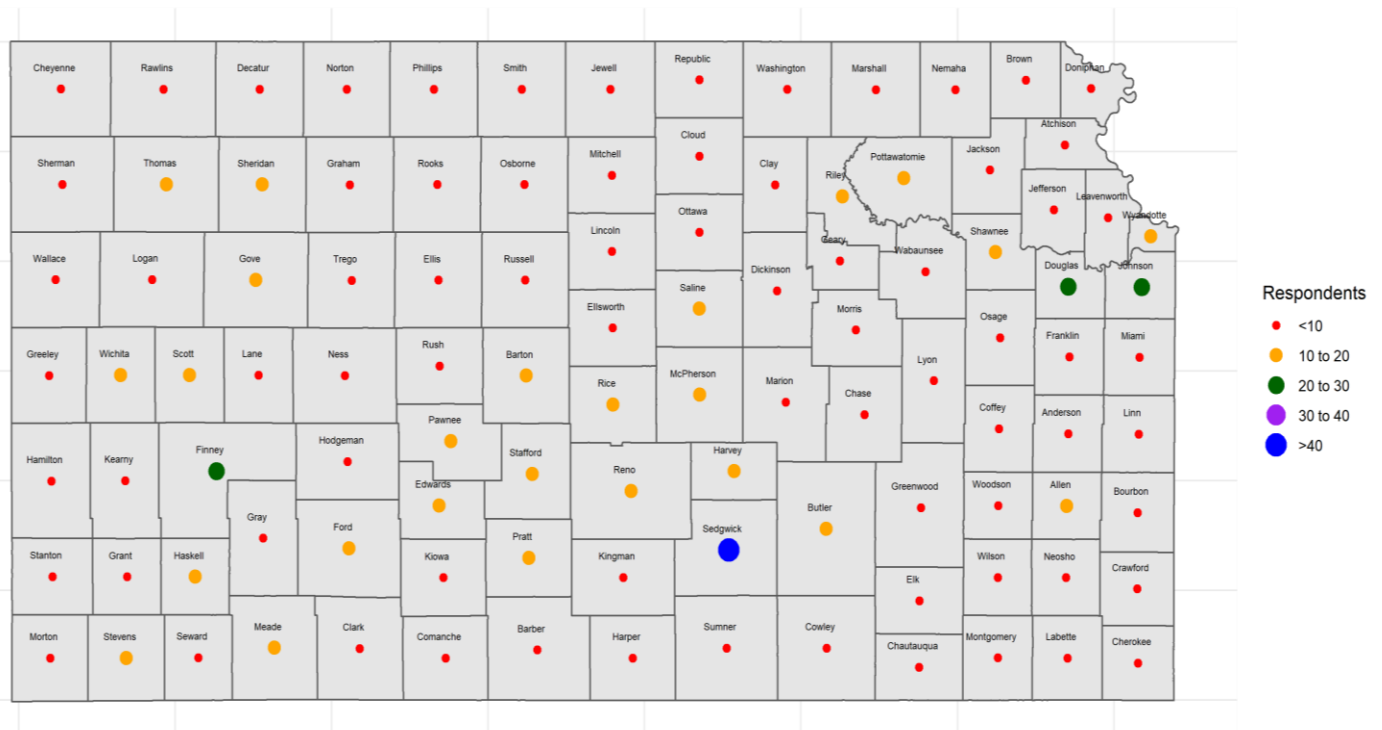
The Kansas Department of Agriculture selected and contacted agriculture businesses in Kansas requesting their participation in the online workforce survey. KDA emailed over 25,000

businesses, and 1,192 contributed to the online survey. All participants were provided the option of completing the survey online or on a paper questionnaire. The estimated time to complete the survey was 20 minutes. The response rate is 5%; typically, blanket email surveys elicit lower response rates than other survey distribution channels. Email surveys may average a response rate between 6 and 8 percent. Because of the variability in survey instruments and distribution channels, there is no national average response rate.

KDA designed this survey to identify current and future needs of Kansas agricultural employers. A lack of a skilled agriculture workforce is a top inhibitor of growth and expansion for many Kansas agriculture entities.

The survey was constructed to gather information about the agriculture industry’s current and future workforce needs to support economic growth in the state. The survey was offered to agribusinesses, manufacturers, and producers of agricultural products in Kansas. The survey was open from February 18, 2022, to April 11, 2022, and recorded 1,192 responses from across the state. Figure 1 shows the geographic dispersion of the businesses that responded to the survey.¹ This map shows that most areas of the state are represented by the survey respondents. These respondents reported that they employ 27,466 individuals in Kansas and 9,244 individuals outside of Kansas. There was at least one respondent from every county in Kansas.

Figure 1. Map of Respondents



¹ Table A.1. in the Appendix shows the number of responses from each county.

Survey Limitations

Bias is possible in any type of survey. Bias refers to the tendency of a survey sample statistic to systematically overestimate or underestimate a population parameter. In this case, do the survey responses received accurately represent the need of the agribusiness industry in Kansas as a whole?

The procedure used to conduct this survey was designed to limit systemic biases in the results. A poor measurement process can lead to response bias, which is not an issue in this survey. Selection bias often occurs when the survey sample does not accurately represent the population. Three types of selection bias are under coverage, nonresponse and voluntary response. Nonresponse bias results when respondents differ in meaningful ways from nonrespondents. This is a common problem with mail surveys. Response rate is often low, making mail surveys vulnerable to nonresponse bias. The original survey notice was followed up with reminder emails to try to mitigate this type of bias. The results of the agribusiness employer survey should serve as a useful tool to validate economic estimates for the future workforce needs of the agribusiness industry in Kansas. However, it is important to note that the survey respondents represent a small portion of all the agribusinesses operating in Kansas.

Section 2: The Economic Significance of the Agribusiness Industry in Kansas

Agriculture and the businesses that add value to the raw materials used or produced by farmers and ranchers continue to be a key part of the Kansas and national economies. The employment of people in the agriculture industry also continues to support those economies. The growth of the agriculture industry is a key component to growing and strengthening the economy of Kansas.

To evaluate the total contribution of agriculture to the state's economy, the direct, indirect and induced effects must be added together. Direct effects capture the contribution from agricultural and food products. The primary sector of the agribusiness industry in Kansas includes traditional crop farming, cattle ranching, animal slaughtering and farm machinery/equipment manufacturing.

Indirect effects capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. Businesses that depend on agricultural output to support their activities are included in the indirect economic impact of the agriculture industry on the state's economy.

Induced effects or ripple effects capture the impact of expenditures by employees of farms, agricultural businesses and supporting industries on goods and services within the state. As income increases in agriculture, expenditures on goods and services produced by other sectors also increase, stimulating the overall level of economic activity. Including these induced effects provides a more accurate analysis of the overall contribution of agriculture to the economy.

KDA analyzed 76 industries in the primary sector of agriculture to determine their contribution to the Kansas economy. Using 2020 Impact Analysis for Planning (IMPLAN) data, adjusted for 2022, KDA found that the agriculture and agriculture-related sectors have a total direct output of

approximately \$53.4 billion and directly supports 136,227 jobs in Kansas.² Overall, these industries support 256,080 jobs, or 14% of the entire workforce in the state of Kansas. They provide a total economic contribution of approximately \$76 billion, roughly 14% of Gross Regional Product (GRP).³

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Value added is the summation of labor income, indirect business taxes, and other property type income. Total value added by the 73 agriculture and agriculture-related industries is approximately \$25.2 billion, or 14% of the GRP. This indicates that personal income, business income and taxes generated by these sectors account for 14% of the total economy.

It is clear that the agriculture and agriculture-related sectors play a significant role in the Kansas economy. With almost 37,000 employees, the survey respondents represent a good portion of these industries. However, a direct comparison of the survey sample and respondents to the IMPLAN analysis is not possible. The companies in the survey sample are classified according to their self-description. These classifications do not clearly match with the IMPLAN or NAICS (North American Industry Classification System) categories. Due to these data limitations, a direct comparison of the survey sample to the IMPLAN analysis is not included in this report.

Section 3: Survey Results

This survey identified the current agriculture workforce in Kansas along with vacancies and potential areas for workforce growth. It gathered information on recruitment and retention strategies. It included questions to identify skills and training needs of businesses in the Kansas agriculture sector. The final section of the survey addressed technology adoption and automation. The objective of the survey is to link the supply of human capital to the needs of Kansas agribusiness enterprises. The information will help support growth in agriculture. As shown in Figure 1, the survey respondents were geographically dispersed across the state. This dispersion gives a reasonable level of confidence in the information gathered and that the respondents' opinions are representative of the agribusiness industry, as a whole, in Kansas. As stated, the survey was open from February 18, 2022, to April 11, 2022, and 1,192 total responses were received. Survey respondents employed 27,466 individuals in Kansas and 9,244 individuals outside of Kansas. In 2016, the first workforce survey was conducted in Kansas using a different survey instrument. Few of the questions across the two surveys are comparable. However, for those questions that are comparable, the results are discussed.

Business Description

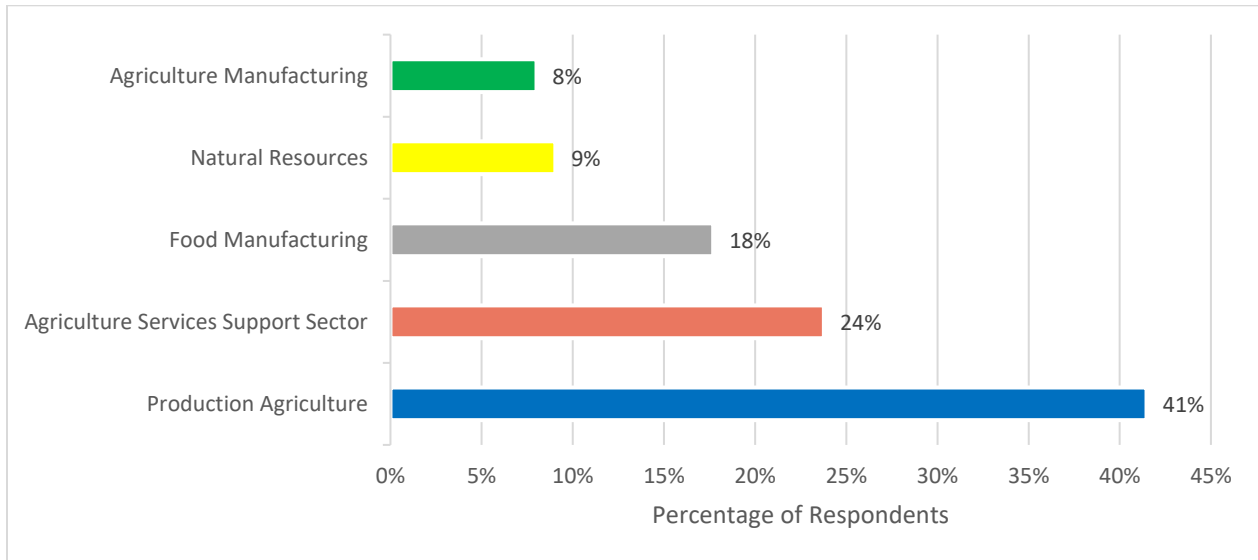
The first section of the survey asked respondents to describe their business. Respondents were asked to self-select the major category(ies) and related subcategory(ies) that applied to their business. As shown in Figure 2, 41% of respondents classified their business as production agriculture, and another 24% classified their business as agriculture service support sector. The

² The analysis of the economic impact of the agriculture sector to the Kansas economy is provided by the Kansas Department of Agriculture.

³ GRP = final demand of households + government expenditures + capital + exports - imports - institutional sales.

food manufacturing sector comprised 18% of respondents. The remaining 17% of responses was split into the natural resources sector (9%) and the agriculture manufacturing sector (8%). Each of these major business categories had a set of subcategories associated with it.

Figure 2. Major Business Categories



Figures 3 through 7 illustrate the breakdown of the major categories into the sector subcategories. Figure 3 includes the subcategories for production agriculture. Almost 80% of the production agriculture businesses identified as beef cattle production (26%), oilseed and grain farming (22%), feed/forage production (19%), or other crop farming (10%). Figure 4 includes the subcategories for the agriculture services support sector. Almost 75% of that sector was represented by five subcategories. Twenty percent of respondents in the agriculture services support sector were fertilizer, pesticide, or chemical dealers. The subcategories of agronomic services, landscape services, and transportation and storage comprised 14%, 11%, and 11%, respectively, of the sector. The other services subcategory was the second largest percentage at 17%. Several of the other services listed were related to weed and pest control. Figure 5 details the food manufacturing subcategories that respondents selected. Twenty-seven percent of respondents categorized their business in the “other” subcategory. Most of those “others” described themselves as restaurants and/or beverage providers. Two respondents were in the honey industry. Figure 6 includes the natural resources subcategories. Almost one-third of natural resources respondents described their operation as “other.” Those other subcategories were mainly described as oil and gas, or sand, salt, and gravel mining. Another 26% of natural resources respondents indicated that their business was related to water resources; this subcategory included irrigation technology. Figure 7 shows the subcategories selected by agriculture manufacturing businesses. Almost half of those respondents described their business as farm machinery and equipment manufacturing. Another 31% selected the other manufacturing subcategory. The other manufacturing descriptions included crop handling equipment, alfalfa pellets, and limestone crushing/lime.

Figure 3. Production Agriculture Subcategories

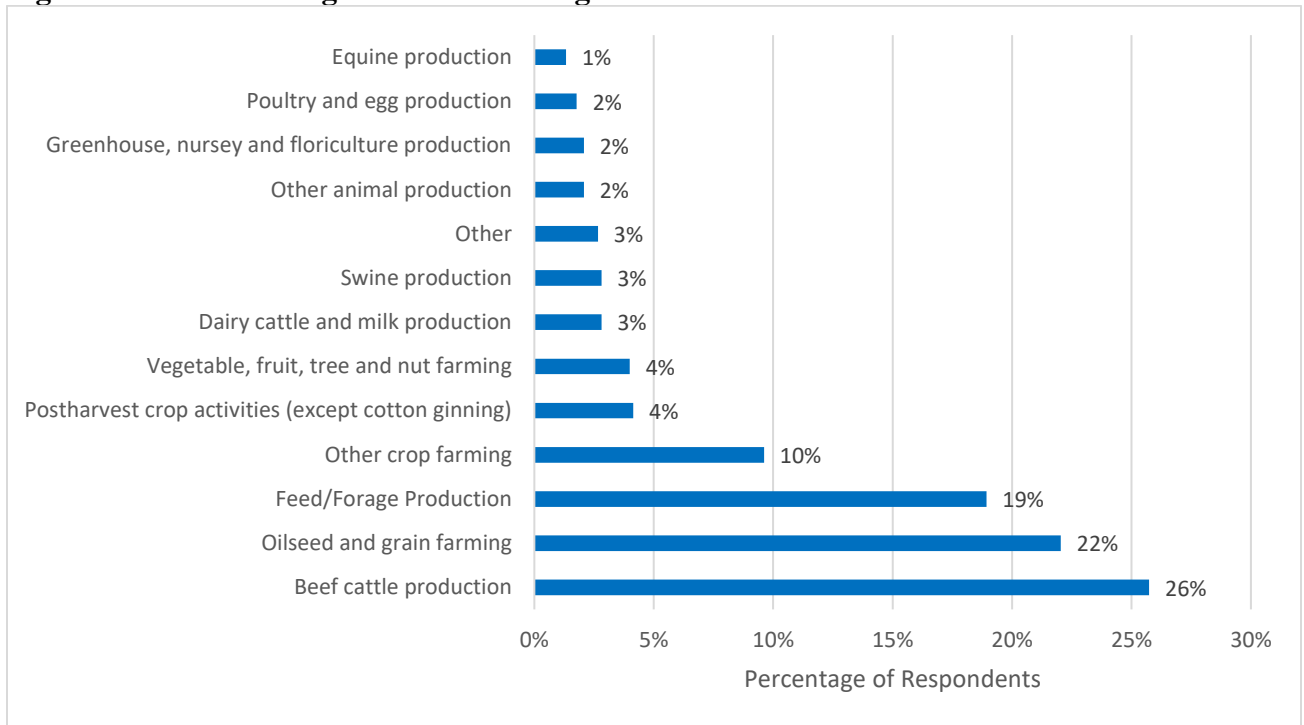


Figure 4. Agriculture Support Services Subcategories

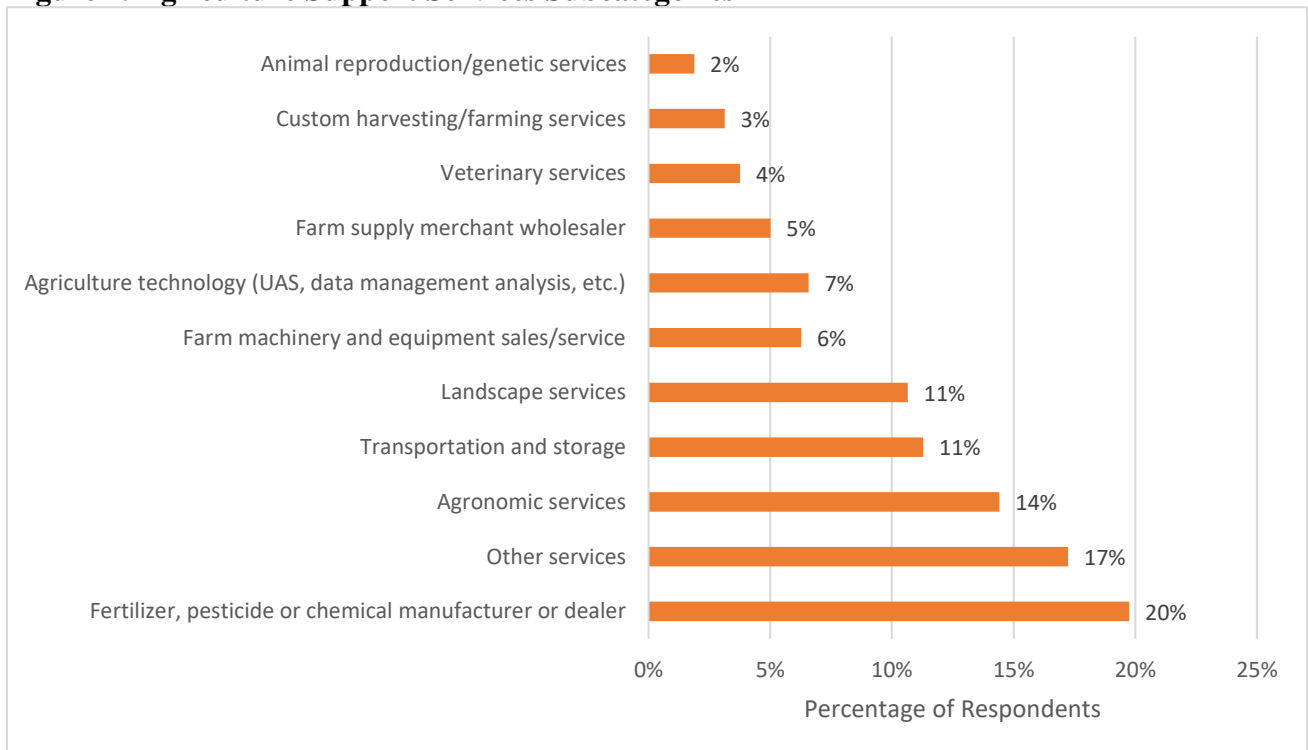


Figure 5. Food Manufacturing Subcategories

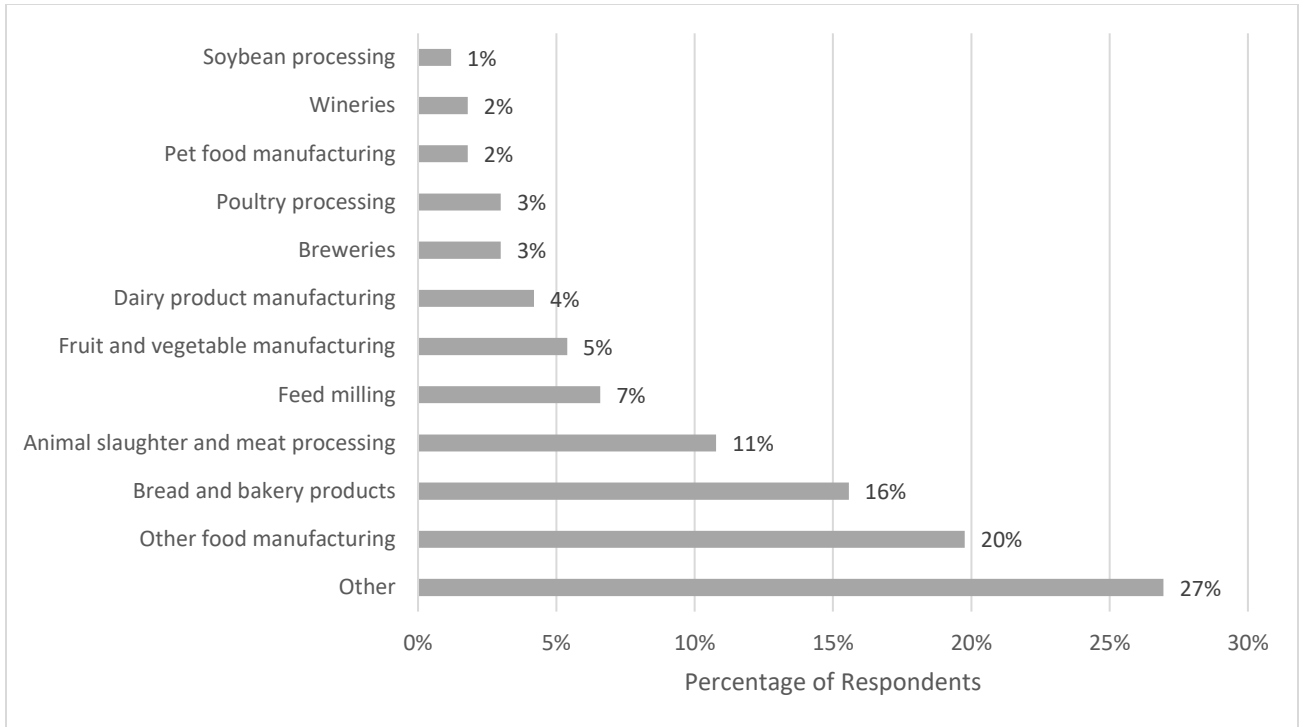


Figure 6. Natural Resources Subcategories

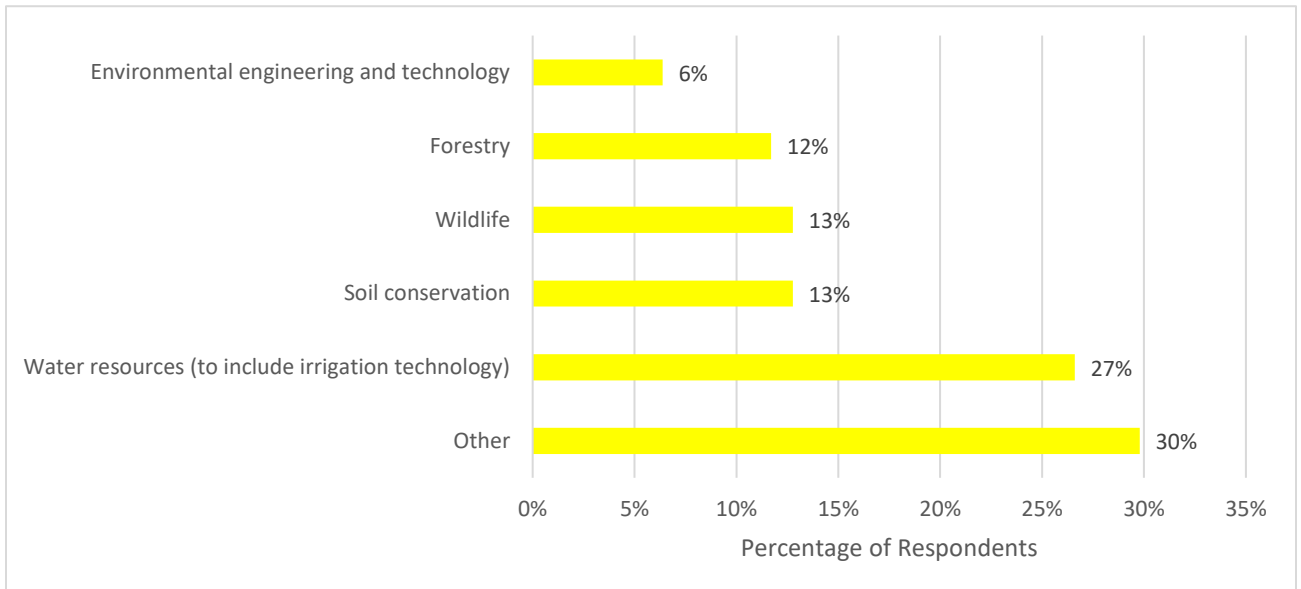
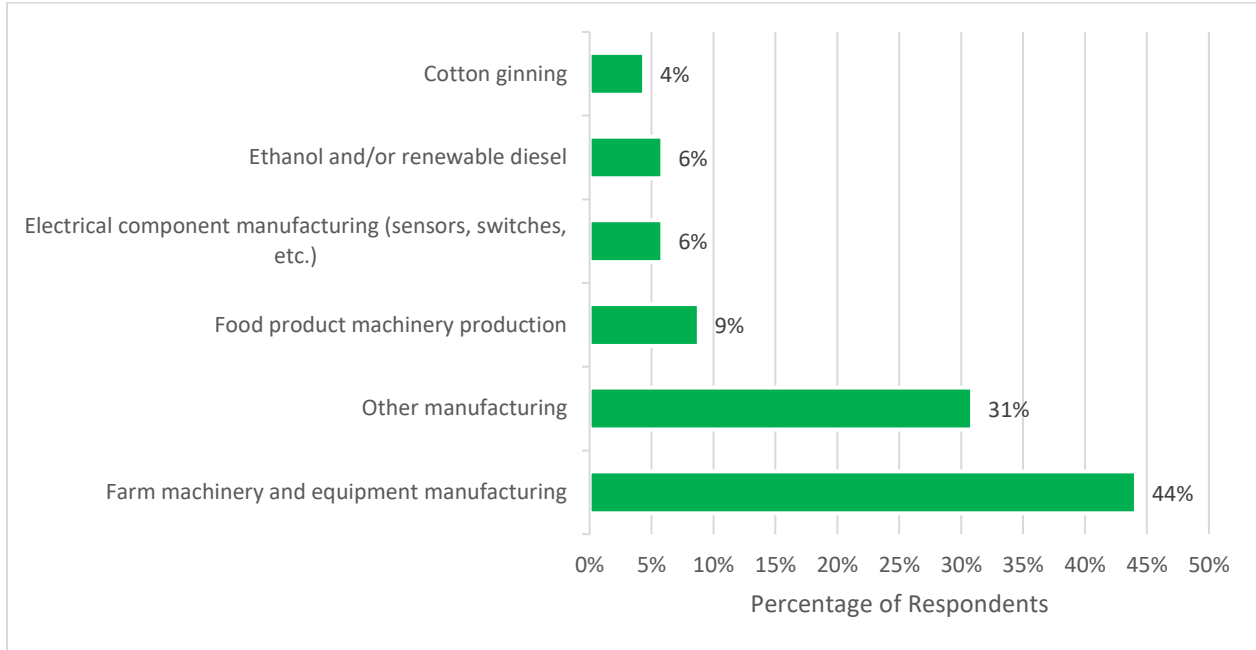


Figure 7. Agriculture Manufacturing Subcategories



Current Workforce

The questions in Section 2 of the survey were related to the respondents' current workforce. Figure 8 illustrates the number of individuals employed by respondents in each county in Kansas. Figure 9 shows the number of individuals employed by respondents outside of Kansas. The distribution is related to the location of the business. We did not ask where the employees outside of Kansas were located. On average, respondents employed 37 people in Kansas and 18 individuals outside of Kansas. The maximum number of employees that a respondent had in Kansas was 1,930 and outside of Kansas was 2,000. In total, the respondents employed 21,360 people in Kansas and 9,552 people outside of Kansas. Figure 10 shows the percentage of respondents' employees who are working remotely. Eighty-two percent of the respondents had no remote workers, and 4% of the respondents had 76-100% of their employees working remotely. Figure 11 displays the percentage of seasonal employees that respondents had. Fifty-eight percent of respondents hire no seasonal workers, and 22% of respondents had a workforce comprised of between 1 and 25% of seasonal workers.

Over half of respondents require only a high school degree or have no educational requirements at all (Figure 12). Another 10% of respondents employ current high school students. Over 40% of respondents described their average position as moderately physically demanding. Almost 30% described the average position as occasionally demanding. Less than 10% described their average position as not physically demanding (Figure 13).

Changes to wages and wage enhancements that have been offered by respondents in the last two years are shown in Figures 14 and 15, respectively. Almost 40% of respondents have increased their base hourly rate by \$1-\$2/hour, and another almost 40% of respondents have increased their base hourly rate by \$3-\$5/hour. Slightly over 15% of respondents' base hourly rate stayed the

same. Almost 18% of respondents have offered an annual bonus in the last two years. About 18% offered employees the opportunity to work overtime hours. Sixteen percent of respondents offered a holiday bonus in the last two years, and 11% have not made any changes to their wage enhancements in the last two years.

Figure 8. Kansas Employees

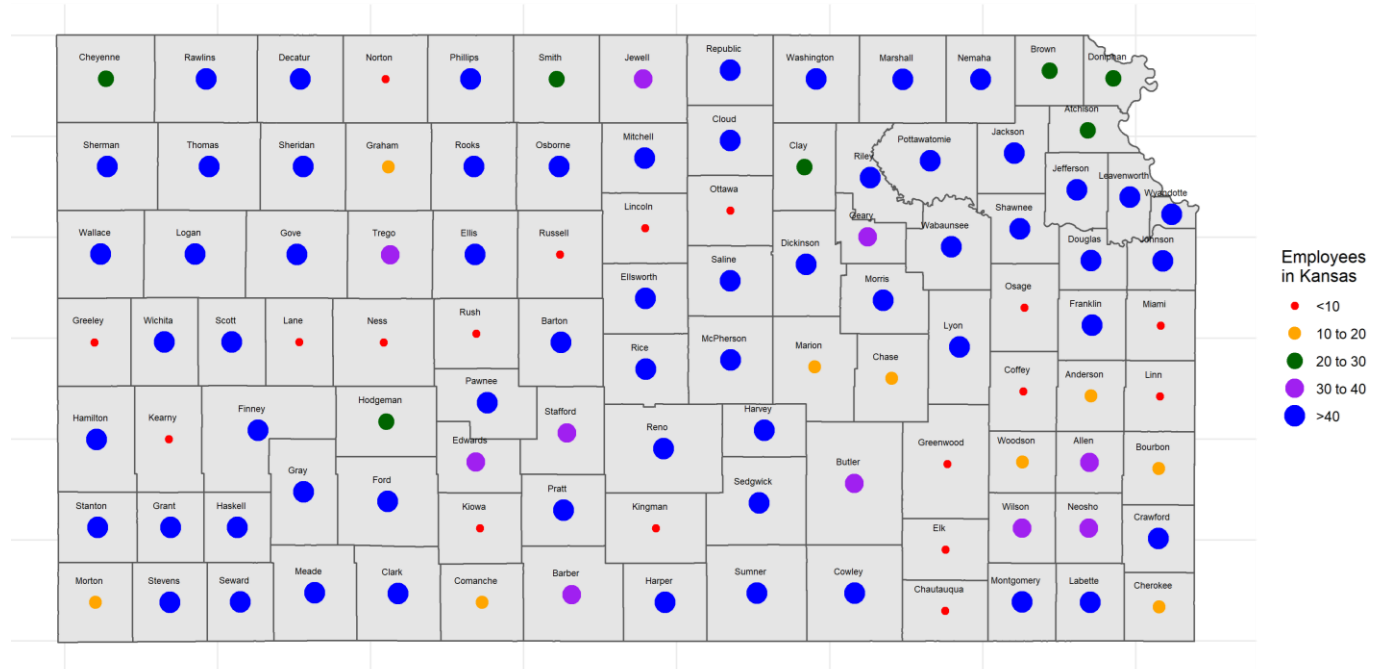


Figure 9. Employees Outside of Kansas

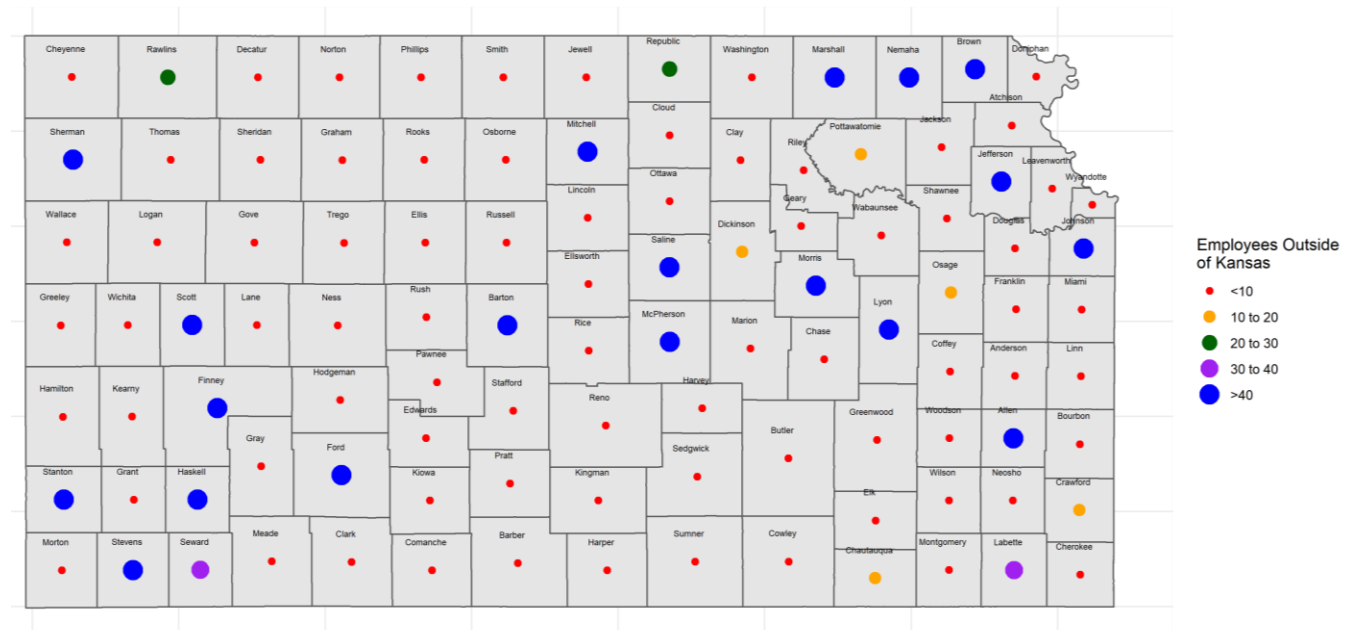


Figure 10. Employers with Remote Employees

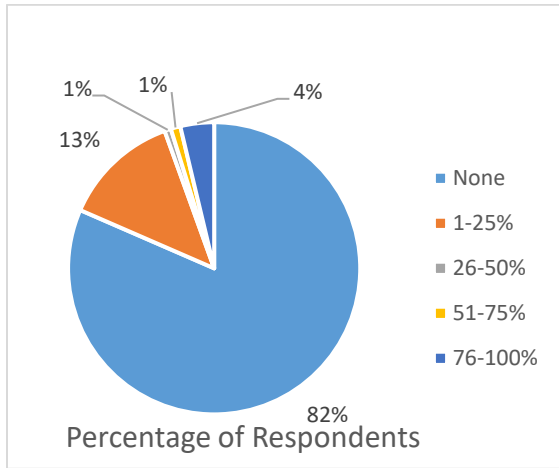


Figure 11. Employers with Seasonal Employees

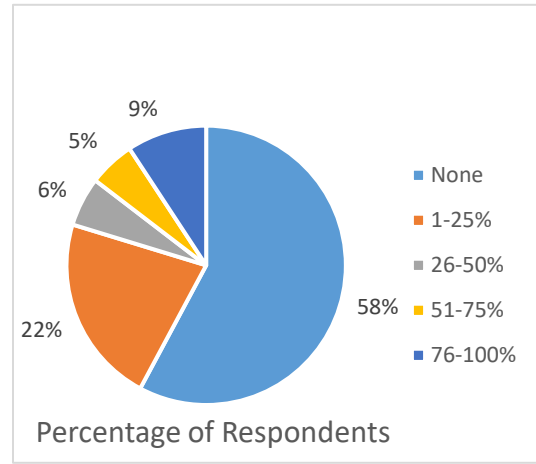


Figure 12. Education Level Requirements

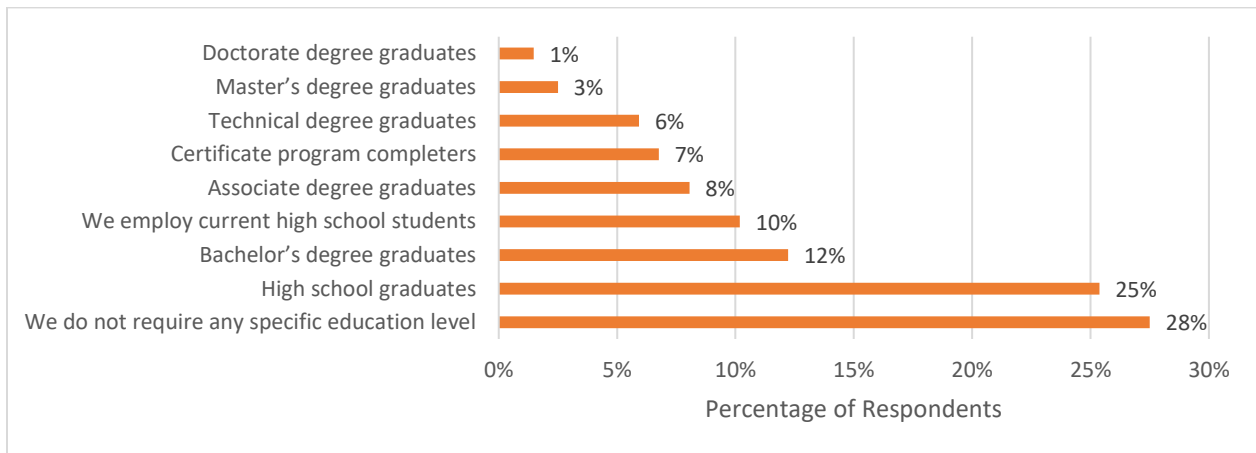


Figure 13. Physical Demands of Average Job at Business

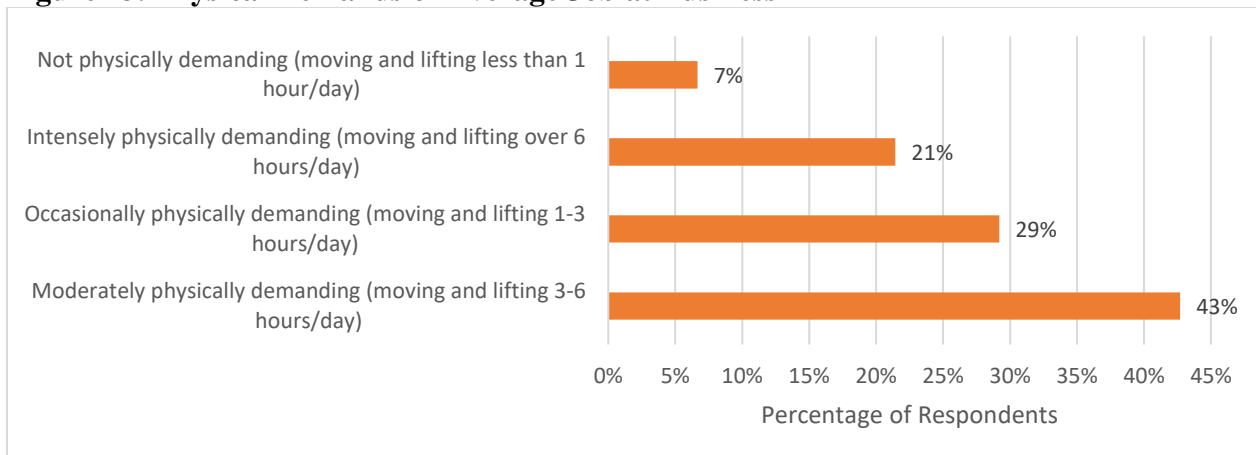


Figure 14. Changes to the Base Hourly Rate in the Last Two Years

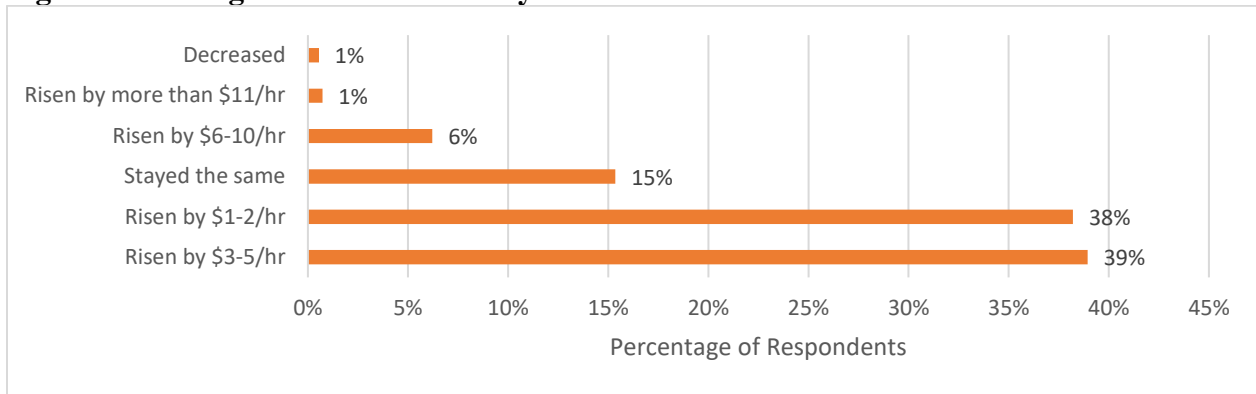
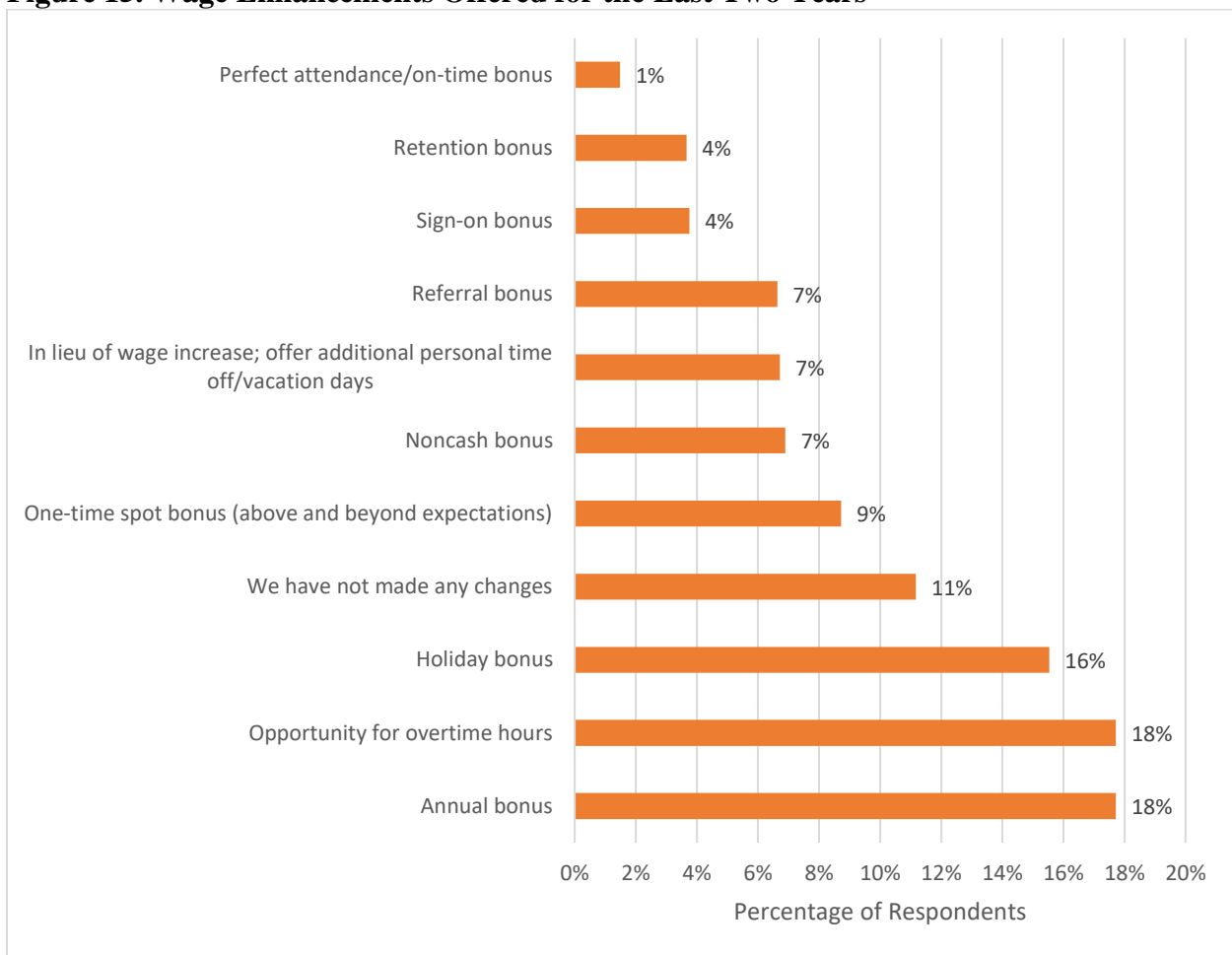


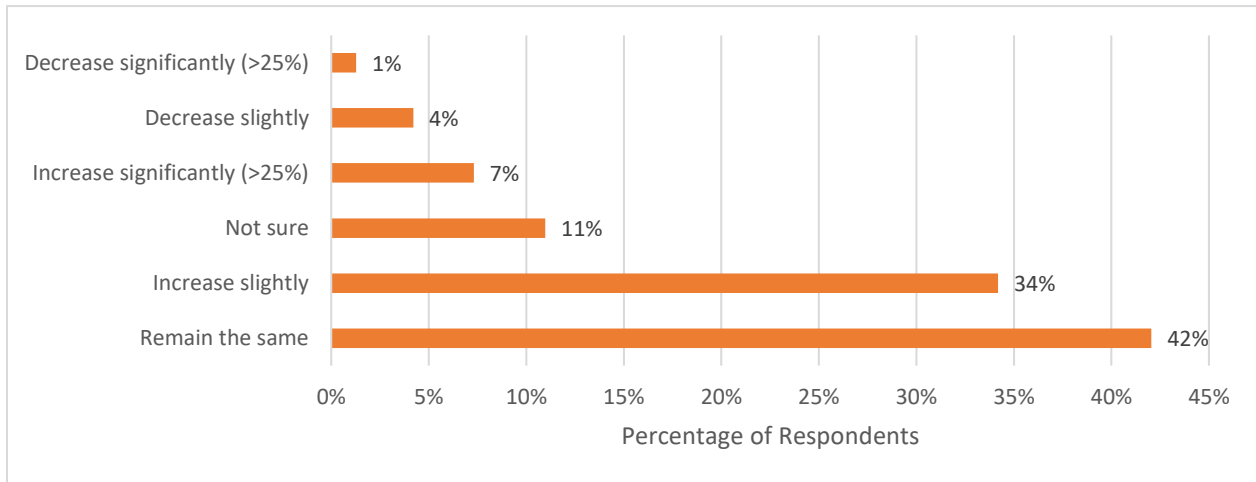
Figure 15. Wage Enhancements Offered for the Last Two Years



In the 2022 survey, 42% of respondents expect the size of the workforce to remain the same over the next 12 months (Figure 16). Thirty-four percent of respondents expect the workforce to increase slightly, defined as less than 25%, over the next 12 months. In 2016, when asked about plans for the size of the business in the future, almost 44% of respondents said they planned to expand in the next three years. Roughly 54% of respondents planned to remain stable, and only

3% planned to downsize their operation. Of those planning to expand, almost 80% planned to do so within the next two years.

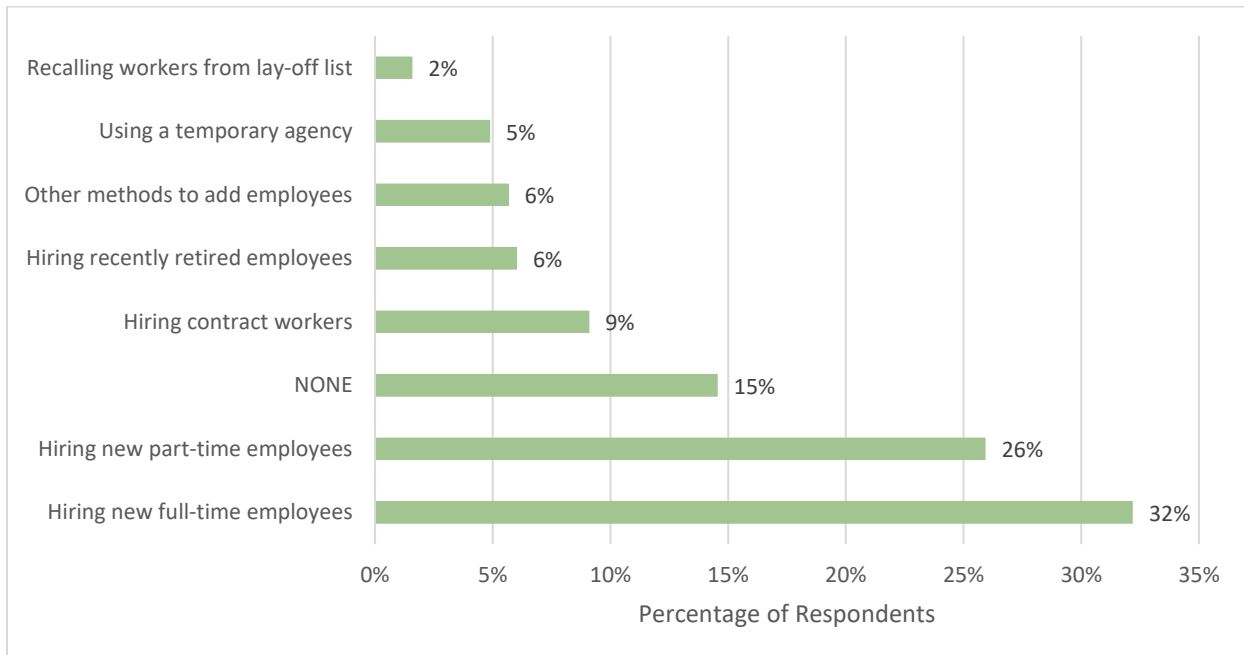
Figure 16. Expected Workforce Change in the Next 12 Months



Vacancies and Job Growth

To develop future agriculture workforce programs, it is important to know the plans of current agribusinesses. Thirty-two percent of the respondents plan to add new full-time employees to their workforce. Another 26% are hiring new part-time employees. Fifteen percent of respondents indicated that they do not plan to add any new hires. To compare this result to the 2016 survey, we must assume that “no new hires” (2022) is equivalent to “no vacancies” (2016). Under this assumption, the percentage of respondents with no vacancies has dropped from 64% in 2016 to 15% in 2022, emphasizing the need for agriculture workers.

Figure 17. Types of New Hires



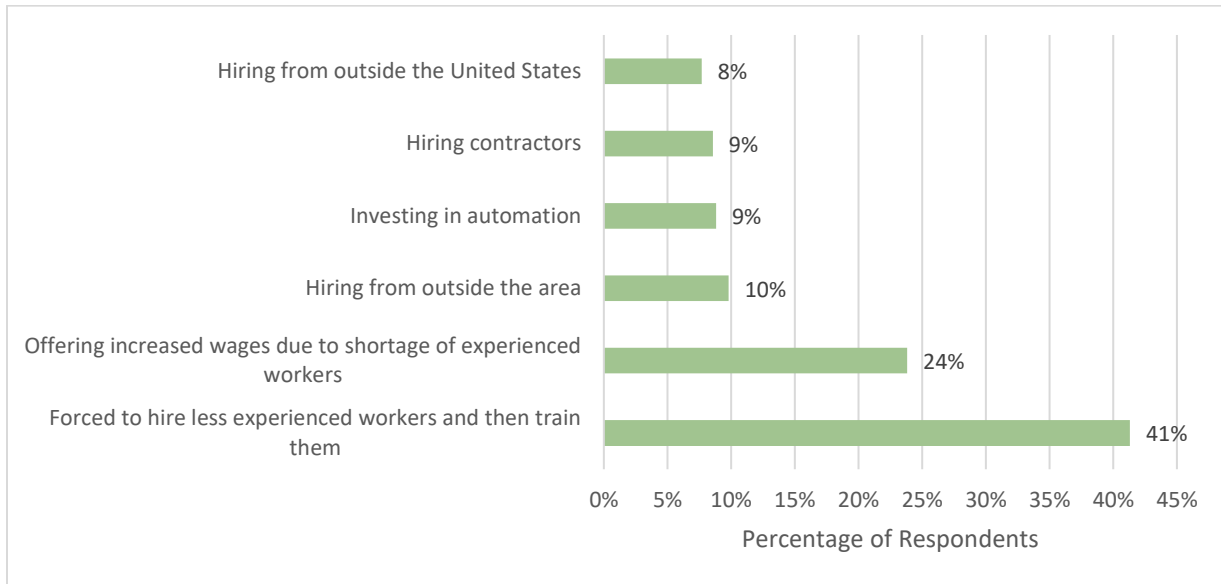
In 2022, the survey asked respondents to rate potential barriers to expanding employment within their business. The 2016 survey asked respondents to rank the importance of potential barriers to expansion. In 2016, respondents rated labor cost as the primary constraint to expansion. Other constraints rated highly were expense related to benefits, the lack of a desire to expand, uncertainty in current market demand, and the lack of skilled workers. Table 1 from the 2022 survey shows that worker skill, economic conditions, and government regulations were considered major barriers to employment expansion by respondents. Forty-seven percent of the responses to the “worker skill” option ranked it as a major barrier. Only 4% of the responses to “training programs” ranked those as a major barrier. The average column represents the average of all respondents’ ratings of each barrier, while the mode column represents the most frequently selected rating of each barrier option.

Table 1. Barriers to Expanding Employment Within Your Business

Barrier	Average	Mode	Major Barrier				Minor Barrier
			2	3	4		
Economic Conditions	2.56	1	30%	23%	21%	12%	14%
Government Regulations	2.79	1	25%	22%	22%	13%	19%
Broadband	4.21	5	6%	5%	15%	13%	62%
Childcare	3.84	5	9%	10%	16%	15%	49%
Information	3.95	5	4%	8%	23%	16%	48%
Transportation	4.09	5	4%	6%	20%	17%	53%
Not Expanding	3.98	5	8%	5%	22%	10%	55%
Training Programs	3.97	5	4%	11%	16%	20%	48%
Housing	3.11	5	19%	20%	21%	12%	28%
Worker Skill	2.08	1	47%	24%	14%	4%	11%
None	4.01	5	5%	3%	32%	7%	54%

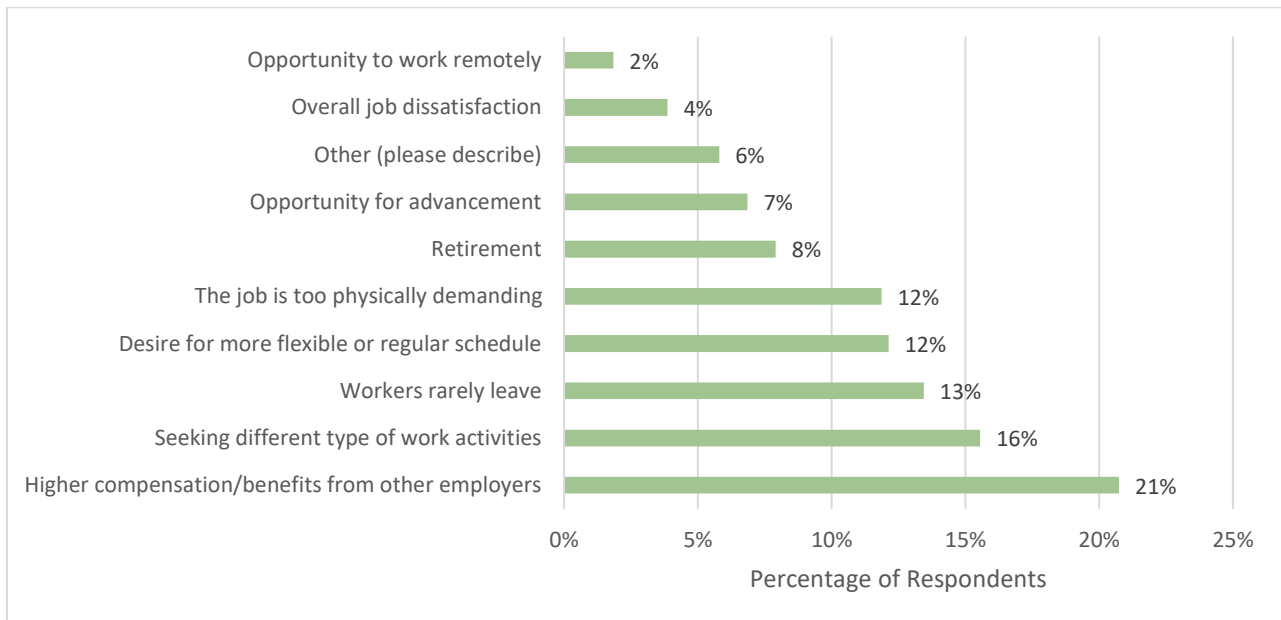
Following up on the barriers to employment expansion, the survey asked respondents if they had actually faced a lack of skilled applicants. Seventy-six percent of respondents said they had. As to adapting to that lack of skilled applicants, 41% of respondents said they were forced to hire less experienced workers and then train them (Figure 18). Twenty-four percent said they were offering increased wages due to the shortage of experienced workers. Nine percent of the respondents said they were investing in automation or hiring contractors. Ten percent and 8% of respondents said they were hiring outside the area or outside the United States, respectively.

Figure 18. Adaptations to Lack of Skilled Applicants



When asked about the reasons that workers usually give for leaving the company (Figure 19), 21% of respondents said employees left for higher compensation/benefits from other employers. Thirteen percent said that workers rarely leave. Sixteen percent of respondents said that workers left seeking different types of work activities. Both the job being too physically demanding and a desire for more flexible or regular schedule were reasons that 12% of respondents said workers gave for leaving. Only 2% of respondents said workers left for the opportunity to work remotely.

Figure 19. Reasons Workers Gave for Leaving



Of the critical positions that respondents said were difficult to fill, CDL and equipment operators were selected by over 12% of the respondents. Around 8–10% of respondents selected each of the labor categories: general unskilled labor, production physical labor, general farm labor, and production skilled labor. Another 9% selected mechanics/welders/maintenance/technicians. Animal livestock handling and applicators were each selected by 7–8% of respondents. The remaining categories were selected by less than 5% of respondents (Figure 20). In a follow up to critical positions that are difficult to fill, the survey asked respondents which of those positions would be impacted by a retiring workforce in the next three years. Fourteen percent of respondents said that none of the critical positions would be impacted by retirements in the next three years (Figure 21). Responses to this question were similar to the “difficult to fill” question, with two notable exceptions. Eight percent of respondents said that upper management would be impacted by retirements, while only 1% said those positions were difficult to fill. The same trend was seen in middle management but not as stark. For middle management, 5% said retirement would impact, and only 3% said those positions were difficult to fill.

In 2016, the survey question related to the impact of retirement on the workforce was more generalized. It asked about which sector of the agriculture industry would be impacted by retirements. Those respondents said that the agriculture business sector positions would be most impacted by retirements, four times the amount of the next closest sector.

Figure 20. Critical Positions That Are Difficult to Fill

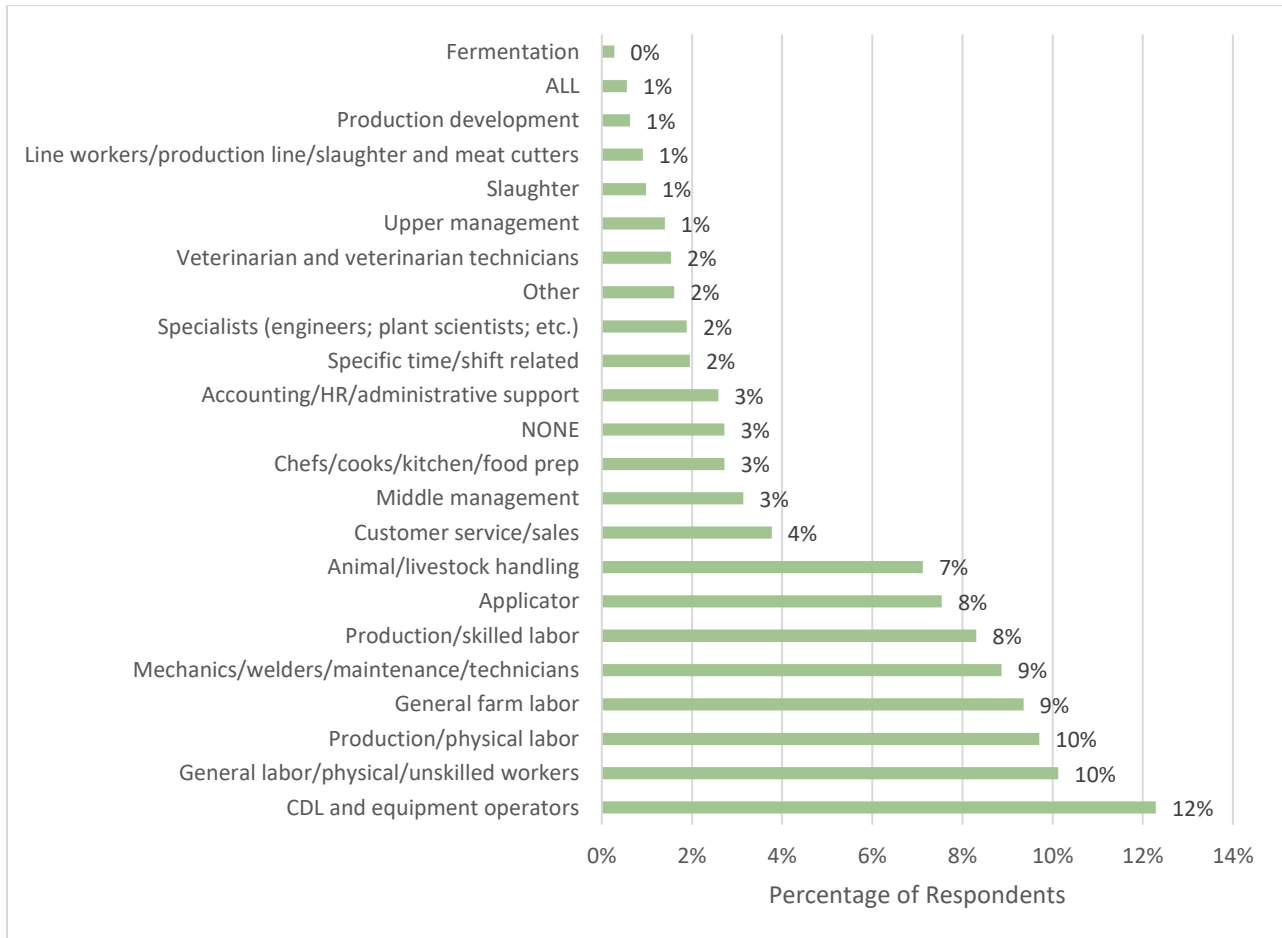
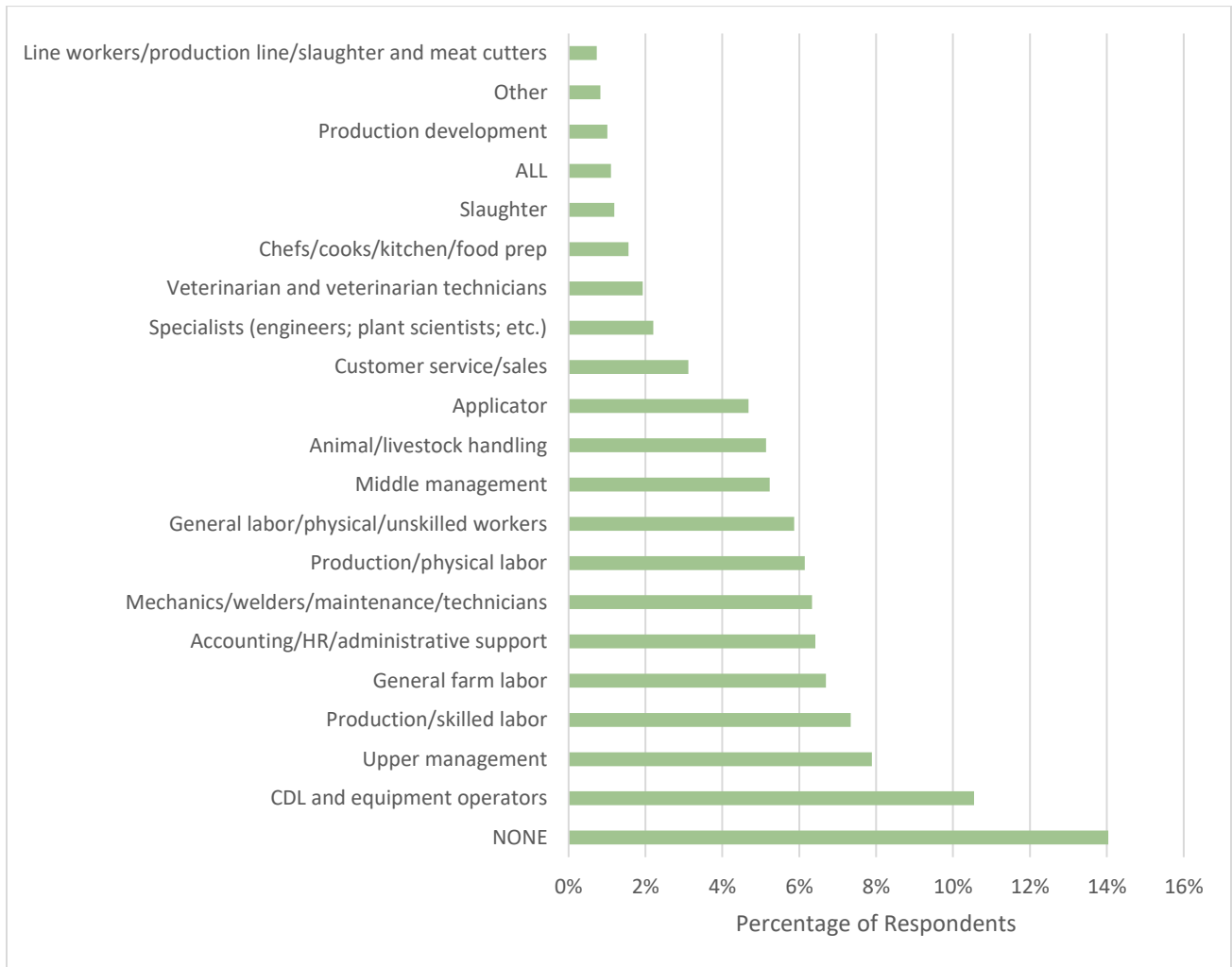


Figure 21. Critical Positions That Will Be Impacted by Retirement in the Next Three Years



Recruitment and Retention Strategies

The 2022 survey asked respondents what recruitment practices they used to fill current job openings. Slightly over 20% of respondents said they used employee referrals and networks, while 19% said they used social media sites (Figure 22). Twelve percent said they advertised on their business’s website. Industry job boards, job centers, and college/university recruiting were each used by 8% of the respondents. Several of the 4% of respondents who selected “other” recruitment practices wrote in the options of word of mouth, Indeed, and local newspaper and radio ads. In 2016, the survey asked what advertising media respondents used. Networking/word of mouth was considered the most useful form of advertising at that time. However, in the 2016 survey, more respondents listed paper advertising than listed electronic advertising practices.

Of the benefits listed in the 2022 survey, 26% of the respondents offered paid vacation (Figure 23). Twenty percent offered performance-based pay increases or bonuses. Eighteen percent offered a flexible work schedule, and 13% offered a vehicle. Seven percent provide housing, and 7% offer financial support for continuing education. Only 5% of the respondents offered none of

the benefits or incentives listed. Five percent selected “other,” and most of the “other” comments listed health insurance, life insurance, and retirement benefits. A few respondents said they offered processed beef. The 2016 survey questions regarding benefits or incentives offered differed somewhat from the 2022 survey. In 2016, almost half of the respondents indicated they offered benefits to their full-time and part-time employees. Most companies offered insurance, paid leave, and bonuses to full-time employees.

Figure 22. Recruitment Practices

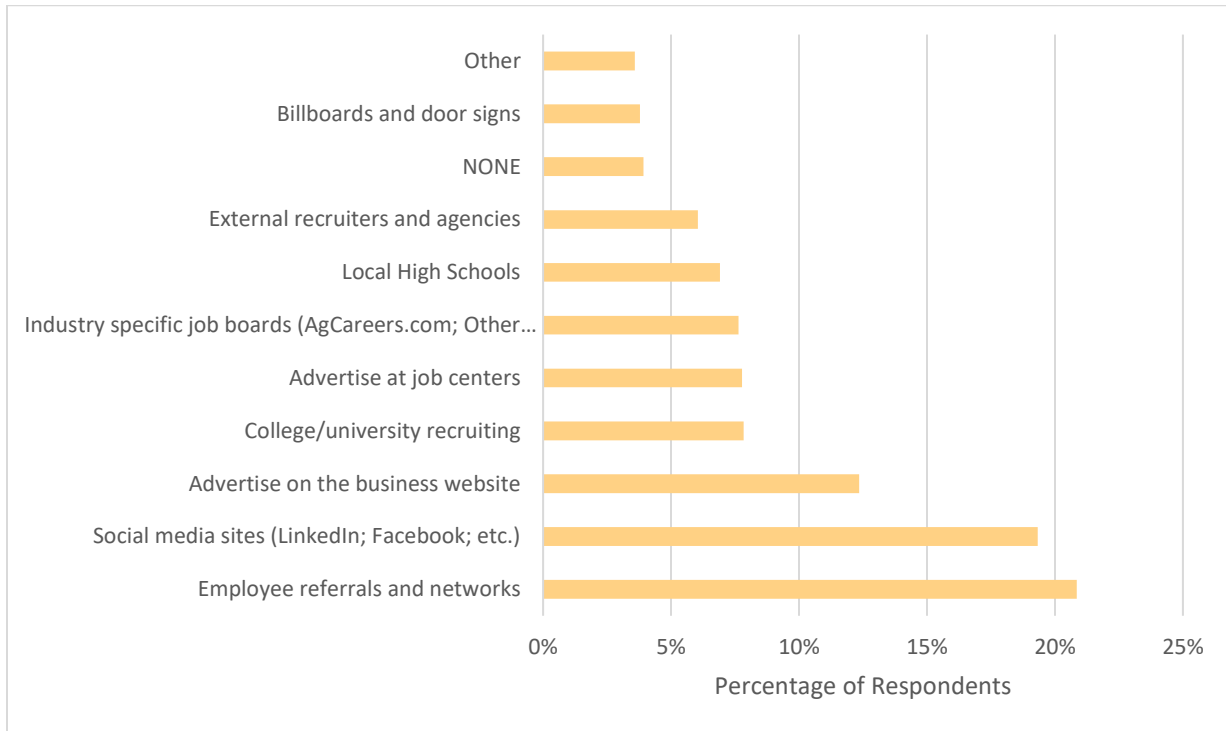
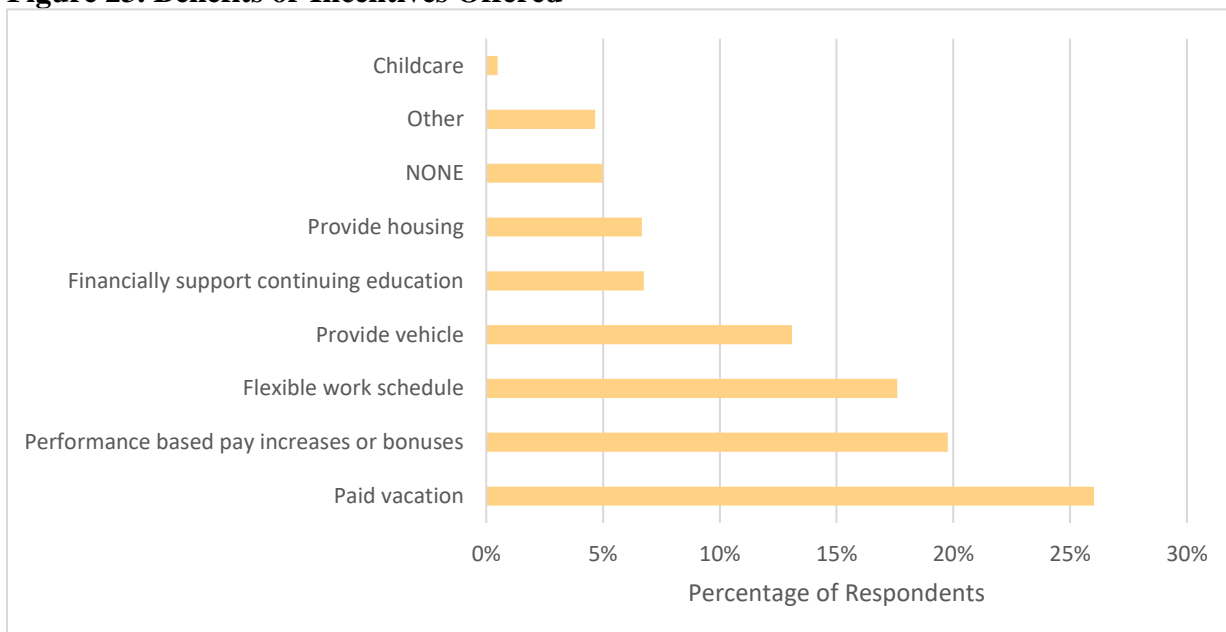


Figure 23. Benefits or Incentives Offered



The 2022 survey included questions about hiring non-traditional workers. Almost 25% of the respondents said they hired individuals with a high school or technical degree (Figure 24). Over 15% said they hired veterans, and 14% said they hired recent retirees. Eight percent said they hired ex-offenders, 7% said they hired for apprenticeships, and 12% said they did not hire in any of the categories listed. Only 5% and 1% of respondents said they hired H-2A or H-2B workers, respectively. These small percentages are probably representative of the complexity of these programs discussed in the respondents’ comments.

The survey followed up with questions about respondents’ potential to hire non-traditional employees and barriers to hiring non-traditional workers. The percentages of respondents who would hire non-traditional workers in the future were similar to those who are currently hiring non-traditional workers, except in the H-2A and H-2B categories (Figure 25). The percent of respondents who would hire H-2A workers was 9%; the percent of respondents who would hire H-2B workers was 7%. These responses indicate that businesses are more willing to hire H-2A and H-2B workers than they have been able to in practice.

Figure 24. Currently Hiring Non-Traditional Workers

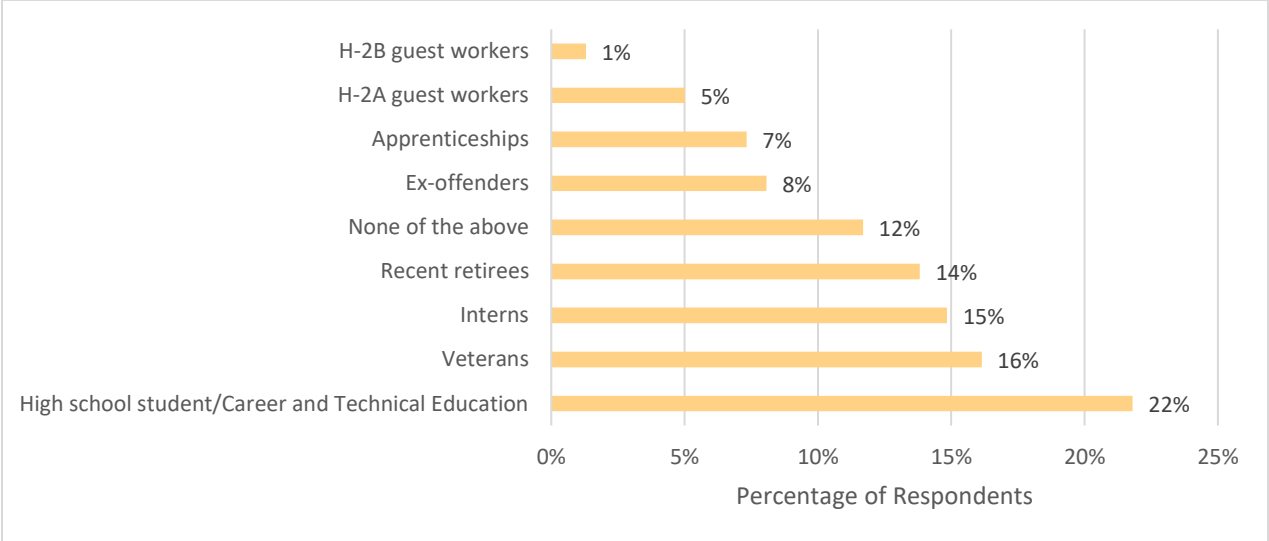
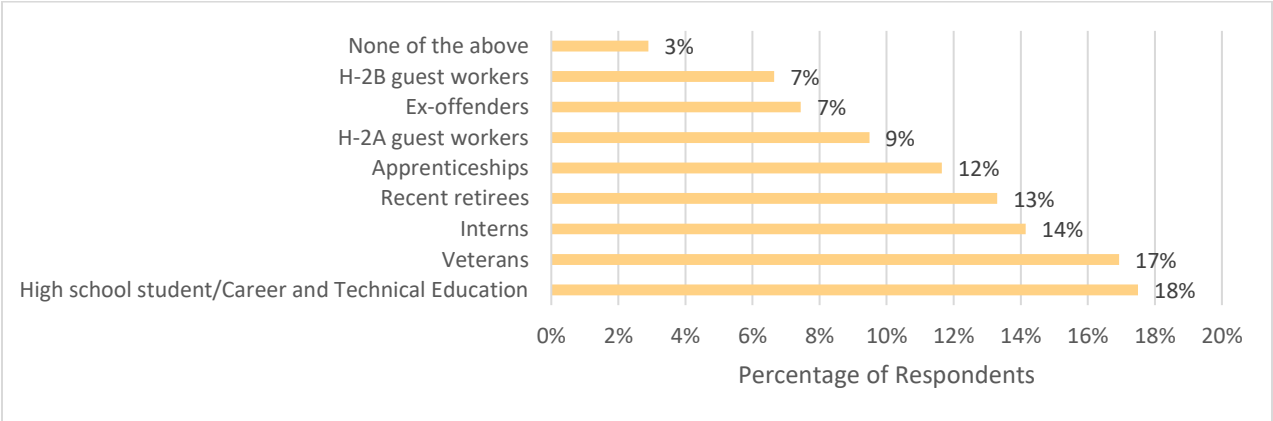
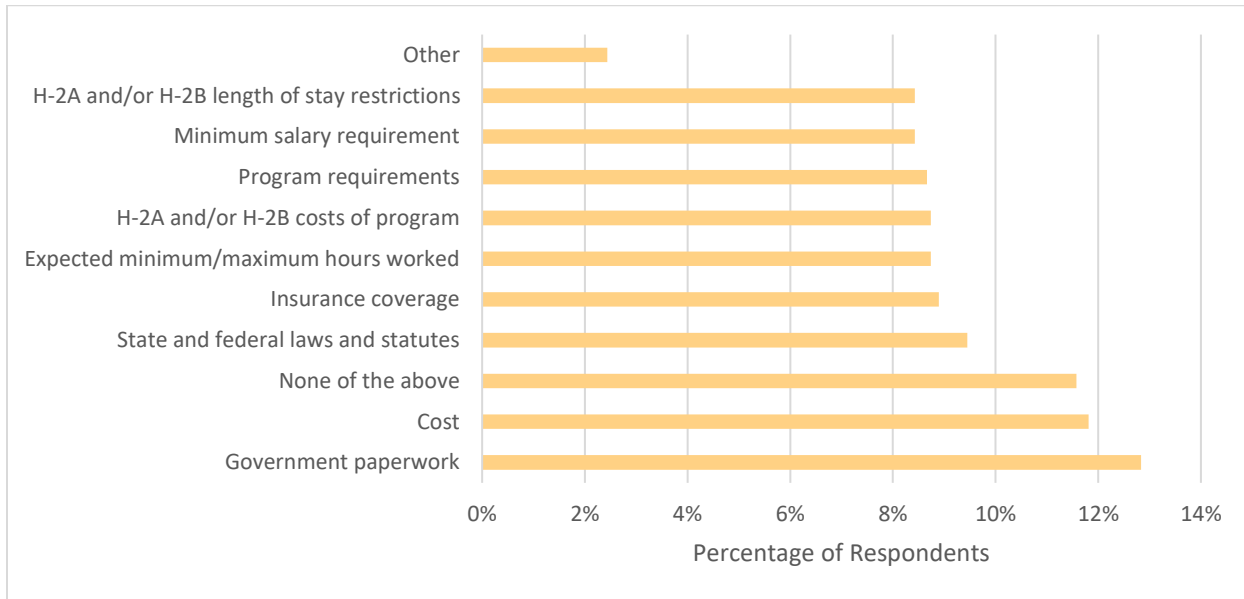


Figure 25. Hiring Non-Traditional Workers in the Future



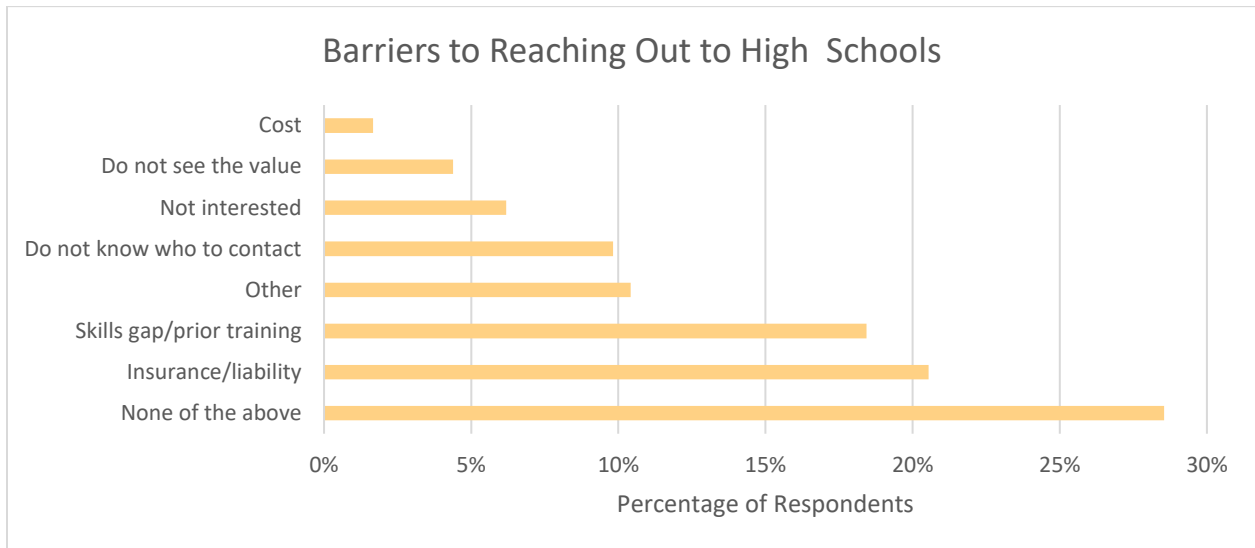
Thirteen percent of respondents cited government paperwork as a barrier to hiring non-traditional workers (Figure 26). Twelve percent of respondents said cost was a barrier to hiring non-traditional workers, and an equal percent of respondents said that none of the listed options were barriers to hiring these individuals. Between 8% and 9% of respondents selected the other categories listed as potential barriers. Only 2% said that there was some “other” barrier. Most of the “other” comments listed availability and a lack of education on program requirements.

Figure 26. Barriers to Hiring Non-Traditional Workers



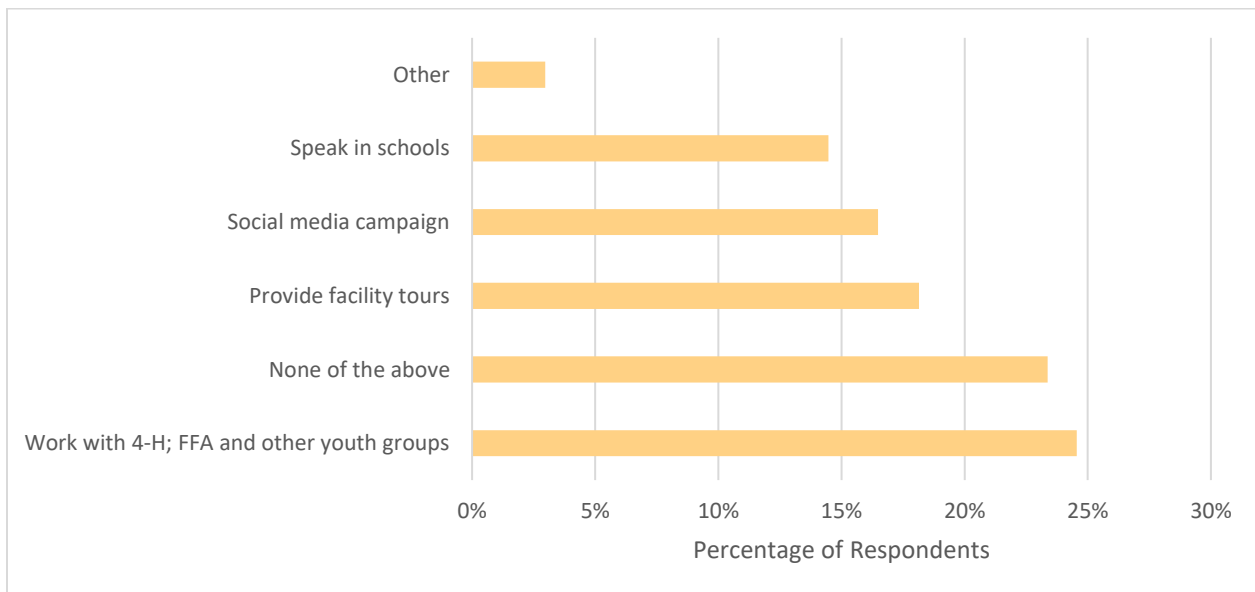
The 2022 survey also asked about barriers to reaching out to high schools for internships, job shadowing, or hiring students. Almost 30% of respondents said that none of the listed options were barriers to reaching out to high schools (Figure 27). Twenty-one percent of respondents cited insurance/liability as a barrier to reaching out to high schools. Eighteen percent of respondents said that the skills gap/prior training was a barrier. Ten percent said they did not know who to contact, and 10% selected the “other” option. Most of the comments with the “other” selection were related to scheduling. Six percent and 4% of respondents said they were not interested or did not see the value, respectively, in reaching out to high schools.

Figure 27. Barriers to Reaching Out to High Schools



Twenty-five percent of respondents said they worked with 4-H, FFA, and other youth groups to promote careers in food, agriculture, and natural resources (FANR) (Figure 28). About the same percent of respondents, 23%, said they did not do any of the offered options to promote FANR careers. Eighteen percent of respondents provide facility tours as promotion. Sixteen percent use social media promotion, and 14% speak in schools. Only 3% of respondents said they promote FANR careers in some “other” way. The comments related to “other” selections included scholarships and word of mouth.

Figure 28. Promoting Careers in Food, Agriculture, and Natural Resources



Skills and Training Needs

The 2022 survey asked respondents to rate the difficulty of finding certain skills in their business sector workforce. Three skills jumped out as the most difficult to find: leadership and supervisory, reliability and general work readiness, and truck driver (Table 2). Respondents' mode rating of these three skills was very difficult to find. On average, respondents did not rank these skills as below moderately difficult to find. The next most difficult to find skills were equipment operation—farm and heavy, problem solving and analytical, and repair mechanical including diesel. The remaining skills were rated as average difficulty to find. On average, none of the skills listed in the survey were rated as moderately easy or easy to find. Ten percent of respondents said that livestock handling skills were easy to find. Well below 10% of respondents rated the other skills as easy to find. Respondents listed welding experience, chainsaw experience, irrigation technician, applicator, and millwright as some of the “other” skills that they rated.

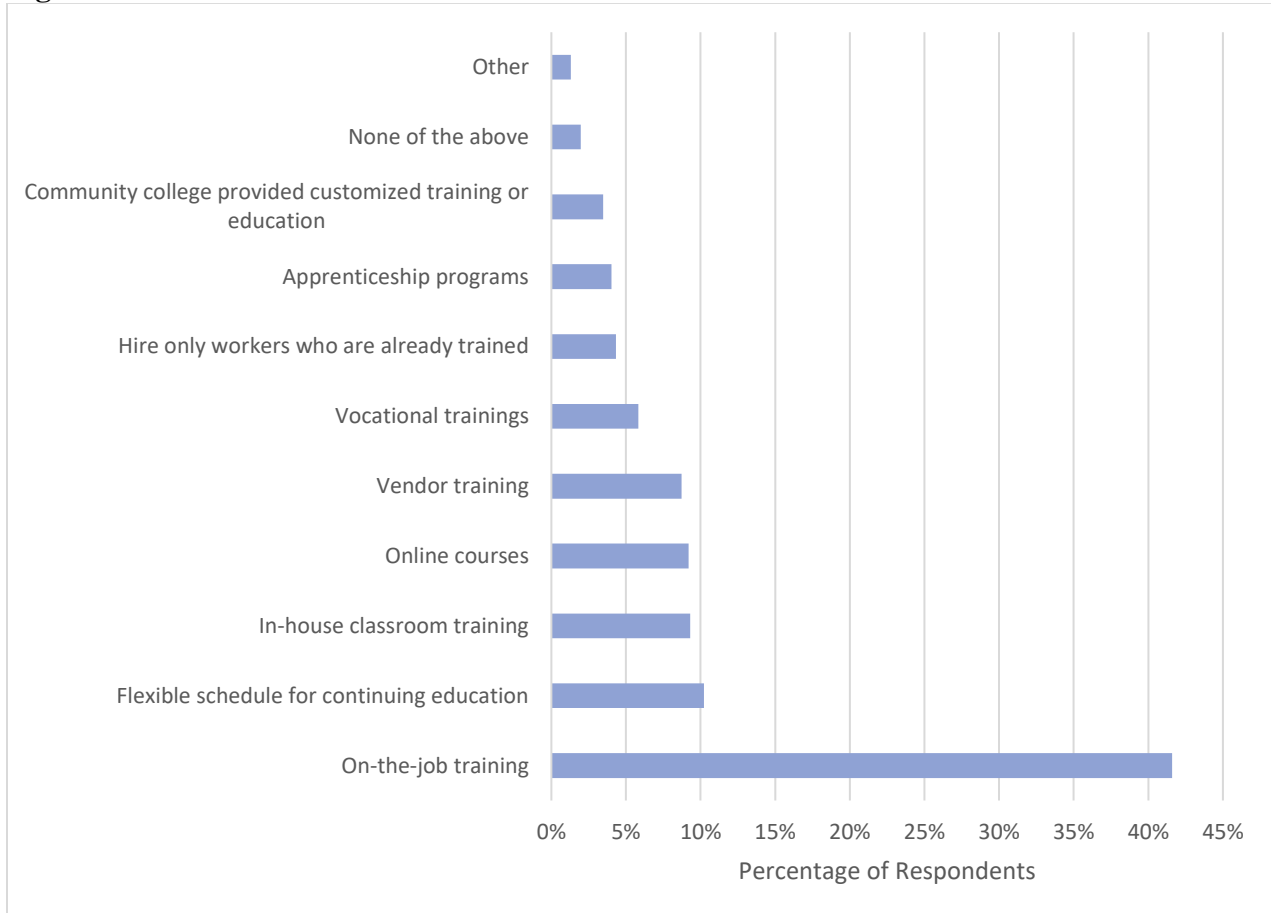
The 2016 survey broke skills into "basic," “hard,” and “soft” skill categories. Respondents said applicants met the necessary requirements and “basic” skills for vacant positions, in general. However, respondents said that applicants were not fulfilling the “hard” and “soft” skills required for vacant positions. According to respondents, written communication and applied mathematics were the main basic skills that applicants lacked. However, many respondents completed the “Other” category with communication issues that applicants were lacking.

Table 2. Rating the Difficulty of Finding a Skill in Your Business Sector

Skill	Avg	Mode	1	2	3	4	5
Agronomy	2.61	3	17%	28%	39%	9%	7%
Animal husbandry	2.66	3	18%	23%	42%	8%	8%
Automation and robotics knowledge	2.28	3	30%	27%	33%	6%	4%
Communication and interpersonal skills	2.51	3	17%	32%	37%	8%	5%
Customer service and sales	2.63	3	14%	29%	40%	11%	5%
Data analysis	2.61	3	14%	32%	38%	11%	5%
Electrical	2.44	3	22%	31%	33%	9%	5%
Equipment operation – farm and heavy	2.38	2	21%	38%	28%	8%	6%
Financial management	2.58	3	22%	24%	37%	11%	7%
Leadership and supervisor skills	2.15	1	34%	33%	22%	7%	4%
Livestock handling	2.69	3	20%	20%	40%	10%	10%
Problem solving and analytical	2.25	2	27%	35%	27%	7%	3%
Programming and software applications	2.58	3	18%	30%	35%	12%	6%
Reliability and general work readiness	2.04	1	38%	32%	20%	6%	3%
Repair and mechanical including diesel	2.14	2	33%	34%	24%	7%	3%
Truck drivers	2.07	1	39%	29%	22%	6%	4%
Other	2.90	3	24%	10%	38%	7%	21%

The 2022 survey asked respondents what methods they used to increase their current workers' skills. Over 40% of respondents selected on-the-job training as a method they used (Figure 29). No other methods were selected by more than 10% of the respondents. Flexible scheduling for continuing education, in-house classroom training, online courses, and vendor training were all selected by about 10% of respondents as methods that they used.

Figure 29. Methods to Increase Workforce Skills



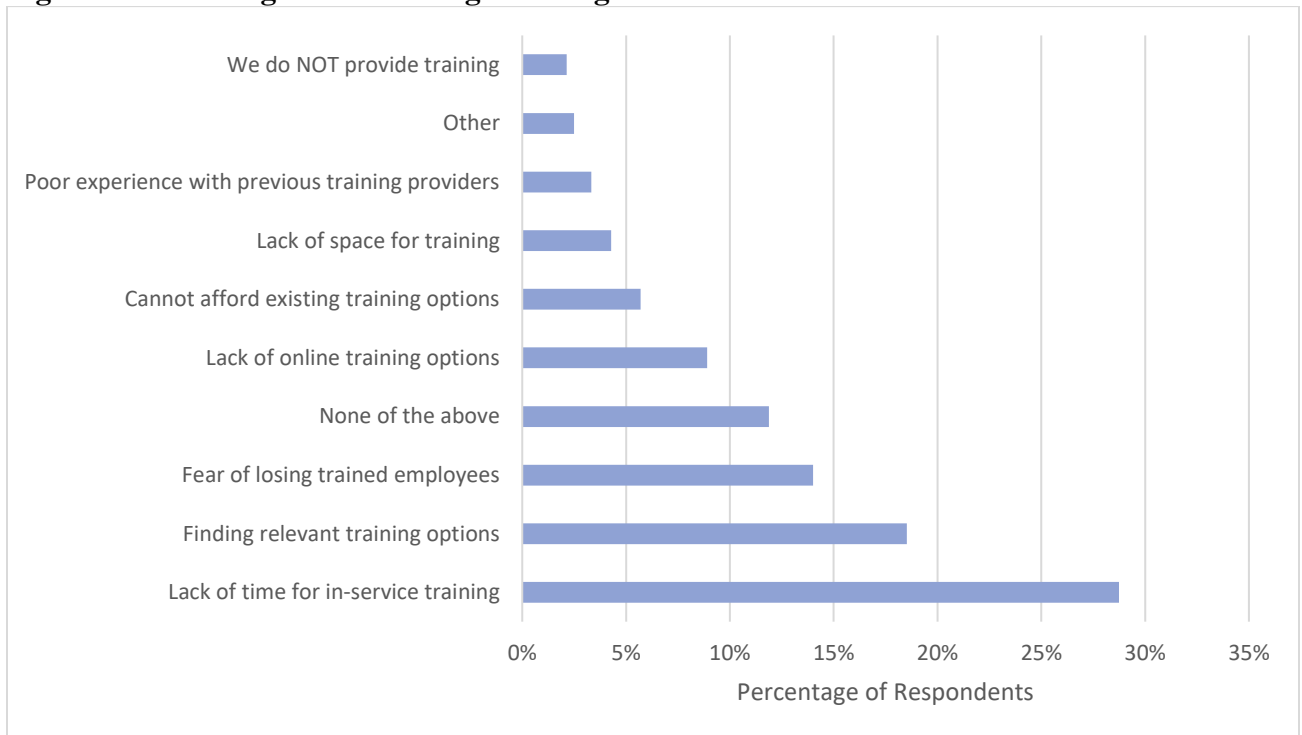
The only training method that respondents rated as very effective was on-the-job training (Table 3). Most respondents rated the rest of the training methods as 3, or average effectiveness. On average, respondents rated online courses, tuition reimbursement, and “other” the lowest. Twenty-seven percent of respondents who selected “other” rated it as not effective. However, respondents who selected “other” did not expand on what the “other” training methods were.

Table 3. Rating the Effectiveness of Training Methods

Training Method	Average	Mode	1=Very Effective	2	3	4	5=Not Effective
Apprenticeship Programs	2.69	3	15%	25%	44%	6%	9%
Community/Technical college provided customized training or education	2.60	3	16%	30%	38%	10%	6%
Flexible schedule for continuing education	2.82	3	10%	24%	49%	8%	9%
High school Career and Technical Education	2.78	3	10%	28%	42%	11%	8%
Hire only workers who are already trained	2.58	3	26%	24%	27%	13%	10%
In-house classroom training	2.67	3	17%	27%	38%	10%	8%
Online courses	3.09	3	5%	24%	40%	18%	13%
On-the-job training	1.67	1	56%	26%	14%	2%	2%
Tuition reimbursement	3.37	3	6%	11%	44%	19%	20%
Vendor training	2.93	3	10%	26%	39%	12%	13%
Vocational trainings	2.63	3	15%	30%	39%	9%	7%
Other	3.24	3	14%	8%	46%	5%	27%

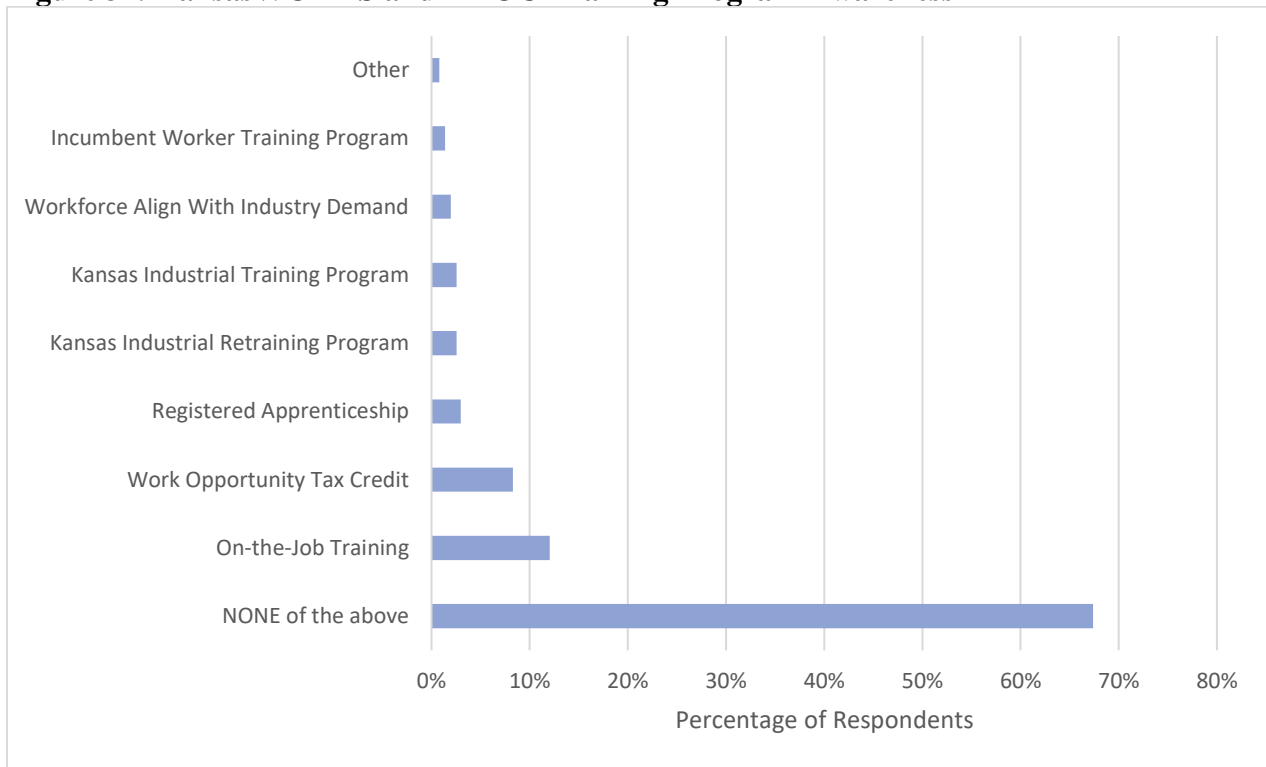
The 2022 survey asked respondents what challenges they faced in providing training to their existing workforce. Almost 30% of respondents cited a lack of time for in-service training (Figure 30). Nineteen percent of respondents said that finding relevant training options was a challenge. Almost 15% cited a fear of losing trained employees as a challenge to providing their workforce with training. Twelve percent said that none of the options listed were challenges to providing training to their workforce. Nine percent cited a lack of online training options as a challenge, and 6% said they could not afford existing training options. Few respondents, 4% and 3% respectively, said they lacked space for training or had a poor experience with previous training providers. Only 2% of respondents said that they did not provide training.

Figure 30. Challenges to Providing Training



When asked which workforce training programs that respondents were aware of through KansasWORKS and the Kansas Department of Commerce, well over half (almost 70%) of the respondents said they knew of NONE of the options listed (Figure 31). Twelve percent said they knew of the on-the-job training program, and 8% of respondents said they were aware of the work opportunity tax credit. Three percent, or less, of respondents said they were aware of the other programs listed.

Figure 31. KansasWORKS and KDOC Training Program Awareness



Technology Adoption and Automation

Almost half of the respondents said that they were not looking to automate their processes (Figure 32). However, 21% said they were making significant investments in automation, and another 14% said automation has significant potential in their business and they plan to invest. Nineteen percent of respondents said automation was only on their radar.

The survey asked how increased automation was impacting jobs within the respondents' businesses. Figure 33 shows that 33% of respondents said they did not automate, and another 27% said they did not think that automation had any effect. Fifteen percent said they had changed the types of jobs that they hired for, and 11% said they have needed to provide more training to their employees. Ten percent of respondents said that automation had decreased the number of jobs, while only 1% said it had increased the number of jobs.

Figure 32. Leadership’s Feelings About Automation

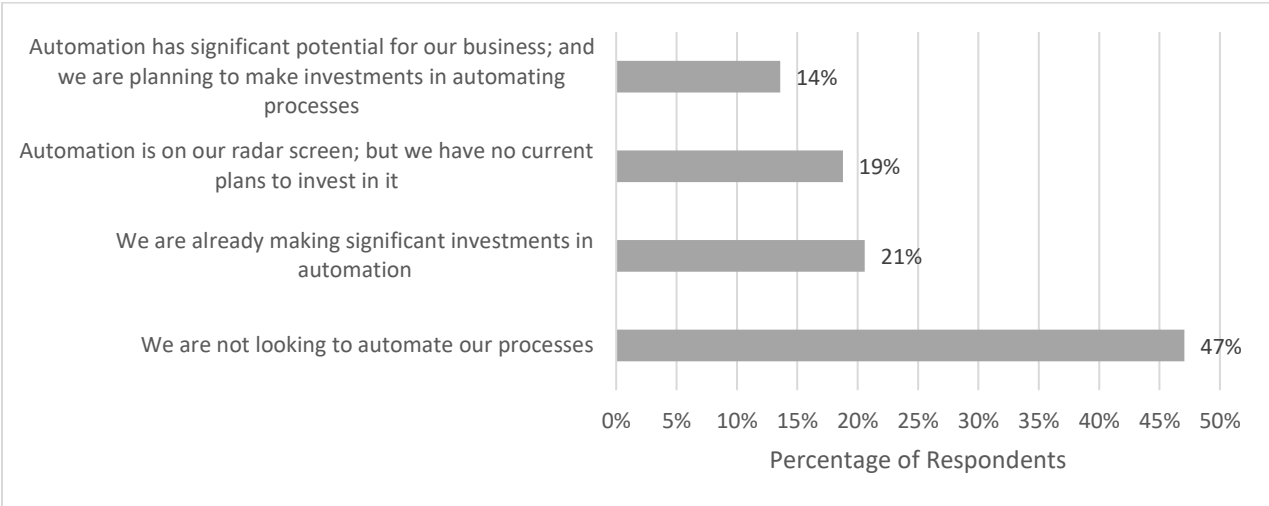
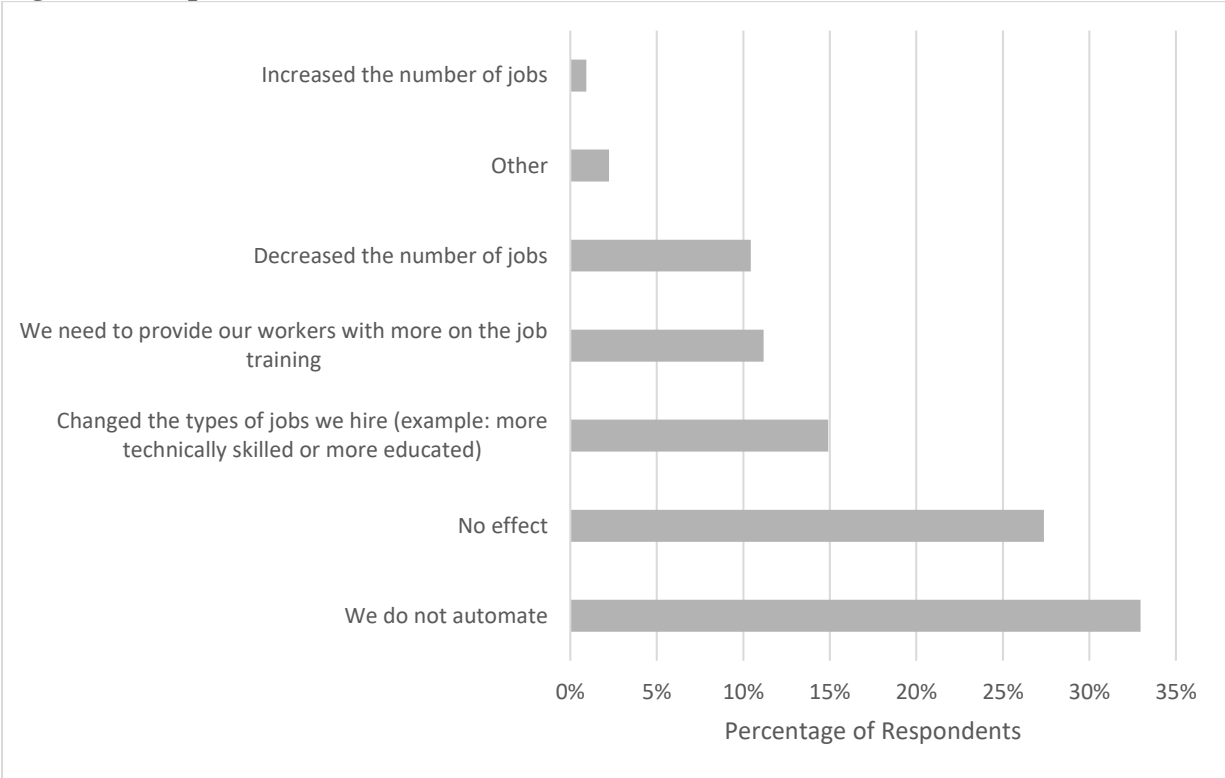


Figure 33. Impact of Increased Automation on Jobs Within Your Business



When given options of barriers to adopting new technology, 23% of respondents said they could not afford to implement new technology (Figure 34). Twenty-one percent of respondents said that none of the options listed were barriers to technology adoption. Fifteen percent said that the workforce lacks the capacity to implement automated processes. Thirteen percent of respondents said that the insufficient broadband and the applicability of new technologies were barriers to

technology adoption. Ten percent cited a lack of information about available technologies as a barrier. Five percent of respondents said there were “other” barriers. Most of these comments stated that their industry was difficult, if not impossible, to automate.

The responses to a question of what jobs are most impacted by changing technology were similar to the responses to other questions regarding technology (Figure 35). Thirteen percent of respondents said they did not automate, and 11% of respondents said that none of the jobs listed would be impacted by automation. However, 16% of respondents said equipment operator positions would be impacted. Ten percent said manual labor jobs and 9% said maintenance positions would be impacted. Seven percent of respondents said each of the categories of office, IT, service, and crop scouting would be impacted by changing technology. Only 4% of respondents said that managers’ positions would be impacted by changing technology.

When asked about their top two workforce priorities over the next five years, respondents selected hiring a capable and reliable staff (27%) and business growth/sustainability (18%) the most. Figure 36 shows that retention (17%) and succession planning (16%) were the next most selected options. Ten percent of respondents selected hiring for critical positions and specific skills, and 7% said skills and training. Only 4% selected automation and technology as one of the two top priorities for the next five years.

Figure 34. Barriers to Adopting New Technology

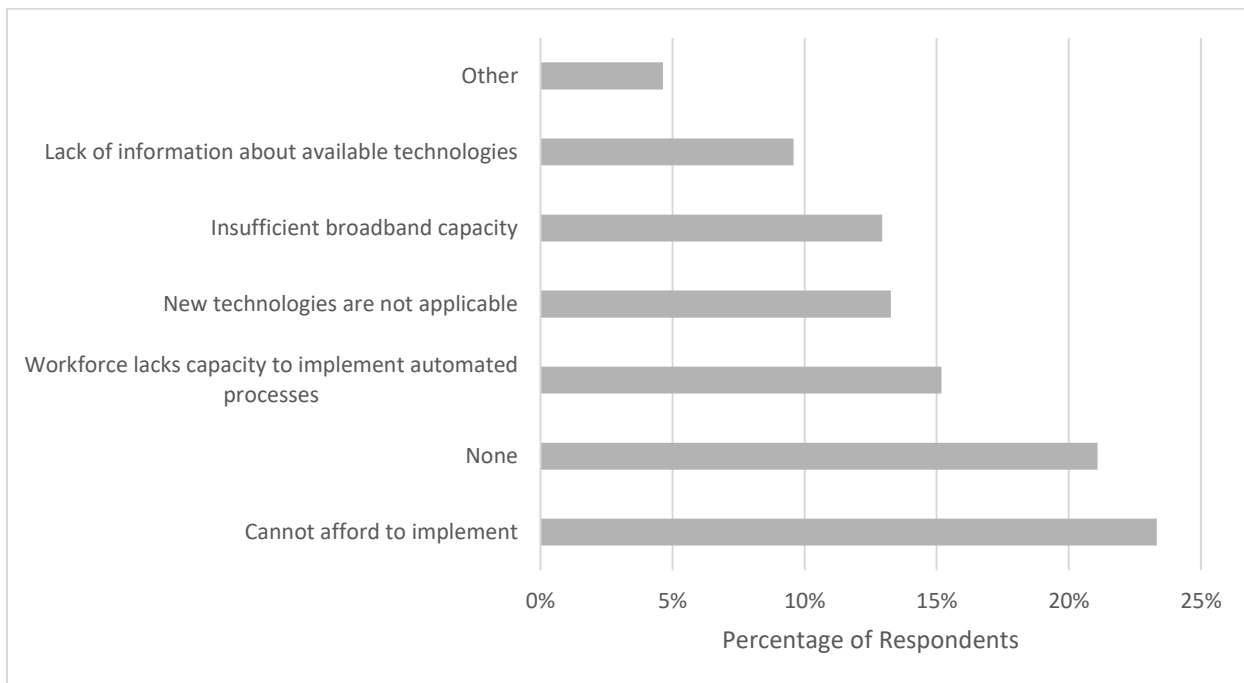


Figure 35. Jobs Most Impacted by Changing Technology

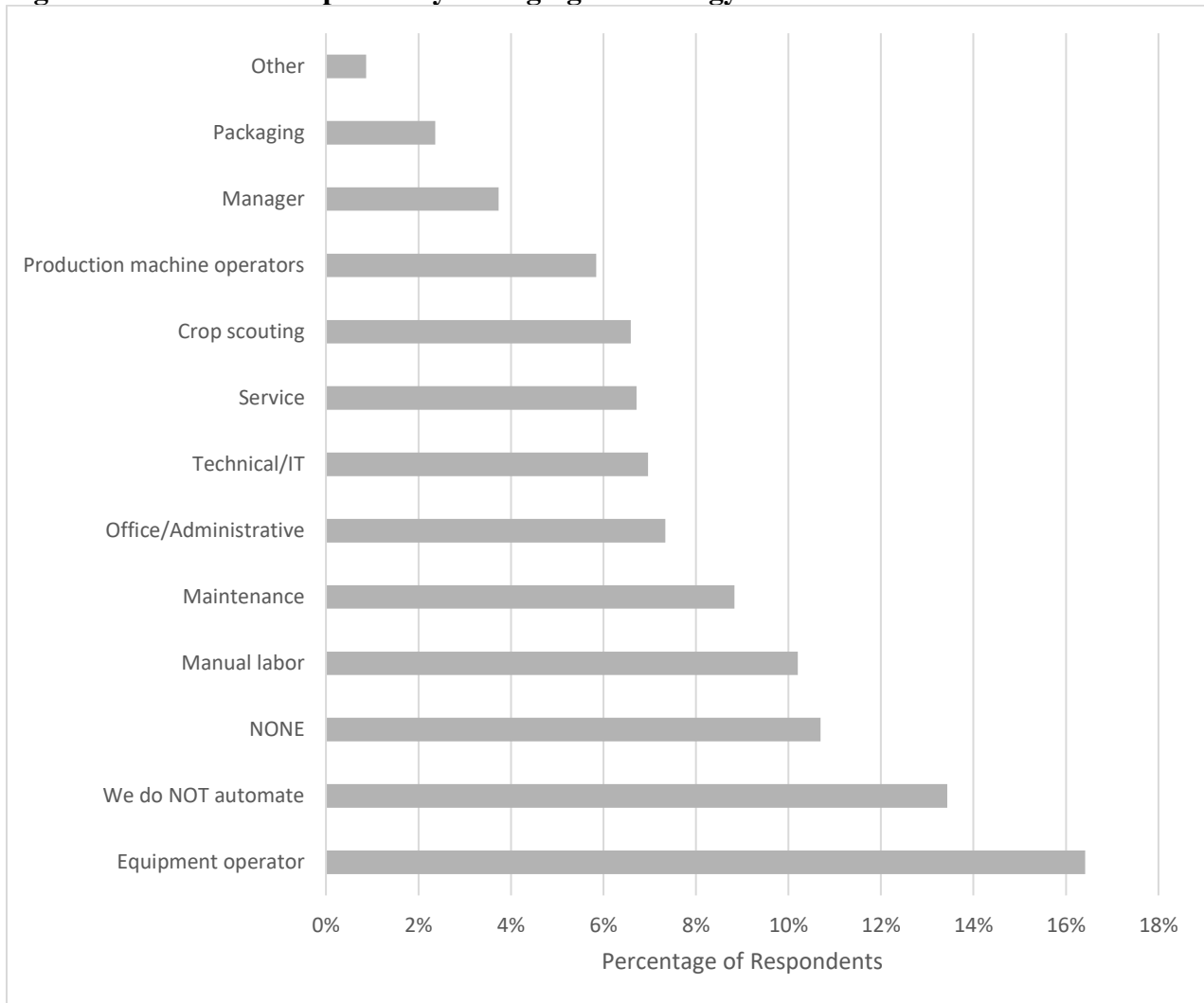
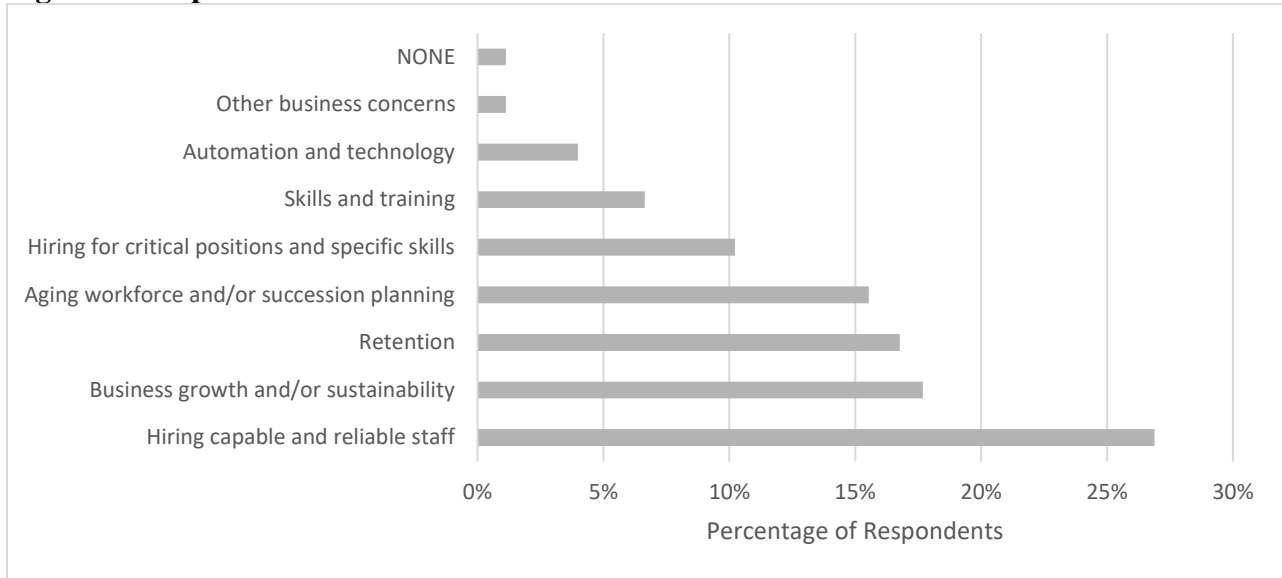


Figure 36. Top Two Workforce Priorities Over the Next Five Years



Comments

Table 4 shows the number of comments related to each major comment category. Specific and relevant comments are detailed in the Appendix.

Table 4. Final Survey Comments

Comments Category	# of Comments
Shortage of workers (Indicate short of workers wanting to work/short of applicants). Thirteen imply due to unemployment payments ("government handouts").	29
H2A and foreign workers housing (3) and the hiring process (9) hinder employing.	12
Multiple general factors hinder hiring.	
Other factors increase costs (including insurance, inflation, salary increase in other sectors, fees and taxes)	9
Government regulations and others (get career information to broader audience, child care, injuries, medical treatment options)	12
Lack of ethics are indicated (dependability and responsibility, come to work on time, follow instructions)	8
Lack of basic skills (math, weights, measures)	2
Specific training needed (horticulture, certified drivers, large animal veterinarians, supervisors and managers, and recertification)	8
Training methods	5
Suggestions for KDA and other agencies	5
Possible questions in the next survey	6
Other comments	3
Further information related to respondents	10

Recommendations

The following are recommendations based on the results of the survey:

1. Employers and KDA need to work together to develop or find programs so that businesses may implement successful on-the-job training. Over 40% of respondents use on-the-job training to increase their workforce's skills.
2. Employers need to explore federal aid to technology adoption and training for small businesses. Almost 25% of respondents said they cannot afford to implement new technology. KDA may develop educational efforts to teach employers how to efficiently find federal funding opportunities. Finding federal funding opportunities can be a difficult and frustrating challenge.
3. Explore federal aid for specialty crop businesses or consider adding KDA programs for specialty crop businesses. Vineyards and wineries were mentioned several times. KDA-developed programs that teach how to find federal opportunities could include this topic. KDA might reach out to venture capital companies to explore partnering in incubator programs.
4. Expand marketing of KansasWORKS and Kansas Department of Commerce marketing efforts. Almost 70% of respondents said they were not aware of any of the training programs listed in the survey.
5. Employers should consider offering current employees a wage enhancement for "successful" employee referrals, defining "successful" as referrals that stay over a specified time period or meet some other merit-based criteria. Over 20% of respondents said they use employee referrals as a recruitment tool; however, only 7% said they offered a wage enhancement for referrals.
6. When promoting careers in agriculture, consider long-term approaches, such as mentorship. Establishing relationships with community youth will create lasting impressions and good will well beyond the amount of the initial investment. These long-term relationships will have an exponential impact.
7. Conduct this survey again in the future. It would be very beneficial to conduct this survey again in three years, using the same or a very similar survey instrument. Dramatic changes to the instrument make comparison difficult. Comparing results can be extremely helpful to future planning and evaluation of programs developed from these surveys. Three years should allow enough time for companies to implement the plans that they indicated in this survey.

Appendix

Table A.1. Number of Respondents by County

County	Respondents
Allen	11
Anderson	3
Atchison	9
Barber	9
Barton	19
Bourbon	4
Brown	7
Butler	12
Chase	2
Chautauqua	1
Cherokee	4
Cheyenne	5
Clark	8
Clay	4
Cloud	6
Coffey	4
Comanche	6
Cowley	10
Crawford	5
Decatur	6
Dickinson	6
Doniphan	5
Douglas	22
Edwards	14
Elk	3
Ellis	7
Ellsworth	8
Finney	24
Ford	20
Franklin	5
Geary	6
Gove	14
Graham	7
Grant	9
Gray	8
Greeley	6
Greenwood	2

County	Respondents
Hamilton	5
Harper	5
Harvey	14
Haskell	13
Hodgeman	7
Jackson	4
Jefferson	8
Jewell	9
Johnson	29
Kearny	5
Kingman	4
Kiowa	7
Labette	5
Lane	7
Leavenworth	5
Lincoln	3
Linn	1
Logan	10
Lyon	10
Marion	3
Marshall	7
McPherson	14
Meade	11
Miami	2
Mitchell	6
Montgomery	5
Morris	6
Morton	1
Nemaha	6
Neosho	3
Ness	2
Norton	3
Osage	5
Osborne	4
Ottawa	3
Pawnee	11
Phillips	6
Pottawatomie	11
Pratt	14
Rawlins	8

County	Respondents
Reno	18
Republic	6
Rice	13
Riley	19
Rooks	7
Rush	7
Russell	2
Saline	11
Scott	20
Sedgwick	49
Seward	10
Shawnee	14
Sheridan	14
Sherman	9
Smith	6
Stafford	13
Stanton	5
Stevens	11
Sumner	7
Thomas	14
Trego	9
Wabaunsee	7
Wallace	9
Washington	3
Wichita	13
Wilson	3
Woodson	5
Wyandotte	14