

# Nebraska 2016 Farm Financial Health Survey

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## Introduction

The goal of the current research was to analyze producers' current financial situation and expectations for the future. In July 2016, surveys were mailed to producers across Nebraska regarding their farm financial health. The survey was also made available through the Nebraska commodity boards and was publicized by the Nebraska Department of Agriculture through news releases and radio interviews.

Survey participants were asked several questions regarding their operations and their current financial situations. Participants were also asked several questions concerning their expectations for the future. A copy of the survey may be requested from the authors.

General conclusions from the survey are that agricultural producers are concerned with their future viability. Over 77% of producers surveyed are concerned that they may not be able to obtain needed operating capital next year and over 60% are concerned that interest rates will increase. About 45% of participants felt that their overall financial condition would decline in 2017, and 46% expect it to remain the same. Of the 68% who plan for the next generation to continue the farming operation, only 56% felt they had a suitable transitioning plan in place. Overall, the survey found that 54% of respondents were financially stressed. Using a binary logit model, characteristics that increased the likelihood that participants were financially stressed includes the location within the state, the amount of owners' equity within their operation, their age and education level, as well as how much operating capital was financed by themselves vs. an outside resource and whether or not they were concerned with obtaining operating capital next year.

The remainder of this paper is outlined as follows: We first discuss the general demographics of the survey population. The second section discusses the survey participant's owner's equity and operating capital considerations. This is followed by a section on participants' potential changes to their operations and their views on several statements regarding their operations and future plans. The last section of the paper uses a binary logit model to determine which participants are financially stressed based on several characteristics of the participants.

## I. Demographics of Survey Participants

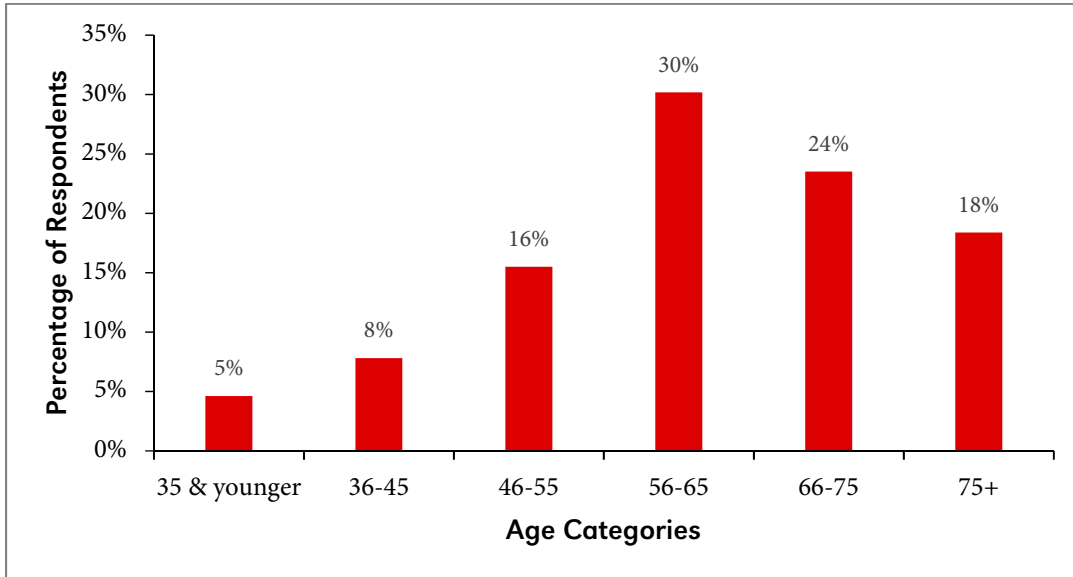


Figure 1: Age of Survey Participants, n = 974

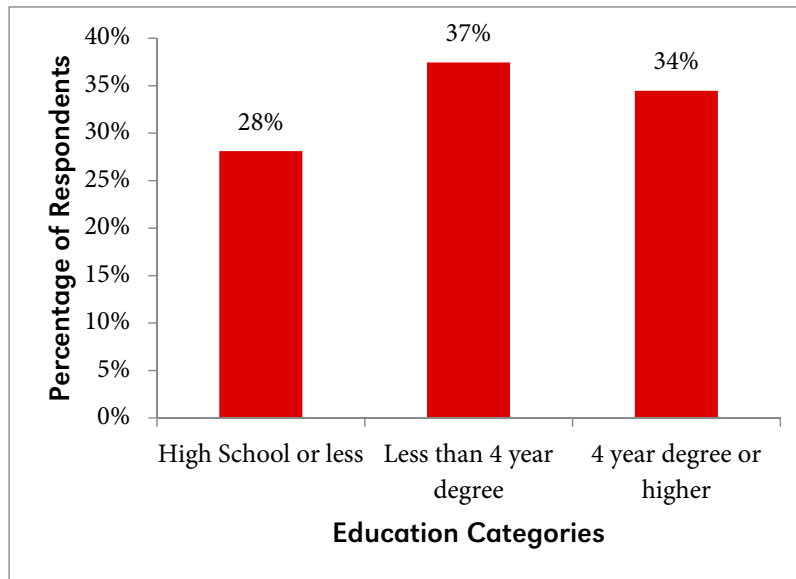


Figure 2: Education Level of Survey Participants, n = 974

- The average age of survey participants was 63. This is slightly higher than the 2012 U.S. Census for Nebraska producers of 55.7 years of age.
- Both Farm Credit Services and the Farm Bureau have programs for young farmers and ranchers, 35 years and younger. Approximately 5% of survey participants would qualify for these programs.
- Over 70% of the survey participants had at least some college.

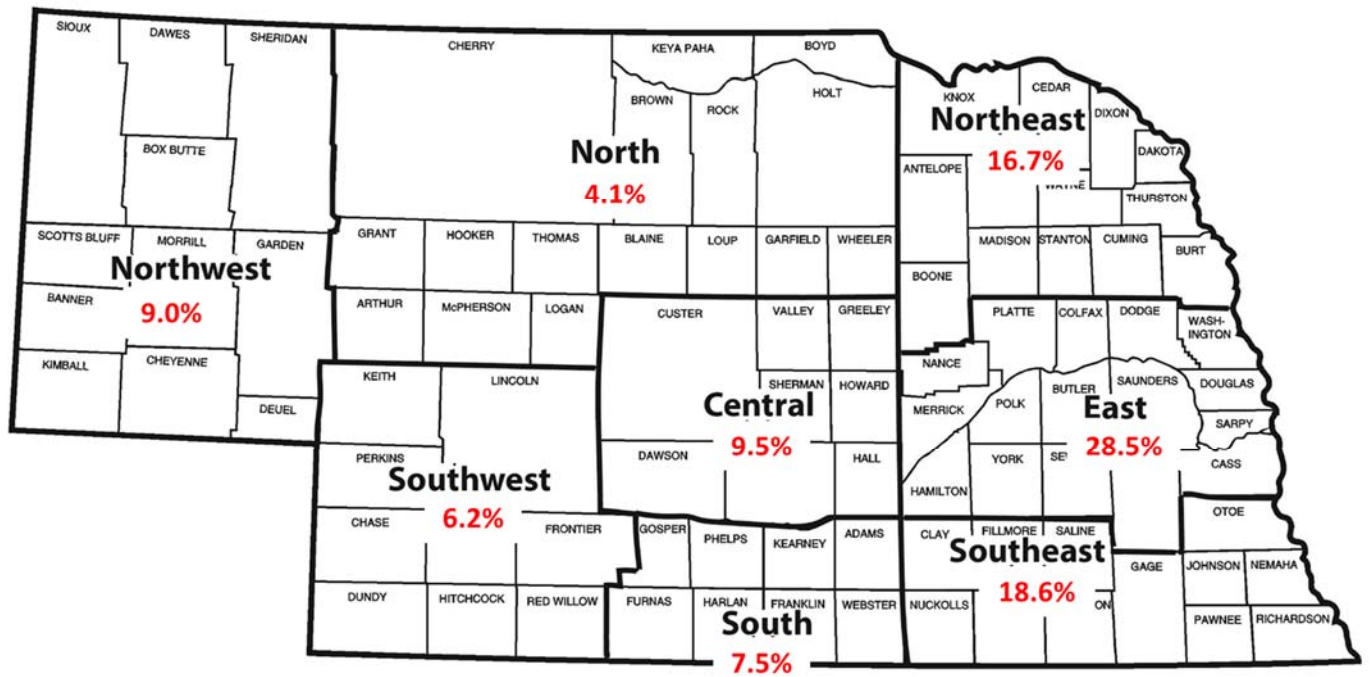


Figure 3: District Representation of the Survey Participants, n = 990

- East District survey participation tended to be higher

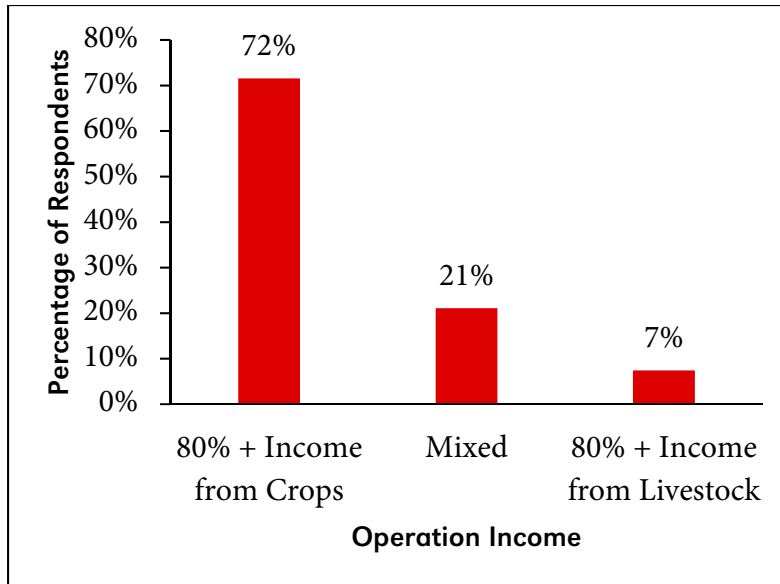


Figure 4: Percentage of Farming Operation Income, n = 1000

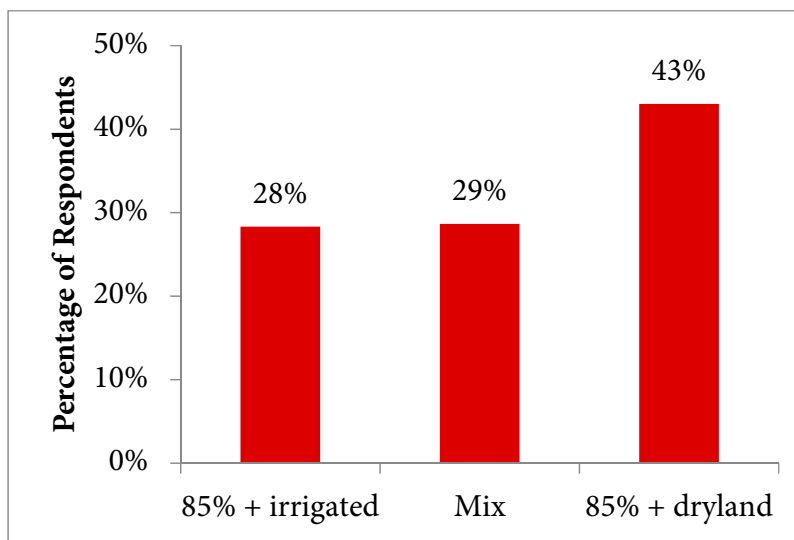


Figure 5: Irrigation vs. Dryland Acreage, n= 939

- Of those surveyed, 72% of the operations had at least 80% of their income from crops and only 7% had at least 80% of their income from livestock.
  - The farming operations had on average 710 acres of cropland, in which 44% was irrigated and 56% was dryland.
  - Livestock operations ranged from beef cow operations with an average of 133 head to yearling operations (average 81 head per operation) and feedlots with an

average head of 1,877. There was also a small amount of sow, hog, and dairy cow operations that returned surveys, but too few for statistical analysis.

- Of participants with cropland, 28% of participants had at least 85% of the cropland in irrigation while 43% of participants had at least 85% dryland cropland. This could be because there was a higher number of survey participants in the east where dryland is the primary type of cropland.

## II. Owner's Equity and Operating Capital Considerations

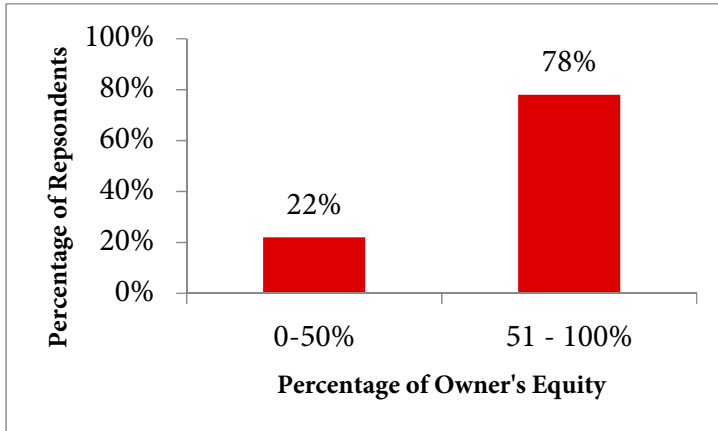


Figure 6: Percentage of Operation Considered Owner's Equity, n=890

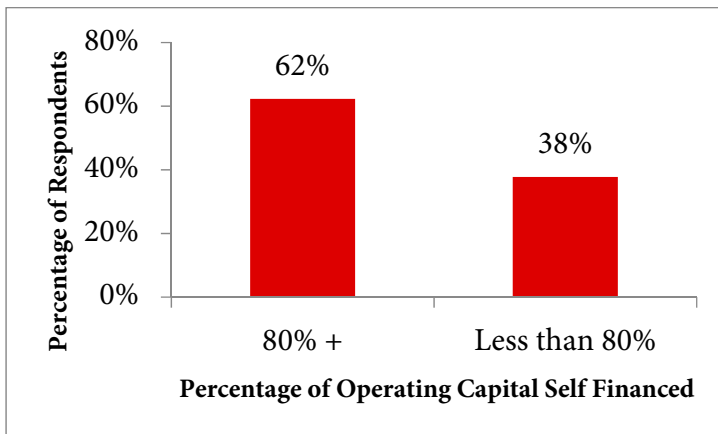


Figure 7: Percentage of Operating Capital Financed by Self, n=996

- Over 78% of operators felt that if they sold their operation today, at least 50% of the sales prices would be owner's equity.
  - Of those under the age of 35, 35% felt that at least 50% of the sales price would be owner's equity.
  - Of those over the age of 35, 80% felt they would have at least 50% in owner's equity.
- 62% of operators self-financed at least 80% of their operating capital.
  - Of those over the age of 75, 79% stated they self-financed at least 80% of their operating capital
  - Of those under the age of 35, only 26% stated they self-financed at least 80% of their operating capital.

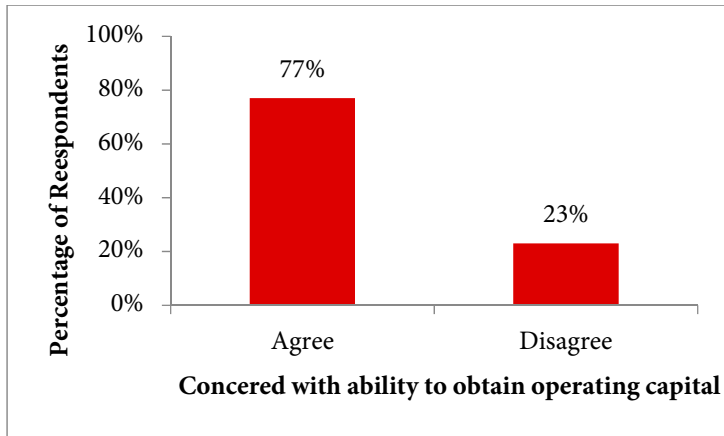


Figure 8: Percentage of Operators concerned they will not be able to obtain needed operating capital in 2017, n=936

- While only 3% of operators were denied operating capital in 2016, approximately 77% were concerned that they may not be able to obtain operating capital in 2017.



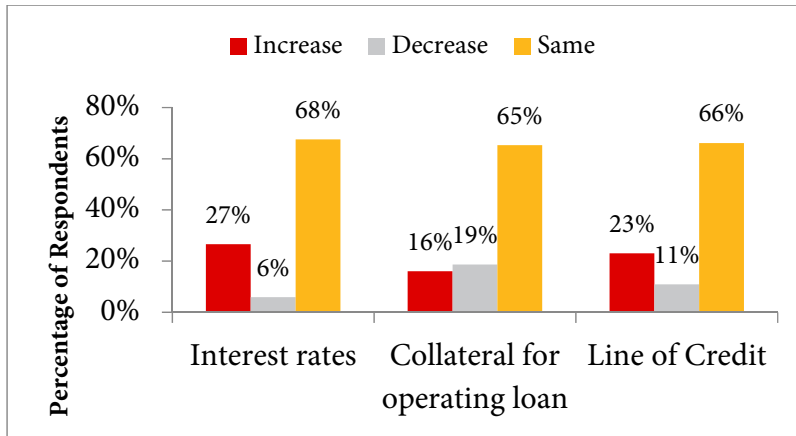


Figure 9: 2016 Conditions for Financing Operating Capital

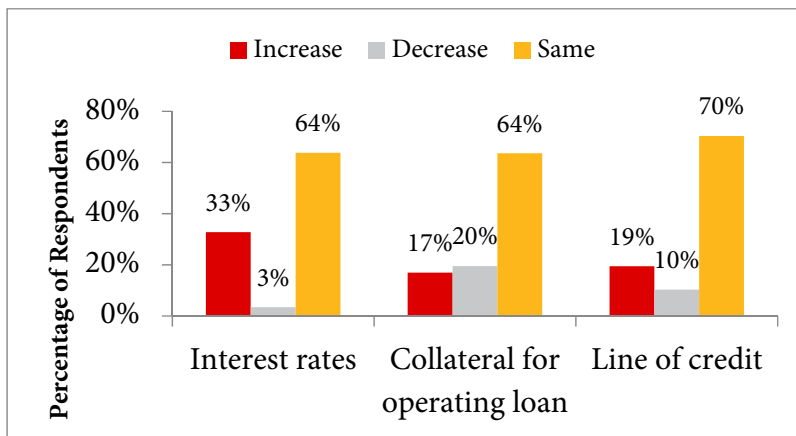


Figure 10: 2017 Expectations for Financing Operating Capital

- Expectations for financing operating capital do not vary much between this year's conditions and next year's expectations.
- Over 60% expect interest rates, collateral, and their line of credit for their operating loans to not change.

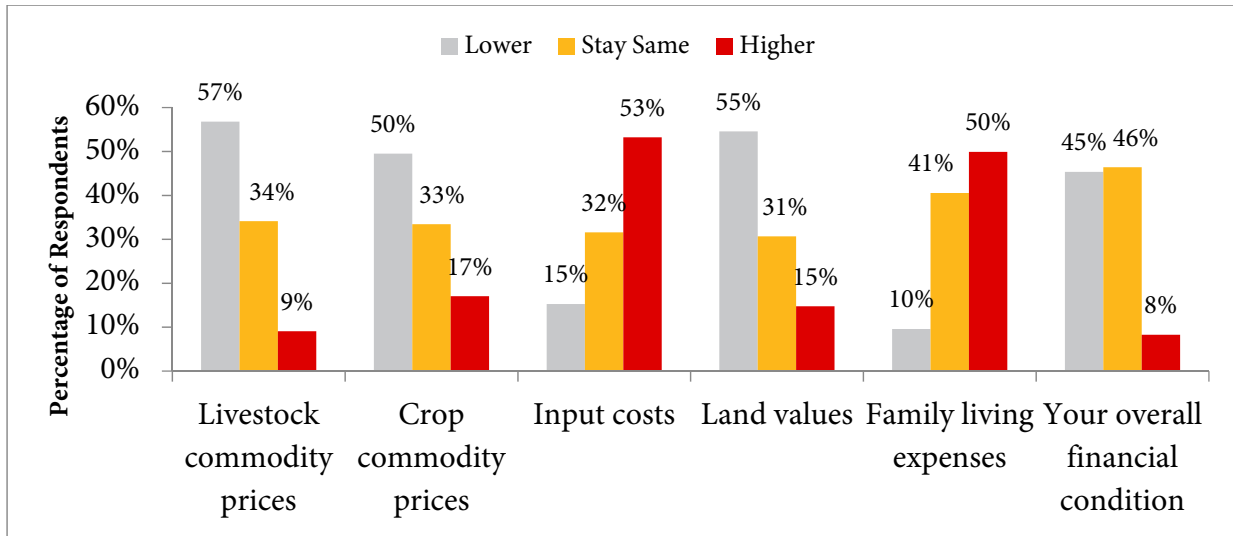


Figure 11: Survey participants' expectations for 2017

- Survey participants in general expected both livestock and commodity prices to be lower in 2017. Given the survey was taken in July 2016, this is not a surprise as prices were already headed lower.
- Approximately 85% of participants expected input prices to stay the same or increase in 2017.
- In 2017, 55% of participants expected land values to decline, with only 15% expecting increasing land values. This is not entirely surprising as land values have started to come down.
- Over 50% of participants expect family living expenses to increase in 2017 and 41% expect them to not change. Over 90% expect their overall financial condition to stay the same or to decline.
- One of the margin comments on numerous surveys was the impact of real estate taxes and how they are becoming a larger issue compared to all the other costs.

### III. Changes Survey Participants' Have Taken or Plan to Take to Reduce Operating Costs

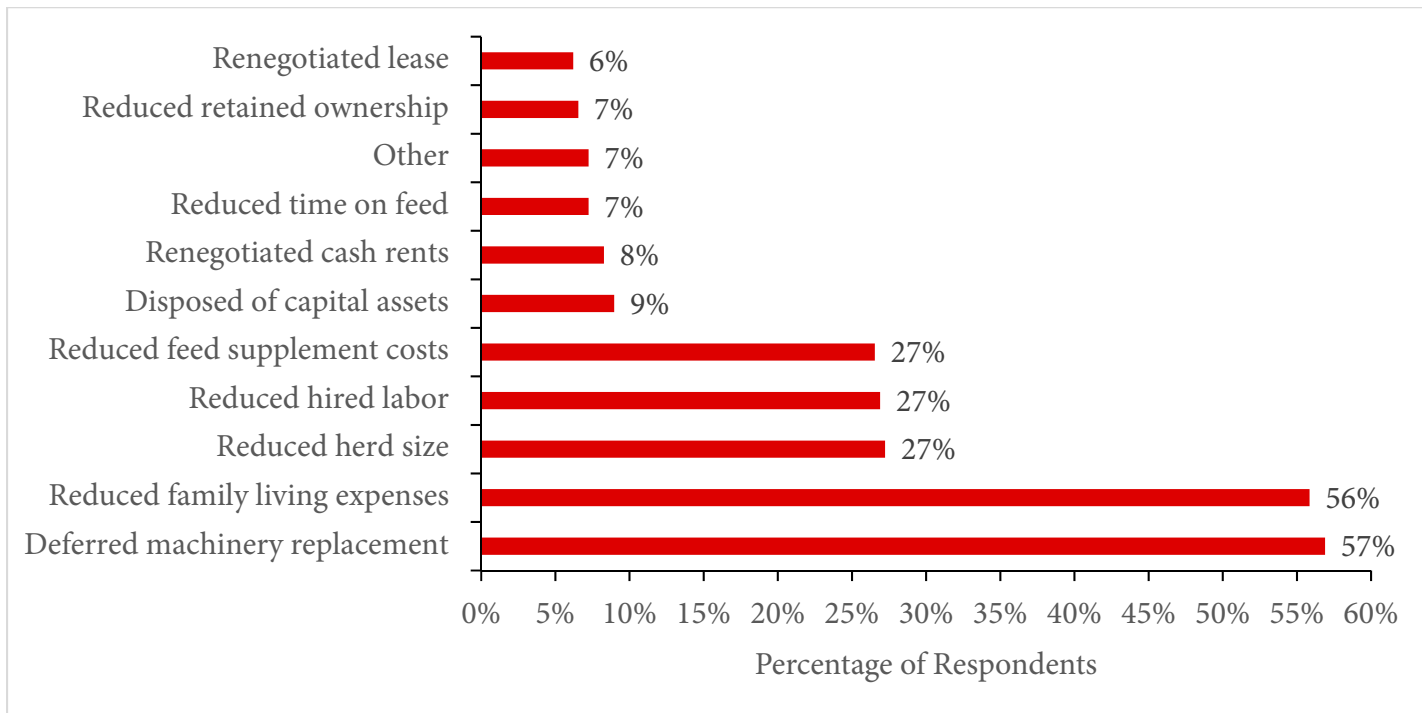


Figure 12: 2016 Livestock Reductions in Operating Costs

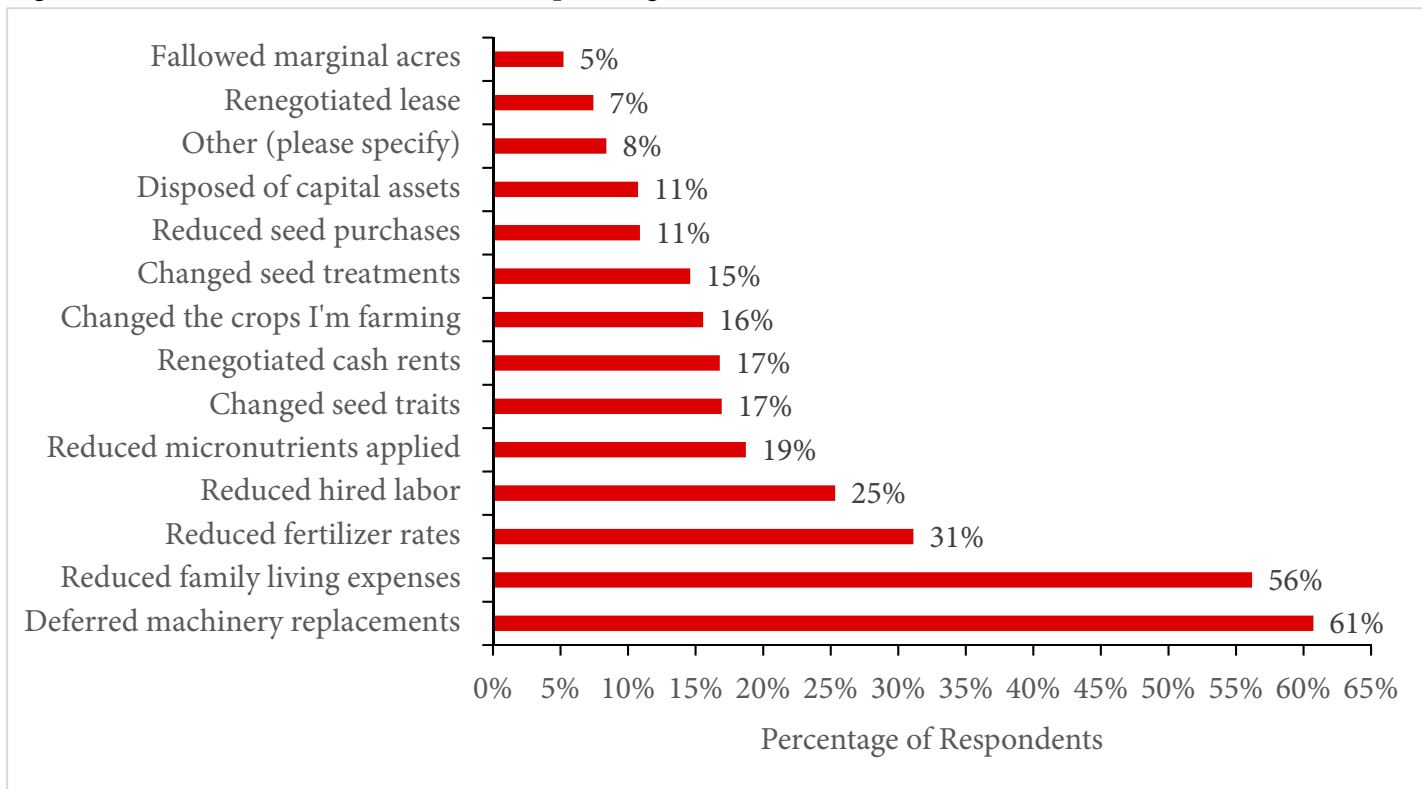


Figure 13: 2016 Crop operations reductions in operating costs

- Reducing family living expenses and deferring machinery replacements were the top ways crop and livestock operators were going to reduce operating costs.

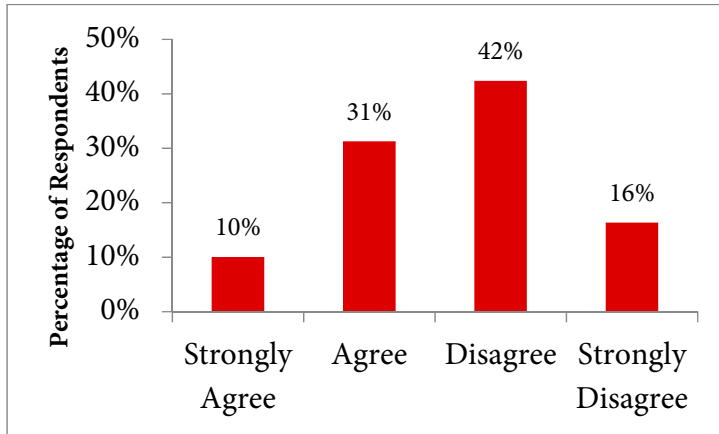


Figure 14: Participants anticipate selling more of this year's crop/livestock earlier than last year due to financial pressure.

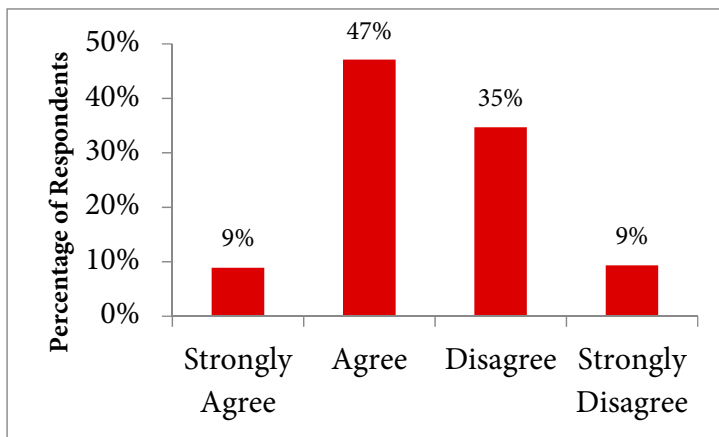


Figure 15: Given current commodity prices, I expect to continue to be an aggressive adopter of new farming technologies.

- 58% do not anticipate selling more of their crop earlier than last year.
- 56% agree to continue to be an aggressive adopter of technology.
- Of those 35 years and younger, 68% agree or strongly agree that they will continue to be an aggressive adopter of new farming technologies while 55% of those older than 35 agree or strongly agree with that statement.

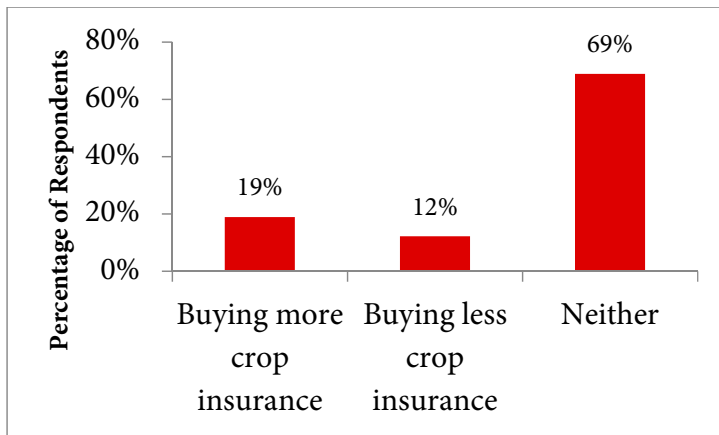


Figure 16: Changing Plan for Managing Financial Risk

- Majority of the crop operators are not planning on changing their management of insurance.
- Of the 19% of producers buying more crop insurance, 22% of them are doing this to satisfy their lender.
- Of the 12% of producers buying less crop insurance, 94% are doing this to save premium cost.

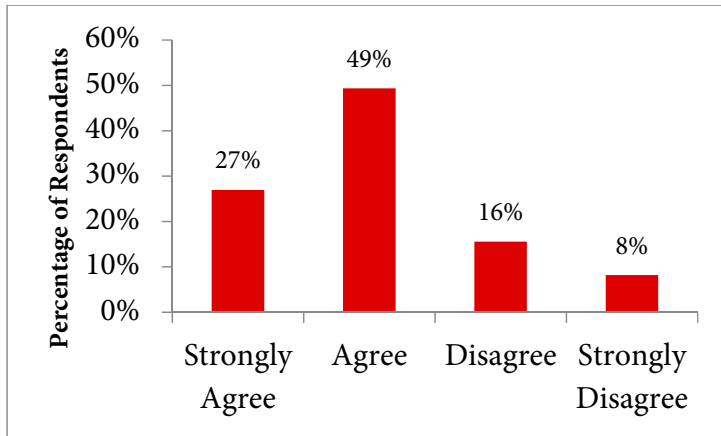


Figure 17: The current financial climate will cause me to purchase used rather than new machinery and equipment.

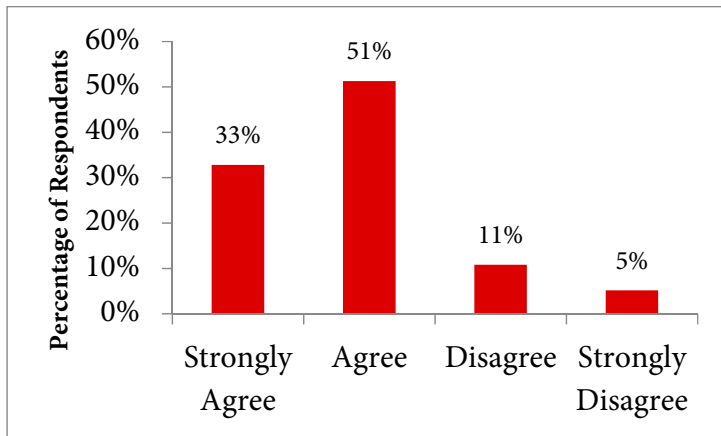


Figure 18: The current financial climate will cause me to keep machinery longer than I normally would be before replacing.

- Due to the current financial climate, 76% of survey participants plan to purchase used rather than new and 84% will keep machinery longer than normal. This is already being seen in the machinery industry as sales have declined.

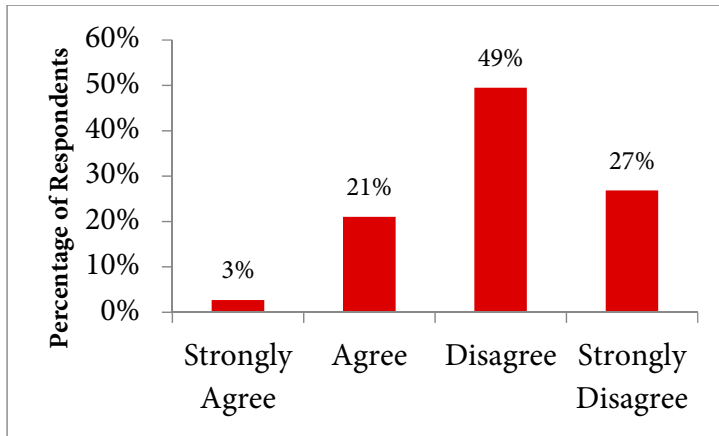


Figure 19: During the next two years, I plan on expanding my land base to prepare for future opportunities.

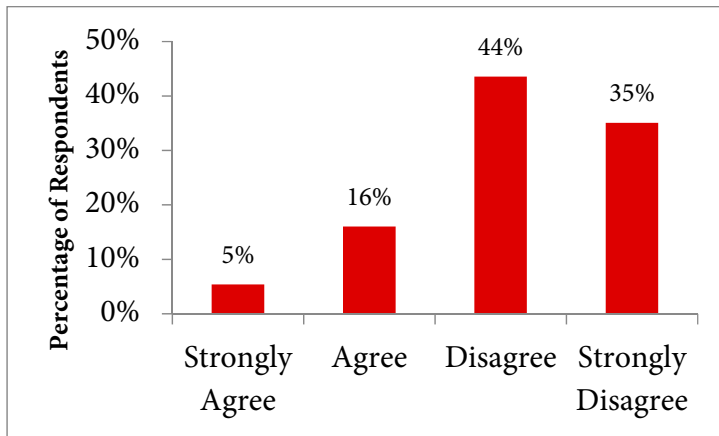


Figure 20: I am considering transitioning out of agriculture in the next two years to preserve my net worth.

- In the next two years, 21% are planning on transitioning out of agriculture while 24% plan to expand their land base.
- Of survey participants that are 35 and younger, 62% agree they are going to expand their land base in the next two years, while 24% of those over the age of 35, agree with this statement.

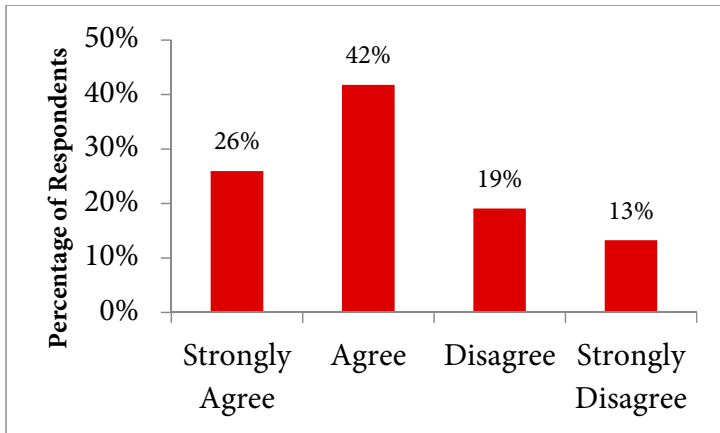


Figure 21: My hope is to have my children continue farming my operation.

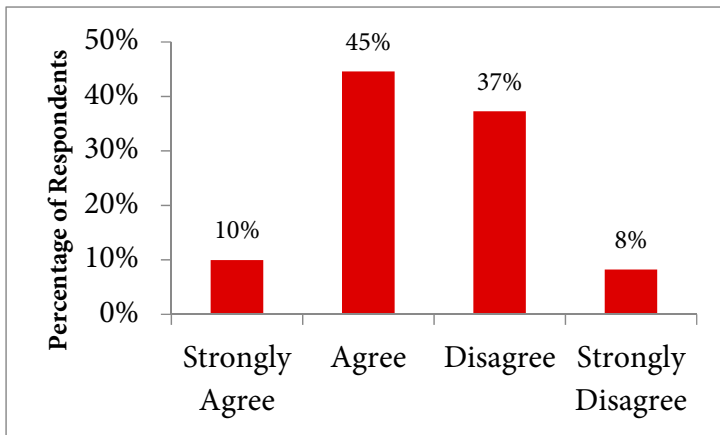


Figure 22: I have a suitable farm transitioning plan in place.

- 68% of survey participants hope to pass the farm onto family members while 45% feel that they do not have a suitable farm transition plan in place.
  - Of the 68% of participants who wish to pass the farm onto family members, 56% agree that they have a suitable farm transition in place.



## IV. Financial Stress Binary Logit Model

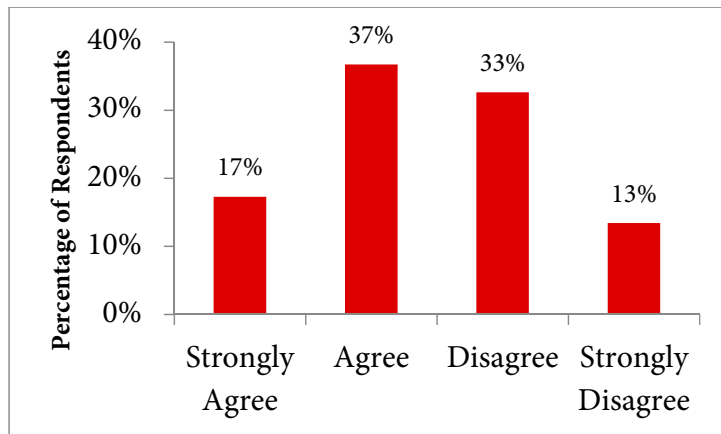


Figure 23: I am currently experiencing a great amount of financial stress.

- Approximately 54% of the survey respondents agreed or strongly agreed that they were currently experiencing a great amount of financial stress.

To study the question as to who is financially stressed, an economic model was developed to determine the probability that someone would agree or strongly agree to this statement. The variables included were:

- 1) Crop acres ( $\geq 85\%$  Irrigated,  $\geq 85\%$  Dryland, Mixed irrigated & dryland)
- 2) Districts (1 to 8, see Figure 3)
- 3) Question on the percent of operation considered owner's equity ( $\leq 50\%$  vs.  $>50\%$  owner's equity, see figure 6)
- 4) Age category (35 or younger, 36-74, 75 or older)
- 5) Education category (High school or less, less than a 4-year degree, 4-year degree or higher)
- 6) Percentage of operating capital financed by self ( $< 80\%$  vs.  $\geq 80\%$  see figure 7)
- 7) Denied operating capital this year (agree vs. disagree)
- 8) Concerned with ability to obtain needed operating capital next year (agree vs disagree)

The results of the model can be found in Table 1 and are summarized below.

- The likelihood that one would agree with the financially stressed question increases for those 35 and younger. Of those that were 35 and younger, 82% agreed to having a great amount of financial stress while 55% of those that were between 36 and 74 years old agreed with the statement and of those over the age of 75, 61% disagreed with the statement.
- The likelihood that one would agree with the financially stressed question increases for those with less than a 4-year degree.
- Those operators who had less than 50% of owner’s equity tended to have higher probability of agreeing with the financial stress question, than participants with 50% or more in owner’s equity.
- Those producers that had higher amounts of operating capital self-financed had lower likelihood of agreeing with the financial stress question.
- If the producers were concerned with the ability to obtain operating capital next year, the likelihood they agreed with the stress question increased.

Table 1: Maximum Likelihood Estimates based on Binary Logit Model of Likelihood to Agree to experiencing Financial Stress.

Parameter	Estimate
Intercept	-0.67* (0.40) <sup>a</sup>
≥ 85% Irrigated vs. mixed irrigated & dryland crop acres	-0.34 (0.24)
≥ 85% Dryland vs. mixed irrigated & dryland crop acres	-0.16 (0.22)
District 1 vs. District 4	1.04* (0.39)
District 2 vs. District 4	-0.13 (0.57)
District 3 vs. District 4	0.19 (0.30)
District 5 vs. District 4	0.77** (0.36)
District 6 vs. District 4	0.60** (0.27)
District 7 vs. District 4	1.16* (0.43)

District 8 vs. District 4	0.69 (0.43)
High school or less vs. 4-year degree or higher	0.39* (0.23)
Less than a 4-year degree vs. 4-year degree or higher	0.74*** (0.22)
Less than 50% owner's equity vs. over 50% owner's equity	0.88*** (0.25)
35 or younger vs. 75 or older	1.36** (0.56)
36 – 74 years old vs. 75 or older	0.32 (0.24)
Operating capital financed by self	-0.01*** (0.00)
Denied operating capital this year	-0.68 (0.81)
Concern with ability to obtain needed operating capital next year	3.13*** (0.45)
<sup>a</sup> Standard errors are in parenthesis *, **, ***, represent significance at 0.10, 0.05, and 0.01, respectively	