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Understanding Crop Insurance Barriers for Organic and Diversified Farms

Eric Belasco
Montana State University

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Acknowledgements

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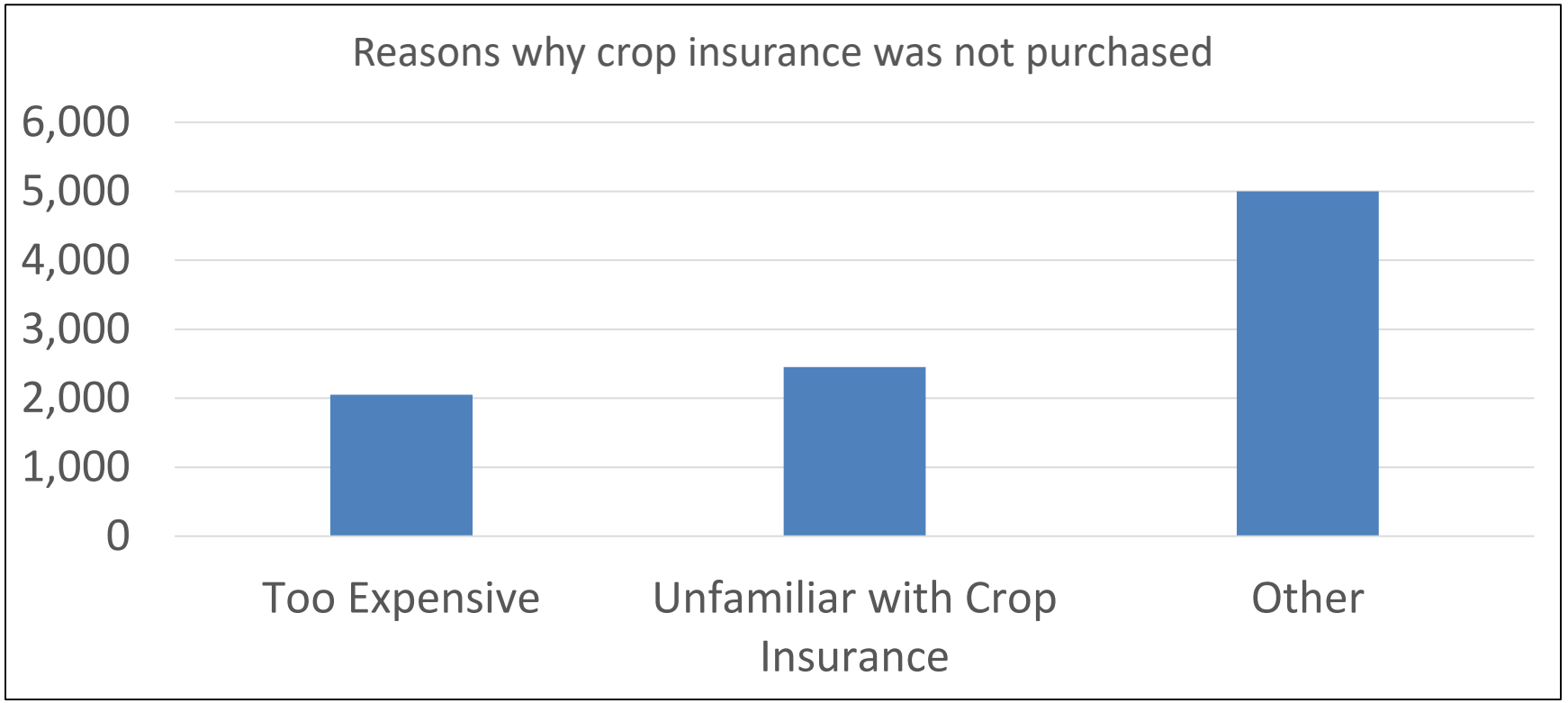
Is Organic Production Risky? Understanding and Overcoming Crop Insurance Barriers for Expanding Organic Food Production and Markets

NASS Organic Survey 2014

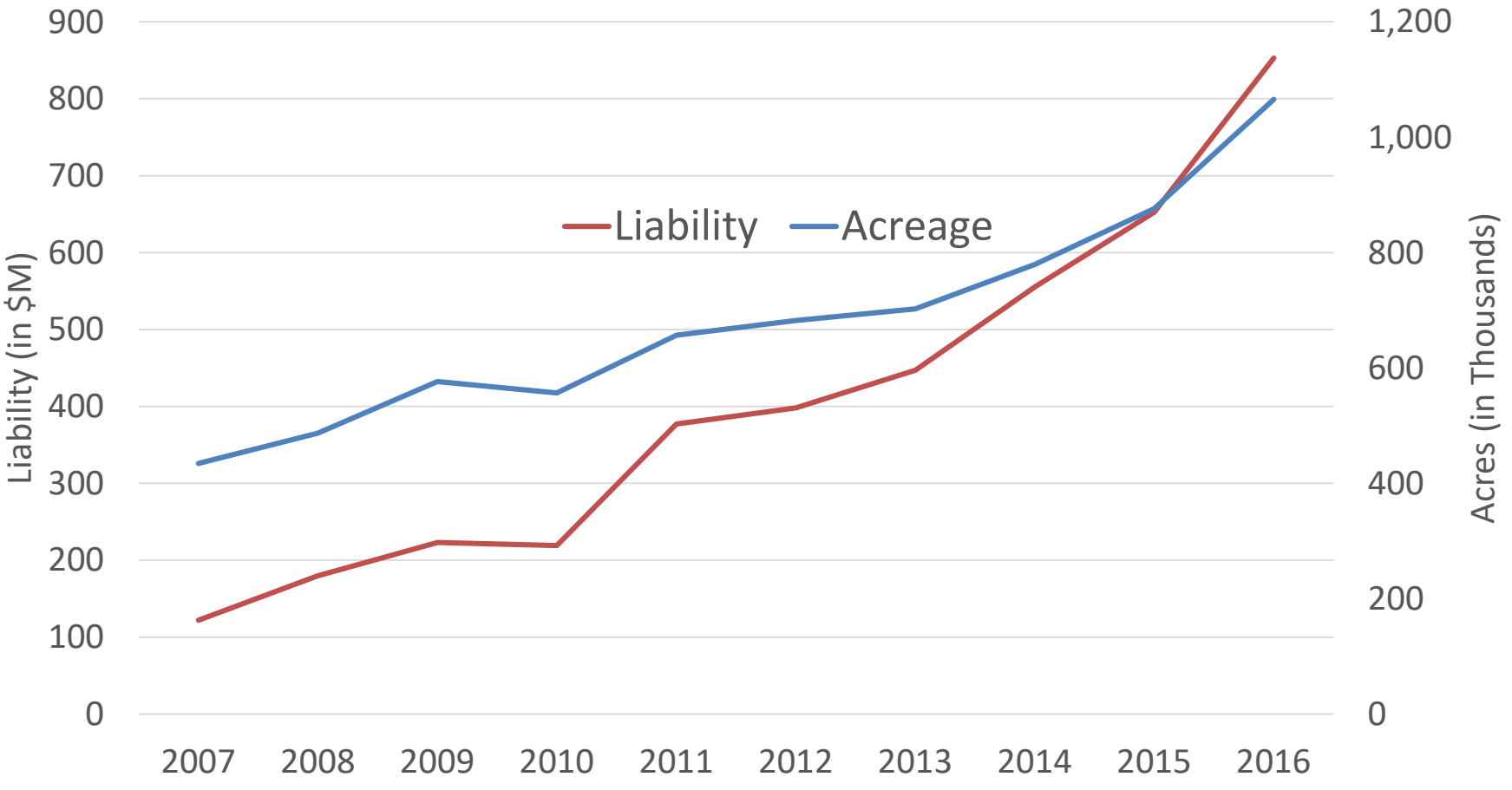
20% of organic farms purchased crop insurance (2,801 out of 14,093).



Many changes to organic crop insurance

- 5% organic premium surcharged dropped (2014)
- Contract price addendum for organic commodities (2014)
- Whole-Farm Revenue Protection (2015) and improvements to WFRP (2016)
- Contract price addendum extended to transitional acreage (2016)
- Organic price elections grew from
  - 4 crops in 2011
  - 16 crops in 2014
  - 79 crops in 2018

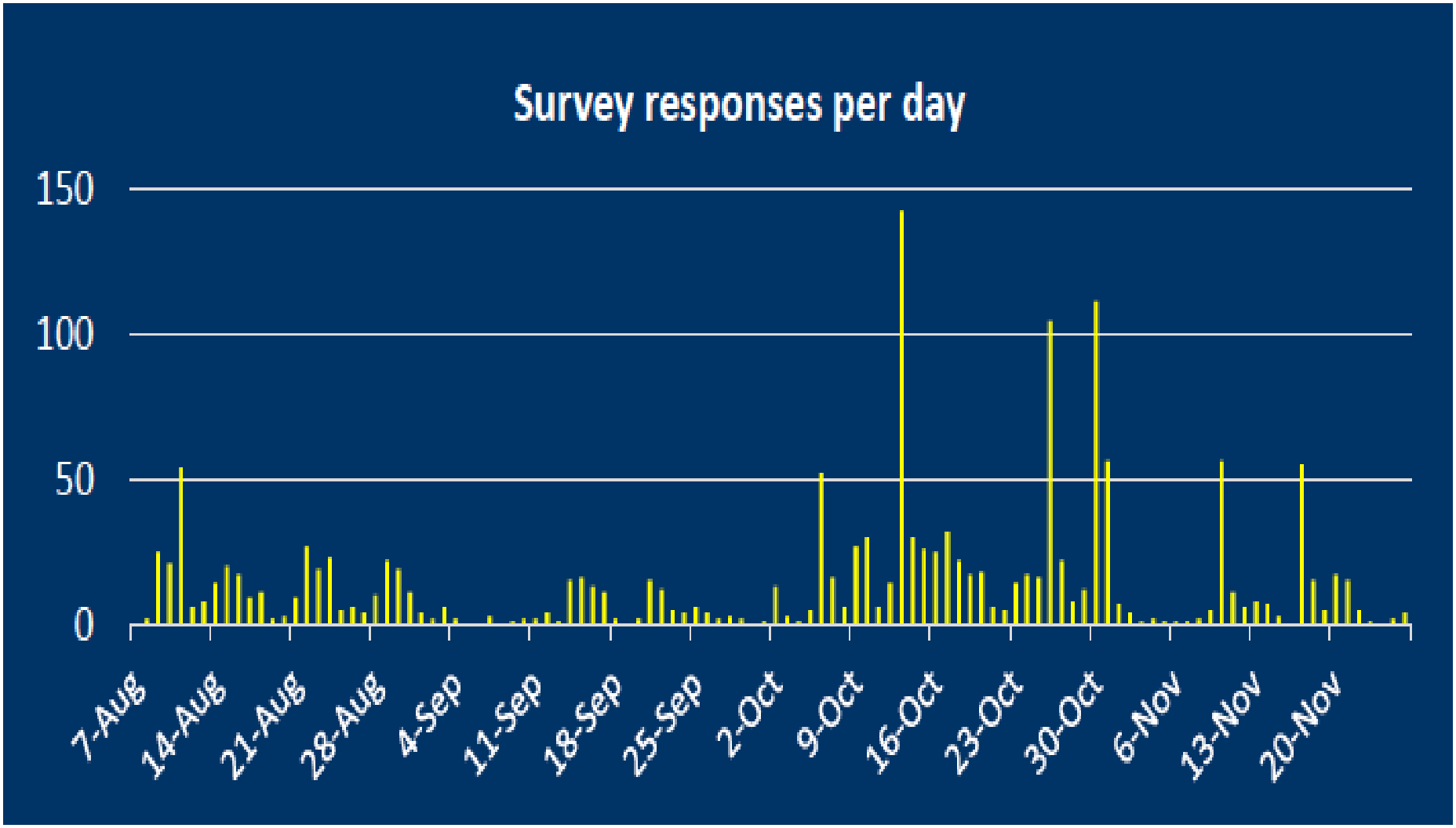
Increase in Organic Participation



Source: RMA, Summary of Business for Organic Production

Survey Methodology

- Conducted a national online survey through Survey Monkey.
- Survey included 46 questions.
- Took 15-30 minutes to complete.
- Optional $20 honorarium for completion.
- Survey was anonymous, except for mailing of check.
- Direct mailings to all certified organic farms in the USDA Organic Integrity Database.
- Promoted by NCAT's 6 offices, ATTRA Weekly Harvest, and many major organic groups (MOSES, MOA, etc.)


Survey responses per day
150
100
50
0
7-Aug
14-Aug
21-Aug
28-Aug
4-Sep
11-Sep
18-Sep
25-Sep
2-Oct
9-Oct
16-Oct
23-Oct
30-Oct
6-Nov
13-Nov
20-Nov

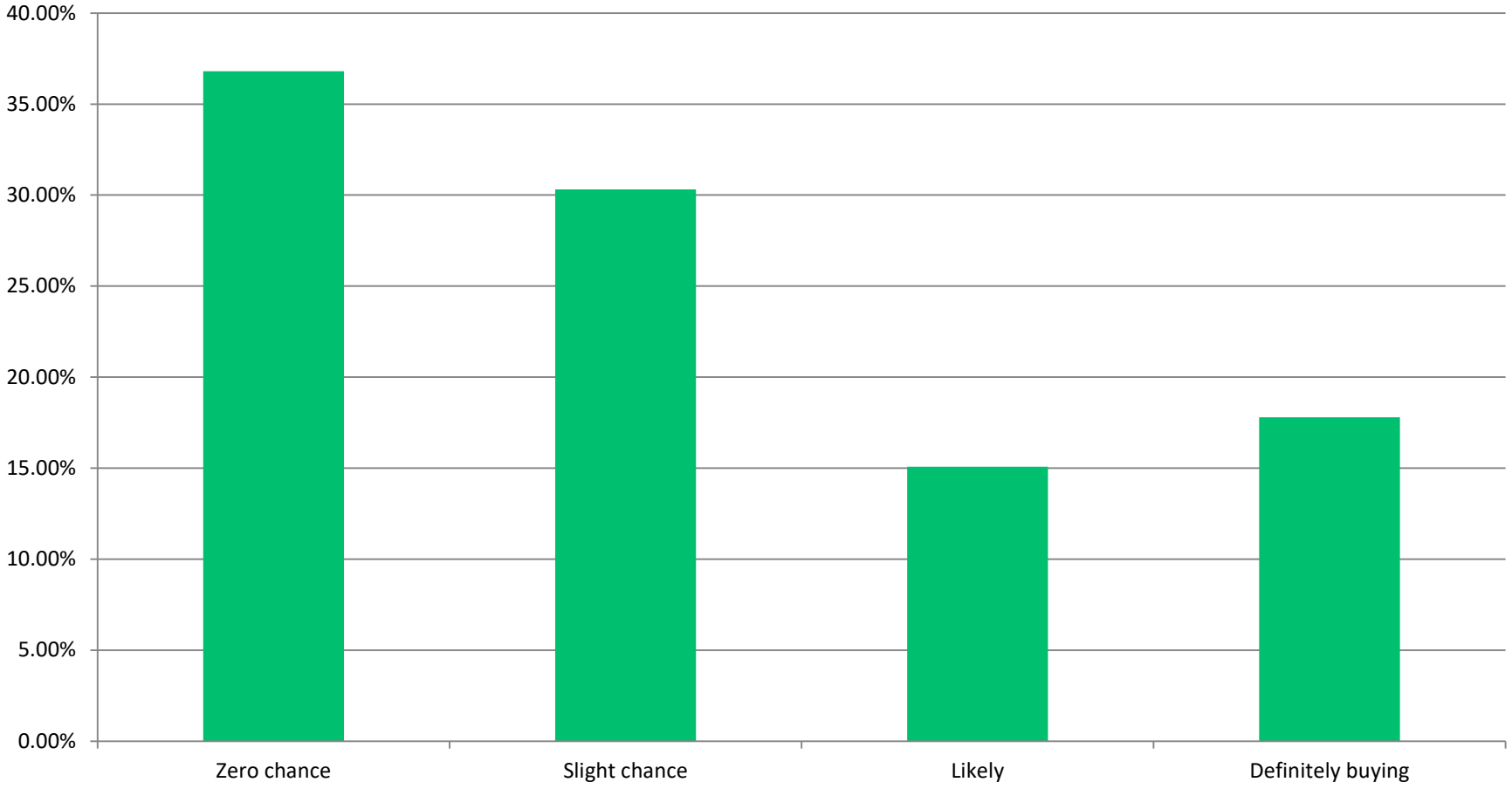
Who took the survey?

- 1,577 people started the survey.
- 1,306 commercial producers (answered “yes” to question #1).
- 1,042 people completed the entire survey.
- 10 duplicate responses deleted.
- 1,032 valid survey responses.
- 868 (83%) requested the honorarium and 174 declined.

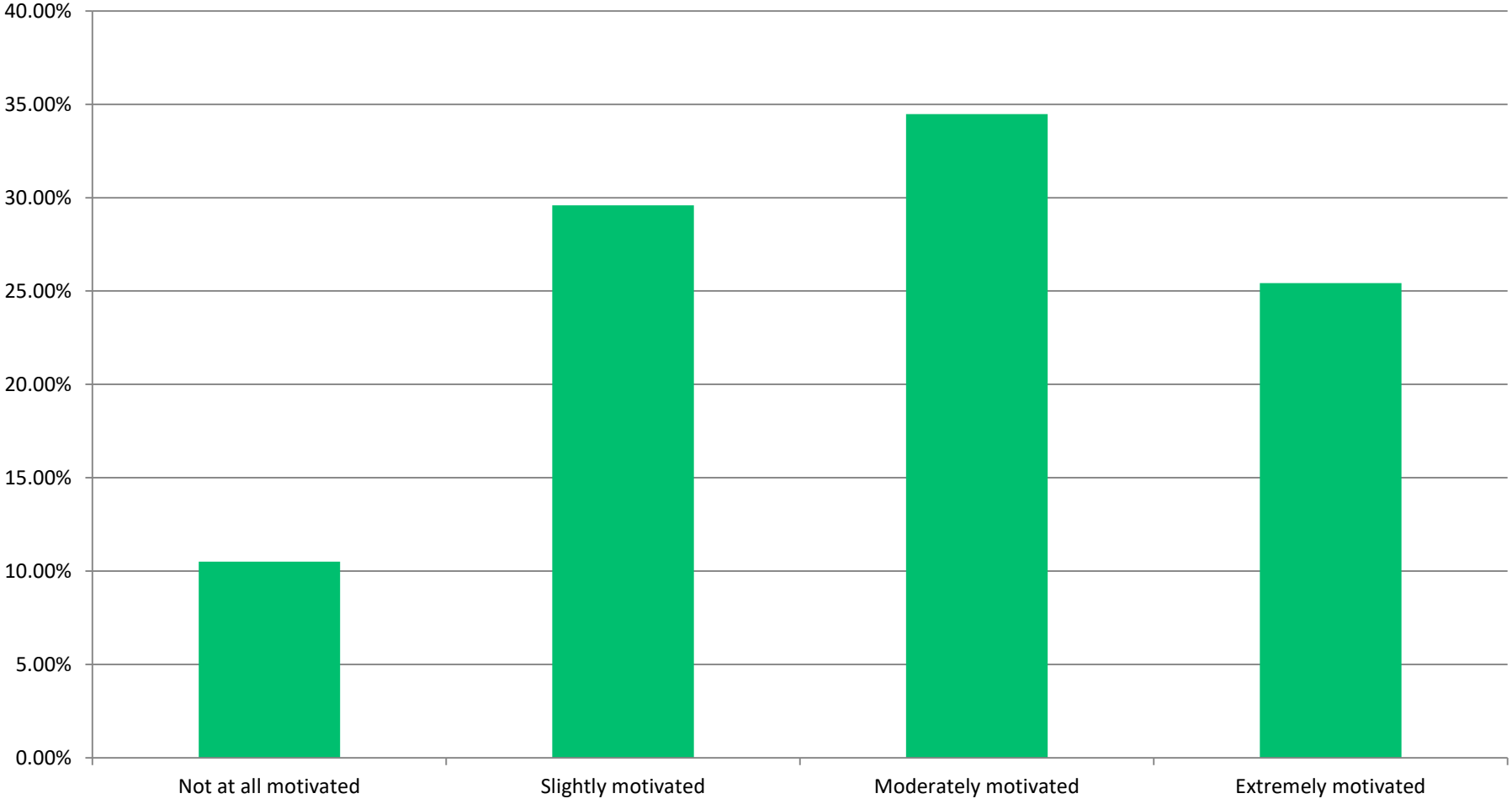
Survey responses, by state (n=1,032)

Texas	104	Oregon	31	Pennsylvania	13	Alaska	6
California	80	Minnesota	30	Massachusetts	12	Idaho	6
Montana	80	Indiana	29	Oklahoma	12	Arizona	5
Wisconsin	64	Georgia	23	Hawaii	11	North Dakota	5
North Carolina	62	Nebraska	23	Louisiana	10	Connecticut	4
Kansas	54	Ohio	22	Mississippi	10	New Jersey	4
Arkansas	50	Virginia	21	South Carolina	10	Delaware	2
Washington	48	Tennessee	20	West Virginia	10	Nevada	2
Michigan	45	Colorado	19	Maine	9	Utah	2
Florida	38	Kentucky	17	Alabama	8	Wyoming	2
Iowa	37	Missouri	17	Maryland	8	Puerto Rico	1
New York	35	New Hampshire	17	New Mexico	8	Rhode Island	1
Illinois	33	South Dakota	14	Vermont	8		

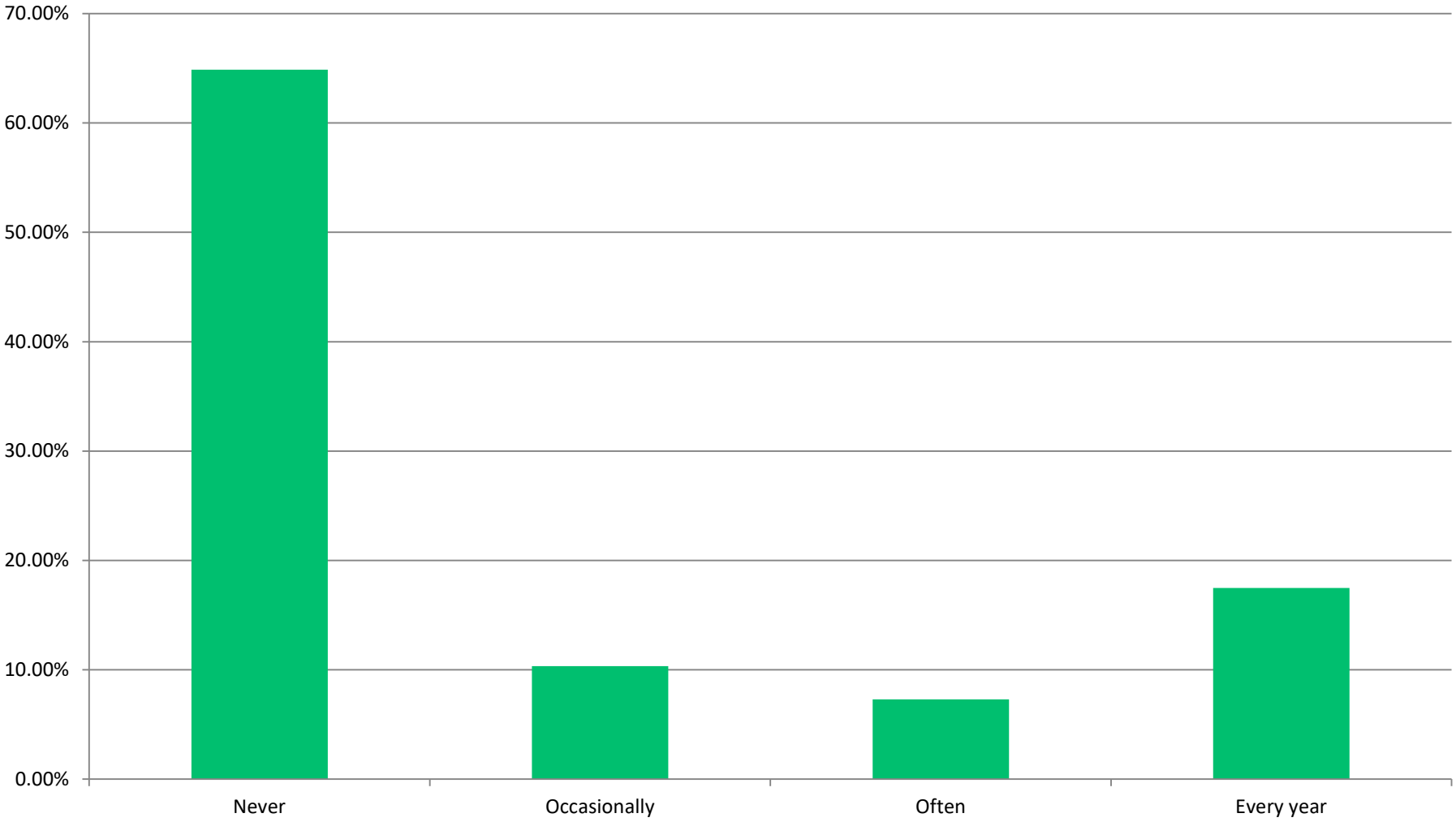
How LIKELY are you to buy crop insurance in the COMING YEAR?



How MOTIVATED are you to study and learn about new crop insurance options that might apply to your situation?

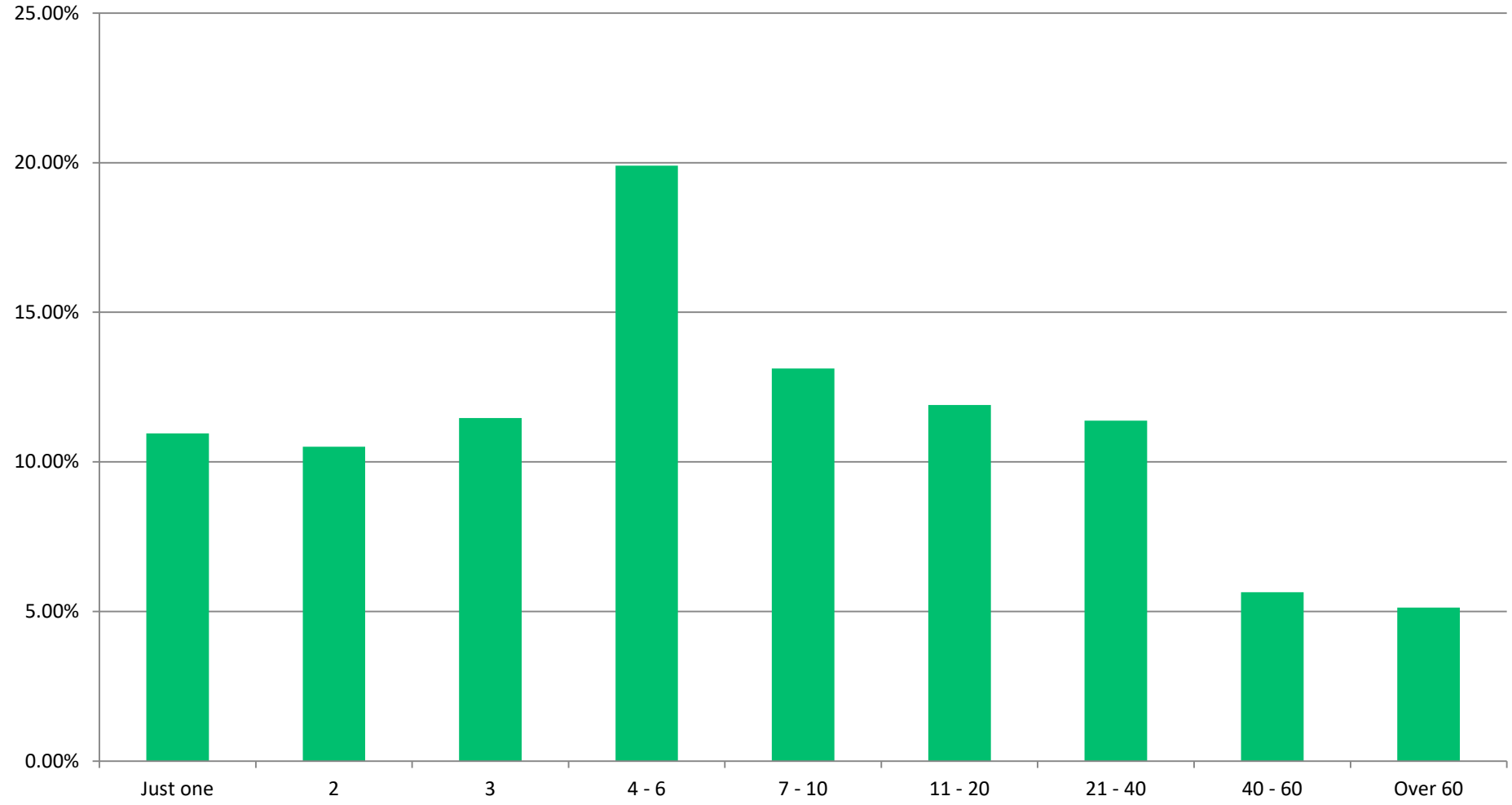


Have you EVER bought crop insurance?

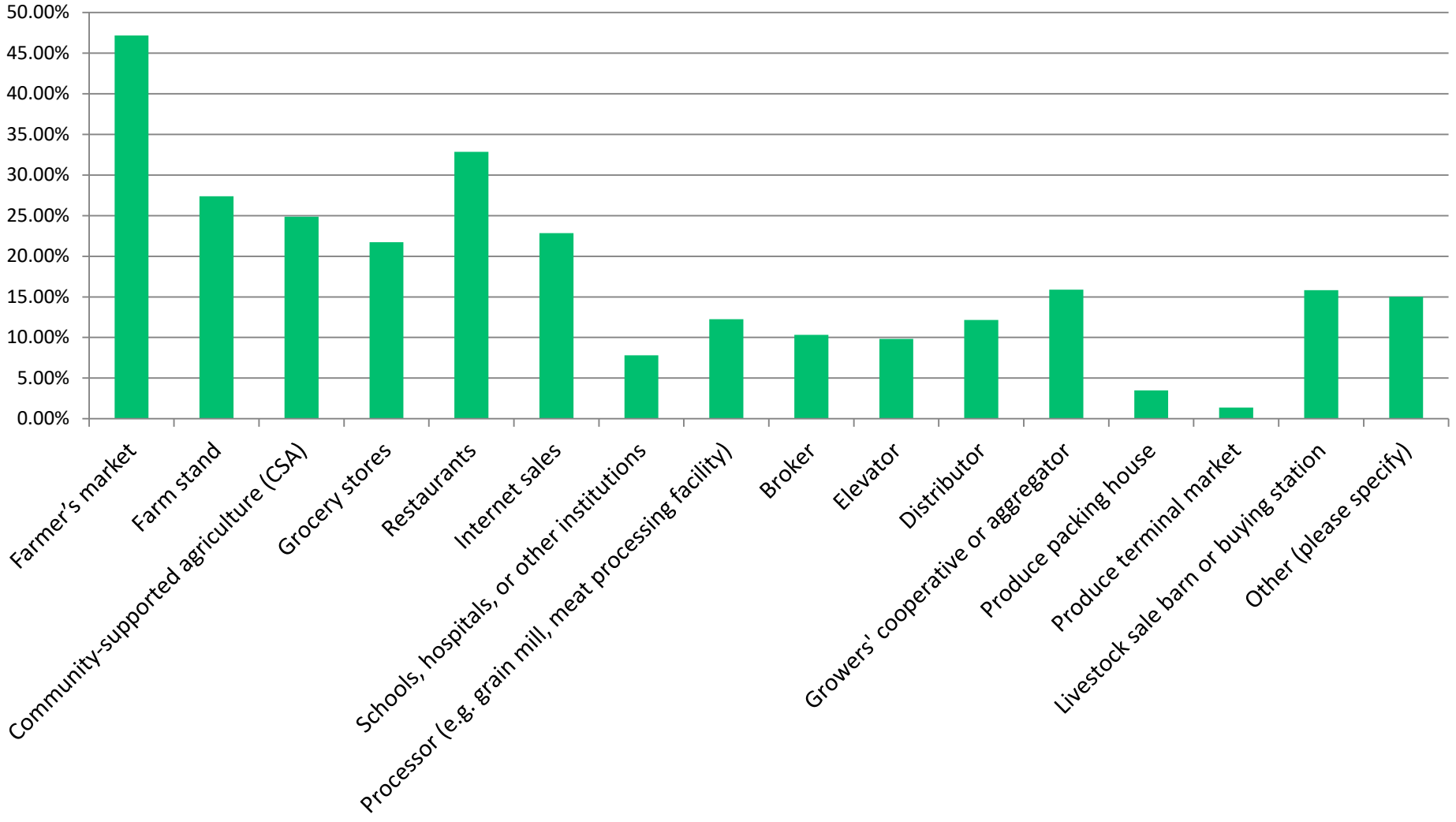


WHY do you rarely or never buy crop insurance? (Check up to 4 biggest reasons.)		
Answer Choices	Responses	
I don't know anything about it.	**31.81%**	**285**
My farm is too small. Not worth the trouble.	**52.68%**	**472**
Requires too much paperwork.	18.42%	165
Too expensive.	**27.34%**	**245**
I rarely experience major crop losses.	20.31%	182
Rules are too complicated. I don’t understand how it works.	14.73%	132
My farm is too diversified; not feasible to insure all these crops.	**38.73%**	**347**
Few if any policies are available for the crops that I grow.	**25.33%**	**227**
Coverage levels are too low for my situation.	8.04%	72
I don’t trust that claims would be paid.	7.37%	66
I’m not comfortable accepting federal subsidies.	8.82%	79
I’ve never bought crop insurance and see no reason to start now.	7.48%	67
Would harm my image with customers.	0.67%	6
I want to keep my financial records confidential.	4.69%	42
I've never really looked into it but doubt that it would be worthwhile.	**22.88%**	**205**
People that I trust have told me not to bother with it.	5.58%	50
Other (please specify)	11.61%	104

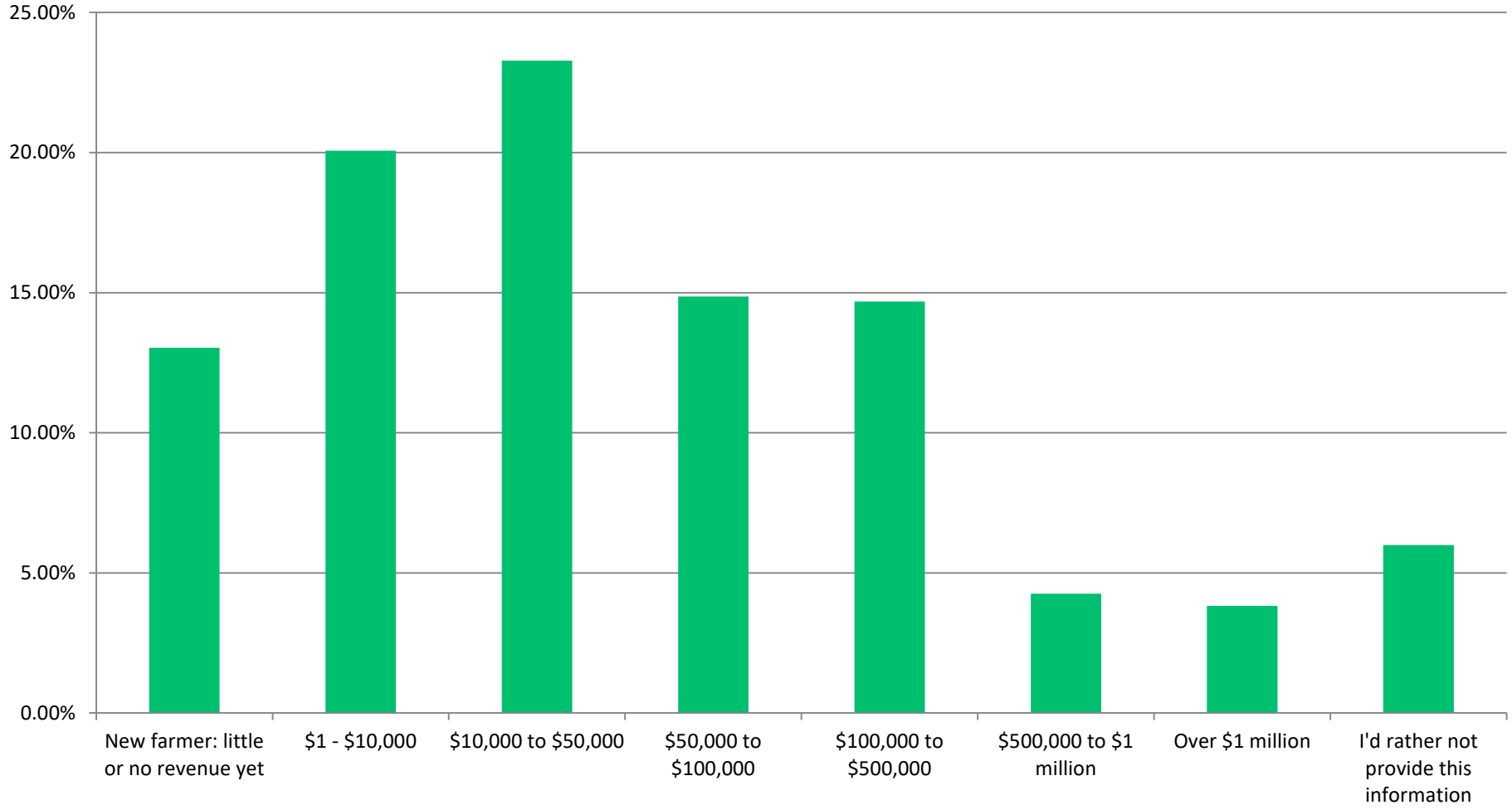
How many DIFFERENT PRODUCTS (crops and/or livestock) do you typically grow and sell per year?



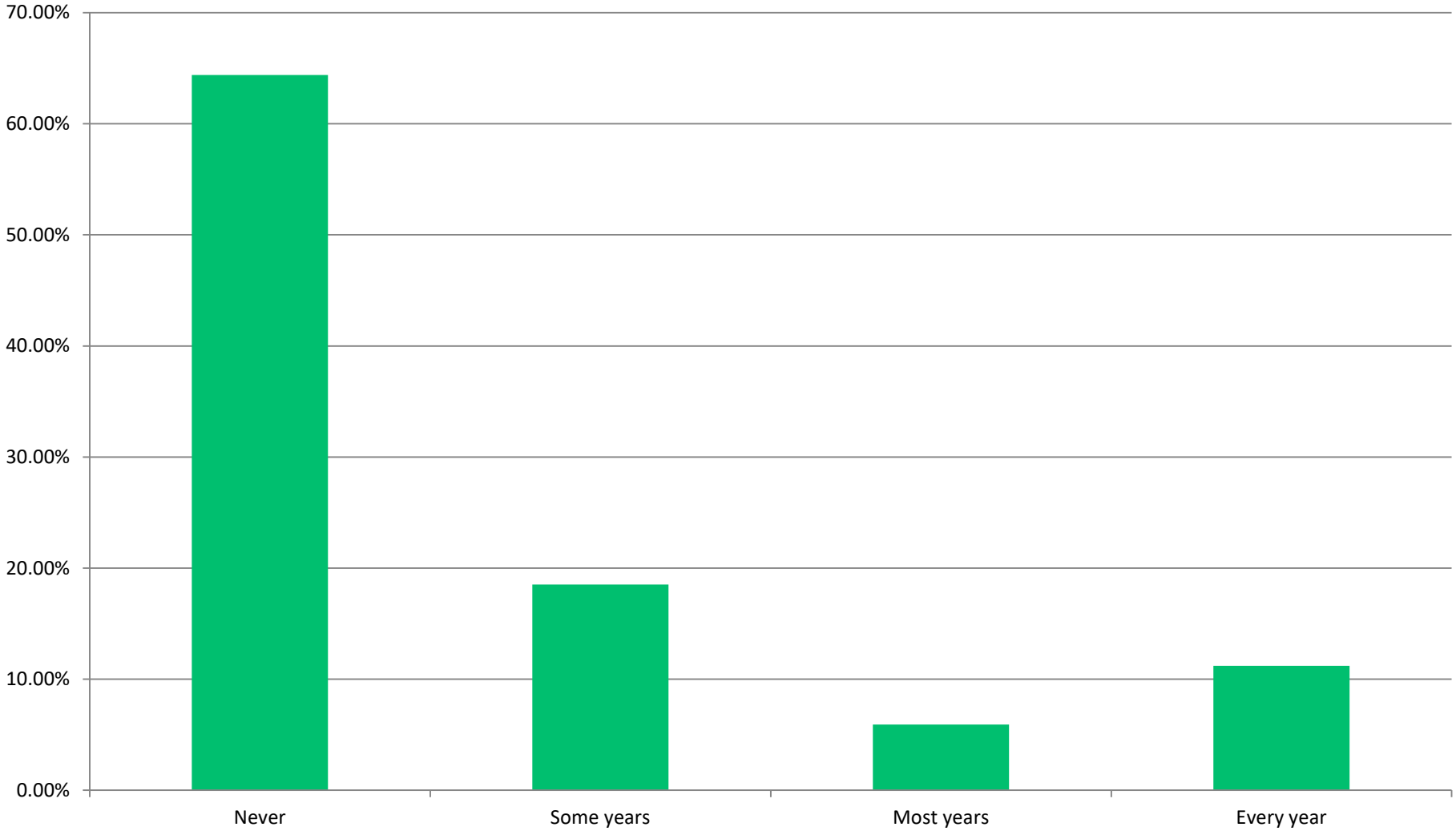
How do you MARKET your farm products? (Check all that apply.)



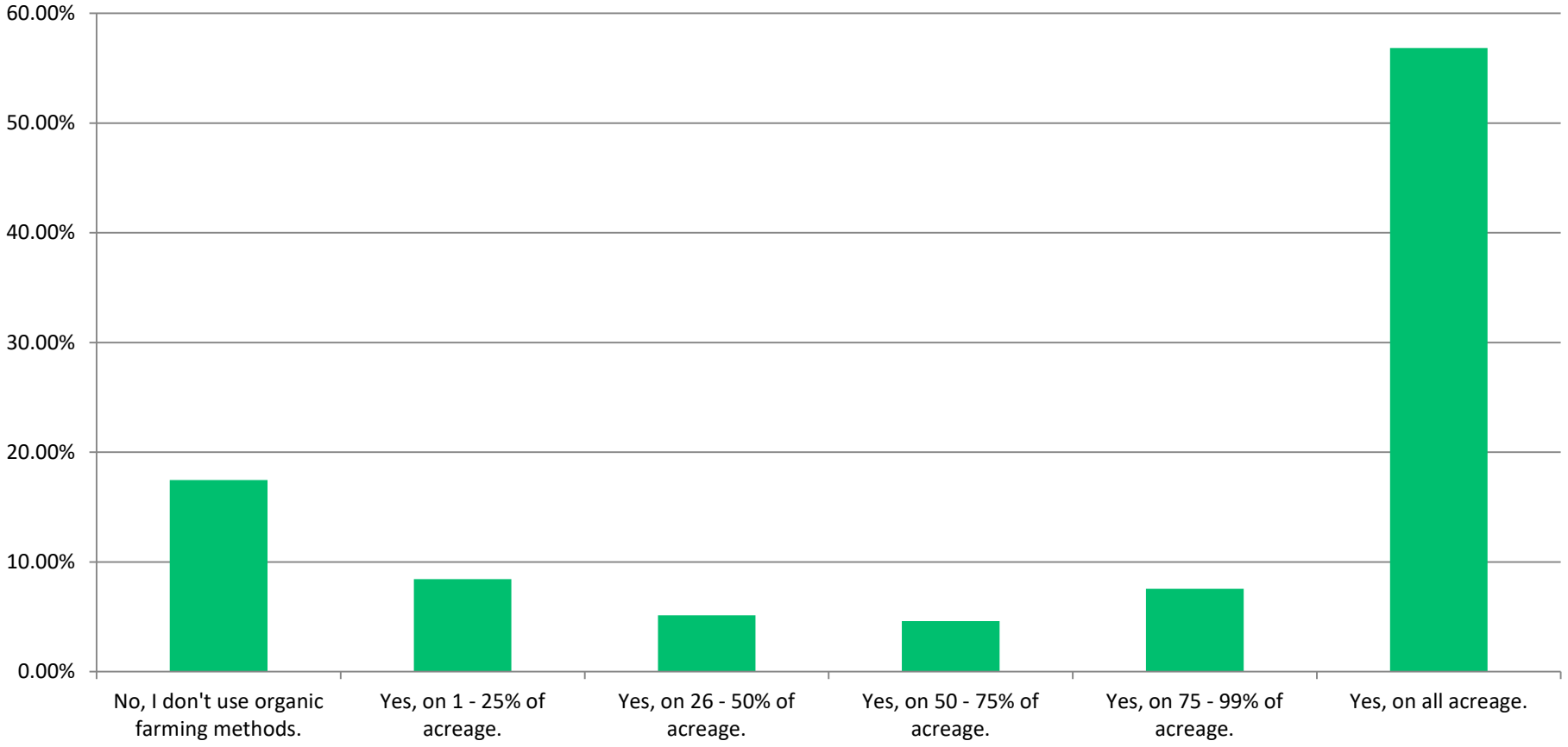
What's your average ANNUAL GROSS REVENUE from sales of agricultural products?



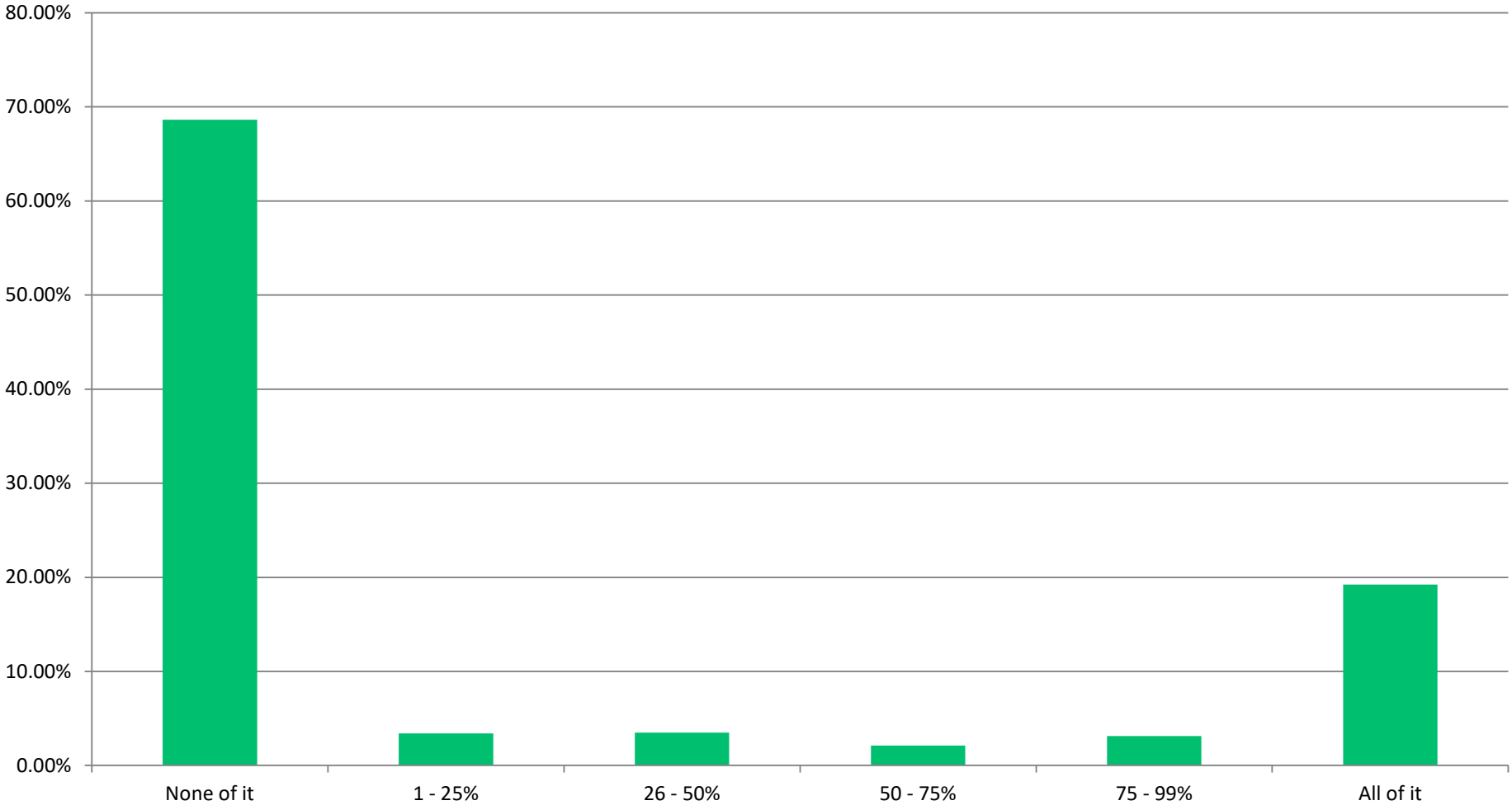
Have you ever had an OPERATING LOAN for your farm or ranch?



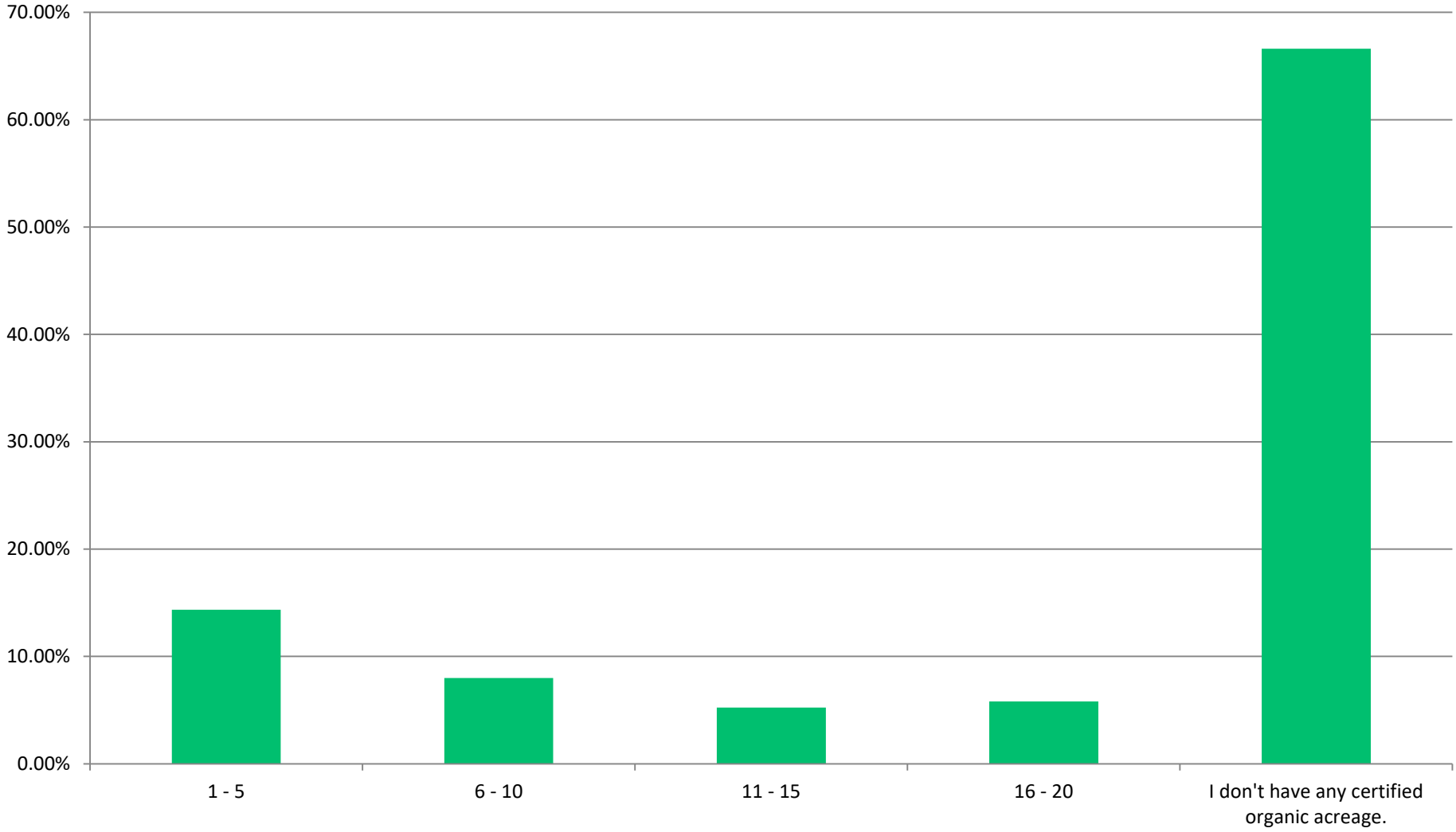
Do you use ORGANIC FARMING METHODS? (By this we mean alternatives to chemical fertilizers and pesticides--methods such as biological pest control, reduced-tillage, cover crops, and green or animal manure.)



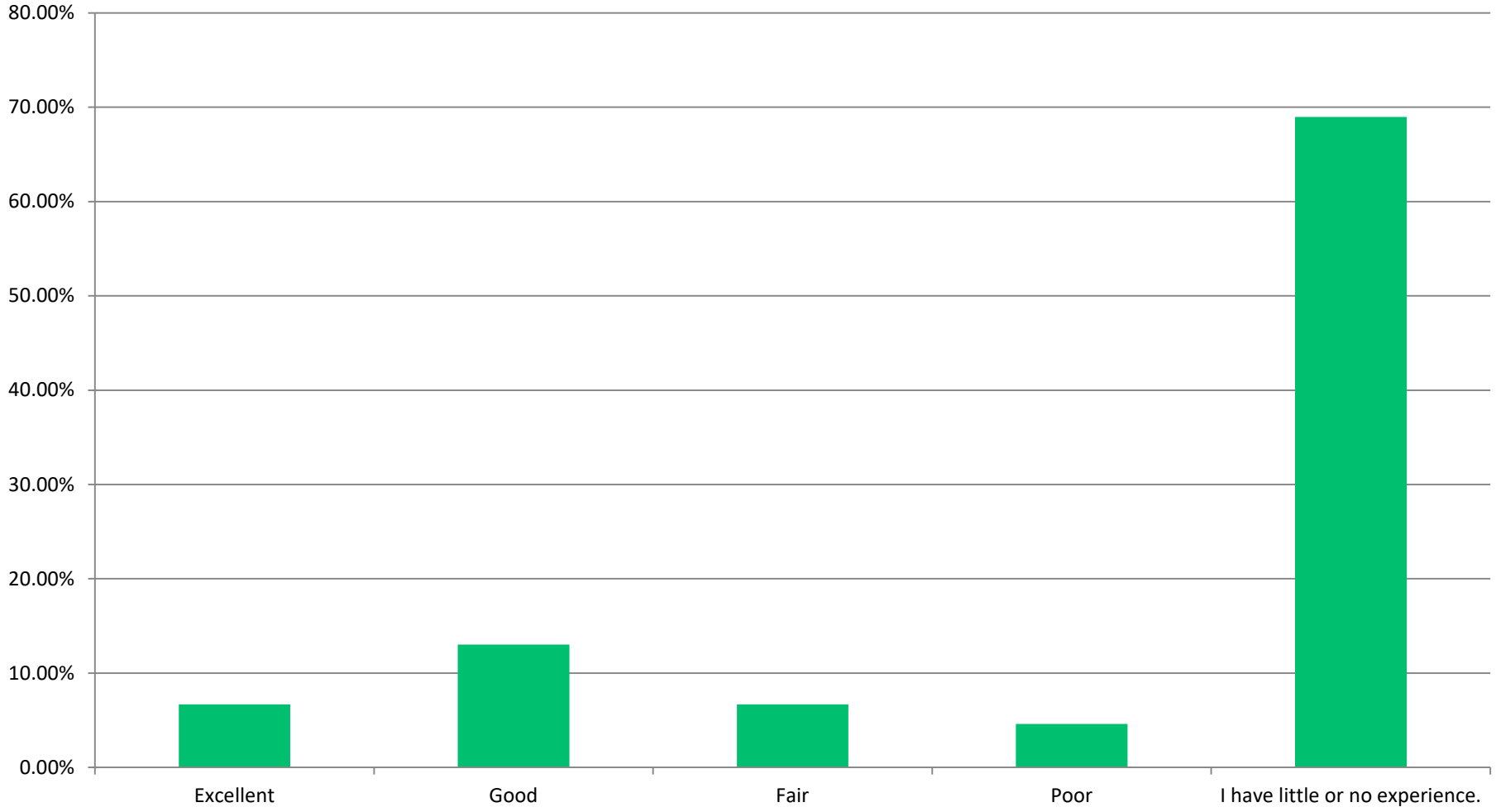
What percentage of the acreage that you currently farm is USDA CERTIFIED ORGANIC?



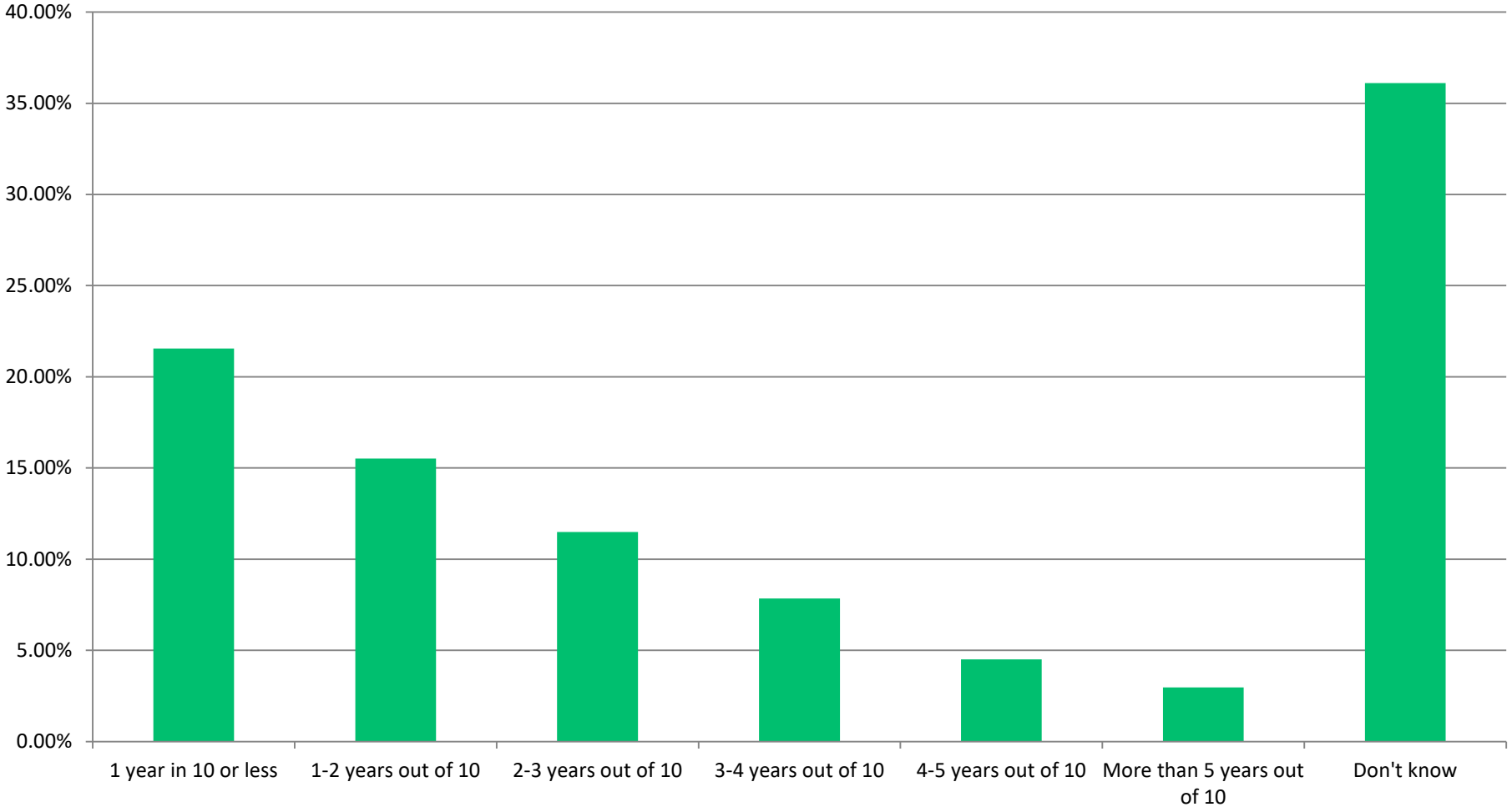
HOW MANY YEARS have you had USDA certified organic acreage?



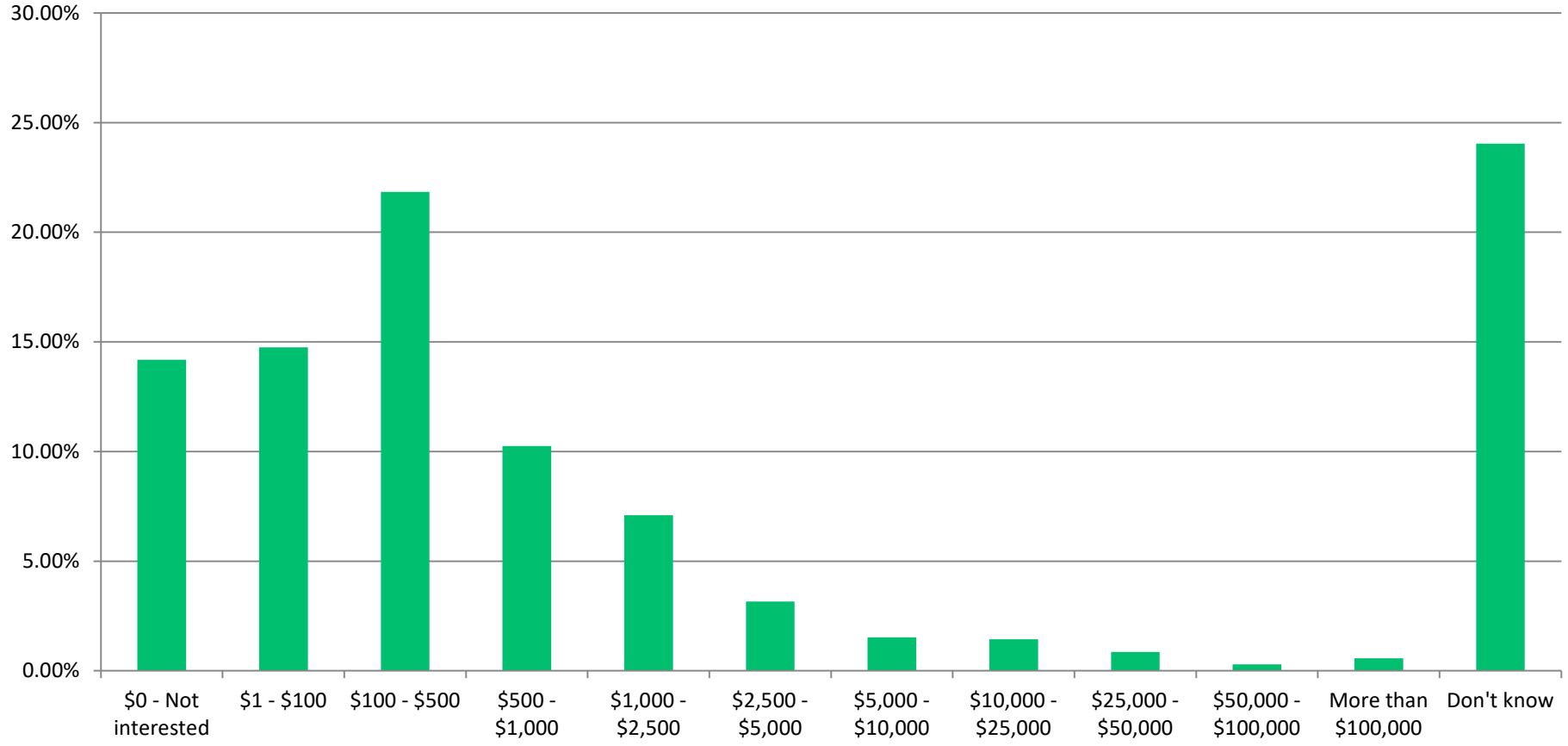
How would you describe your PAST EXPERIENCE with the performance of crop insurance AGENTS?



About how often does your gross income fall below 75% of its average level? (OK to estimate.)



What's the most you'd be WILLING TO PAY (in ANNUAL PREMIUM COST) for an insurance policy that protected your gross income from falling below 75% of its average level?[Example: Your average gross income is $100,000 and falls to $60,000 in a given year. Ins



Big Picture Questions From Survey

- Who is motivated to learn more about crop insurance? How can education programs be better focused?
  - Regress motivation response against farm-level factors.
  - What main groups have a gap between crop insurance motivation and usage?

- What are the main barriers to crop insurance for organic and diversified producers?
  - Willingness to pay too low?
  - Education?
  - Financing less problematic?

Big Picture Questions From Survey

- What are the risk management preferences and practices for producers with direct-to-consumer markets
  - Majority of producers in this survey sell in farmers markets, farm stands, CSAs, etc…
  - Distinction between organic production and certification seems to partially determine crop insurance practices. What about financing?
  - Does WFRP serve organic producers without certification?

- Other Thoughts?

Table. Crops Grown by those who Purchase WFRP (n = 45)

Crop	Count
Grains Legumes	32
Other Field Crops	10
High Value / Specialty Crop	19
Cattle	15
Hogs	4
Dairy	4
Sheep	2
Poultry / Eggs	5

Table 3. Mean Statistics Comparing Those Who Purchase WFRP

Variable	Purchased WFRP (n=45)		Rest of Sample	
	Mean	Median	Mean	Median
Acres	2,046.22	600.00	425.84	30.00
Experience	27.21	35.00	14.46	8.00
Percent of Production use Organic methods	53.06	62.50	69.95	100.00
Percent of Production that is Organic Certified	40.83	37.50	24.34	0.00
WTP Per Acre	153.01	5.00	115.51	6.67
WTP Per AGR	0.116	0.01	0.036	0.006
Different Products	9.09	5.00	14.27	5.00
Percent Chance when Income Falls Below 75% of Normal	25.47	25.00	22.27	15.00

Table. Mean Statistics, by Organic and Insurance Categories

Crop	Certified Organic + Buys Insurance	Certified Organic + Doesn't Buy Insurance	Not Certified Organic
Observations	123	218	746
Acres	1,504.96	345.20	371.25
Experience	23.69	14.30	13.55
WTP Per Acre ($ Per Acre)	72.18	373.03	46.15
WTP Per AGR	0.065	0.075	0.024
Percent Chance when Income Falls Below 75% of Normal	23.39	21.44	22.63
Interested to Learn More about Crop Insurance	91.87	45.87	57.37
Adjusted Gross Revenue	449,729.73	173,903.74	123,261.62
Different Products	9.41	22.12	12.84

Figure 11. Education gap shrinks for larger farms.

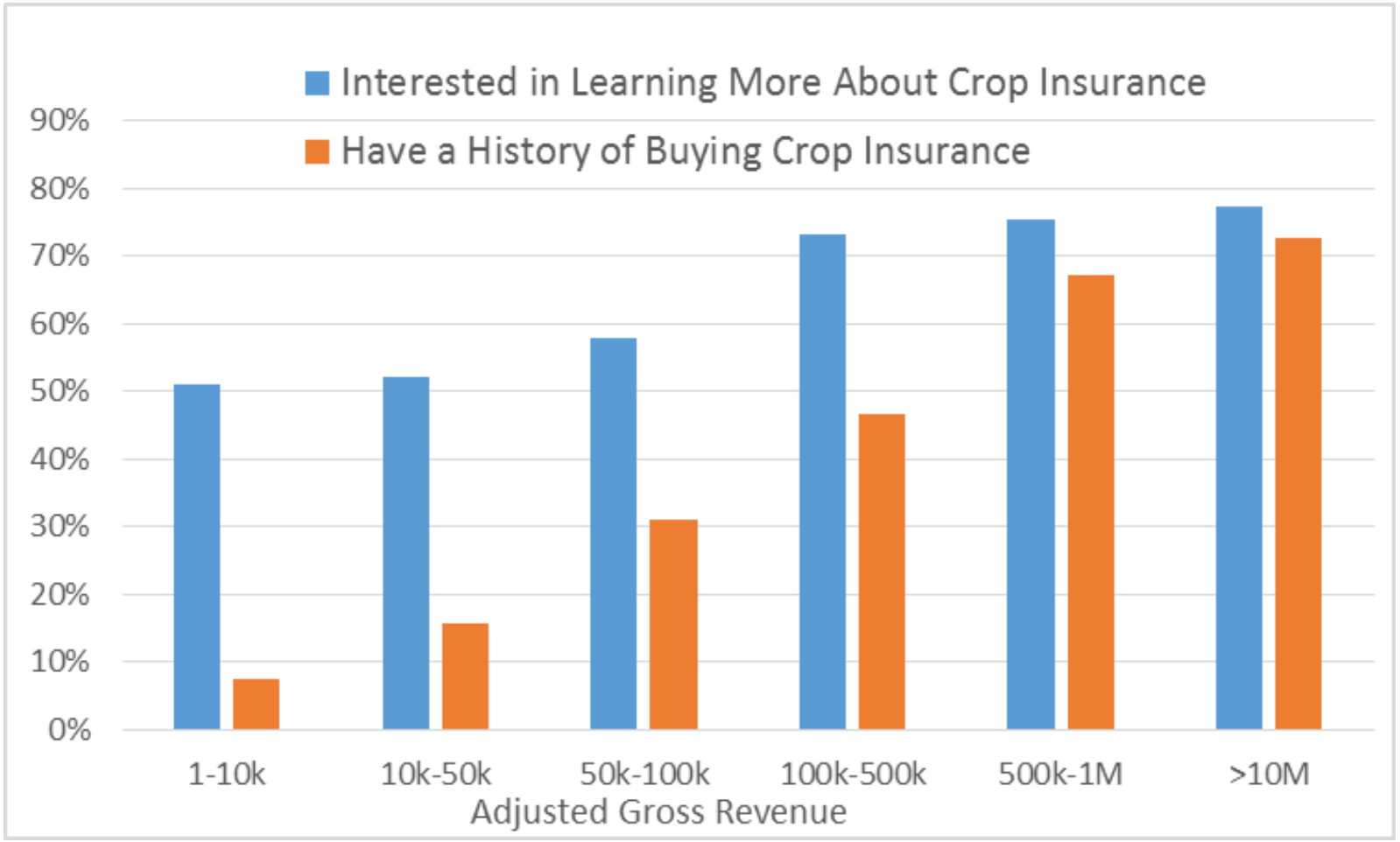


Figure 13. Major education gaps in most crops, but especially with high value/specialty crops.

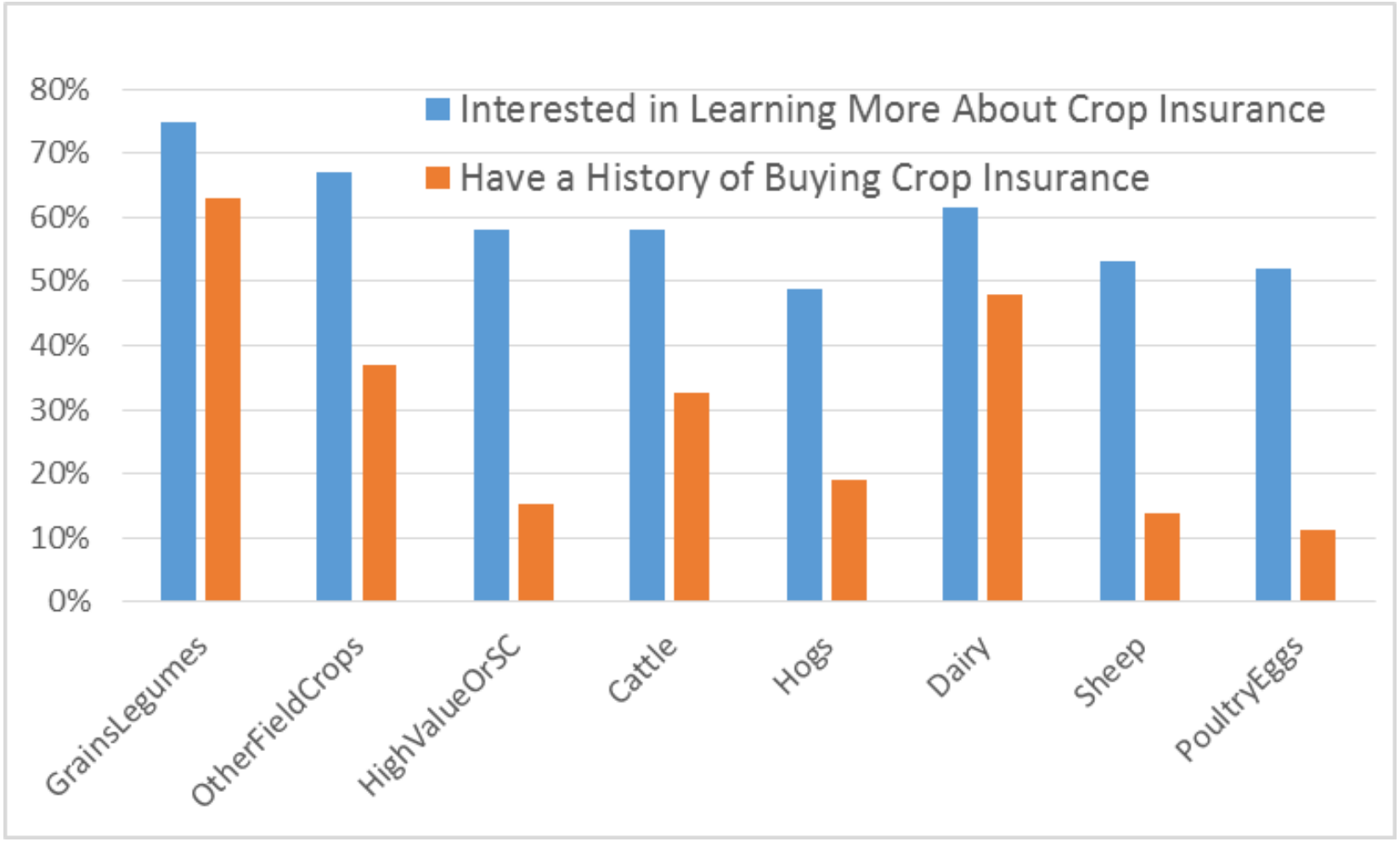


Figure 14. The use of operating loans related to purchasing crop insurance.

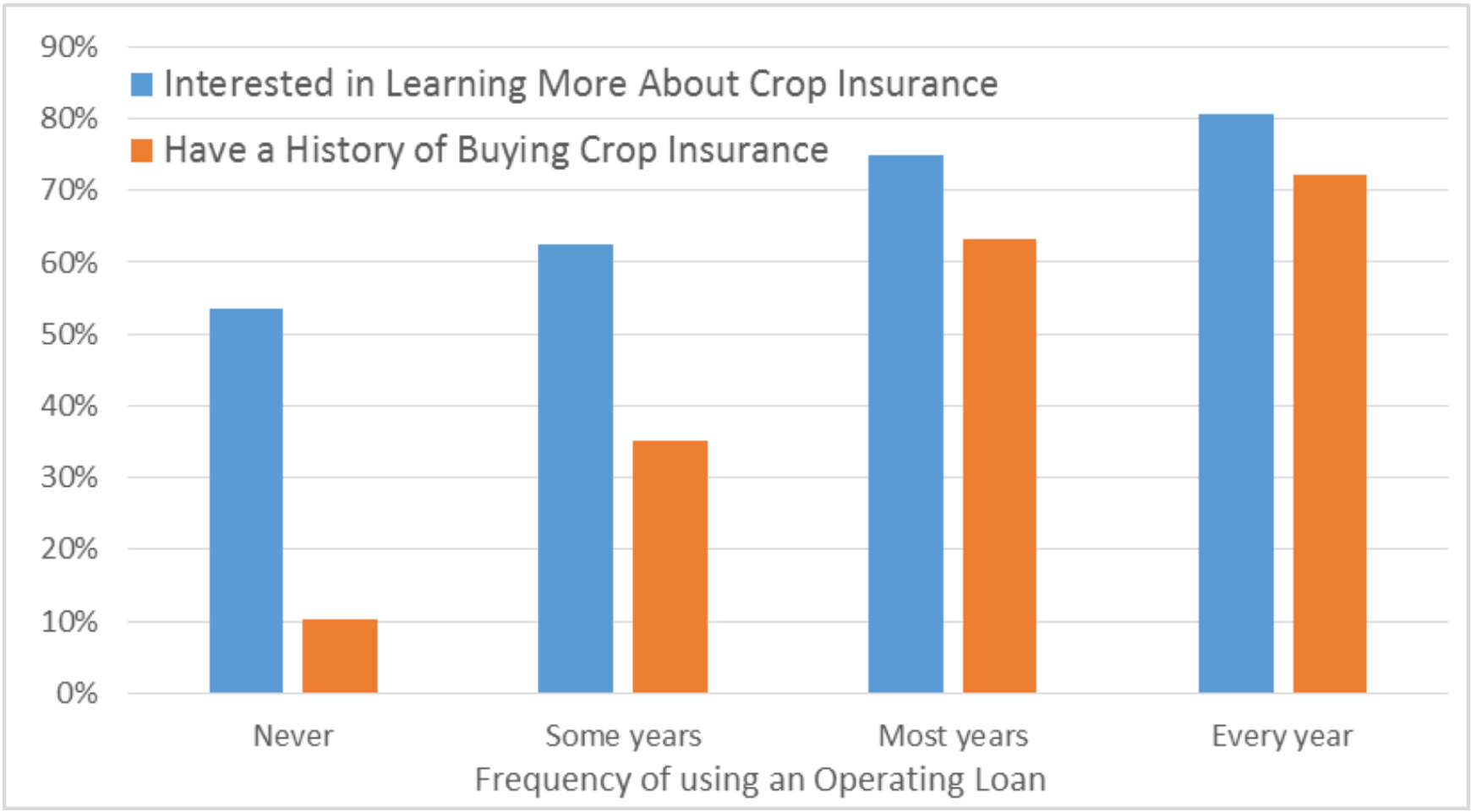
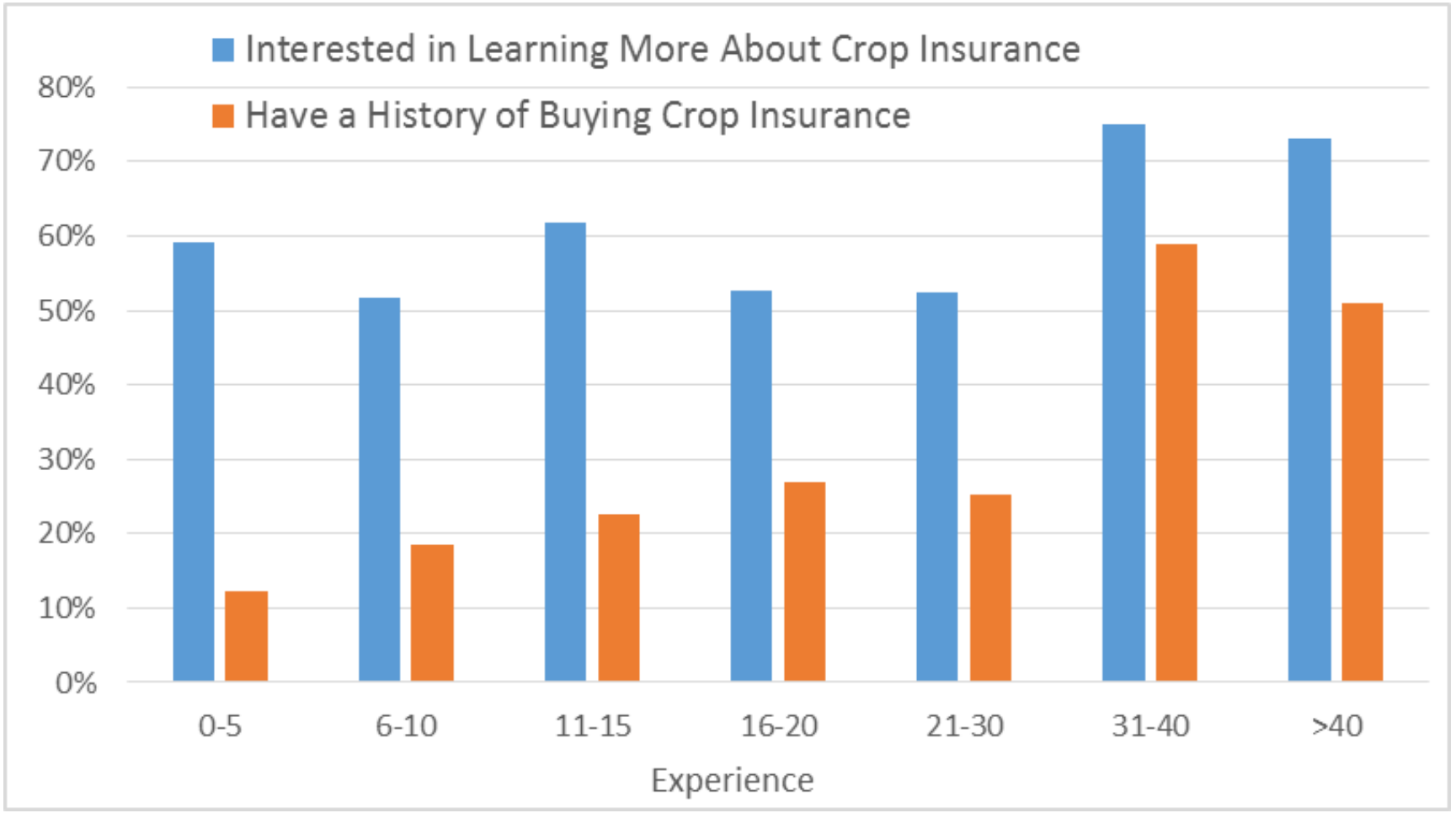


Figure 15. Experience has a slight relationship with education gap.



Logit Model Regression Results: Dependent Variable - Participation

Variable	Estimate	Standard Error	T Value	P value
Any Certified Organic Acres	**1.359**	**0.573**	**2.374**	**0.018****
Percentage of Certified Acres	-0.007	0.006	-1.114	0.265
Adjusted Gross Income (in $10,000s)	**0.012**	**0.006**	**2.033**	**0.042****
Amount of Acres (in 1,000 Acres)	0.262	0.178	1.474	0.141
Different Number of Products Produced	-0.015	0.009	-1.607	0.108
Organic Experience (in years)	-0.015	0.016	-0.945	0.345
Farming Experience (in years)	**0.027**	**0.013**	**2.155**	**0.031****
Is an Operating Loan Commonly Used?	**1.359**	**0.295**	**4.601**	**0.000*****
High Value or Specialty Crops	**-0.693**	**0.328**	**-2.112**	**0.035****
Hogs	**-1.232**	**0.546**	**-2.255**	**0.024****

Note: Other variables include an intercept, Willingness to Pay for crop insurance, other crop types. Grains/Legumes are excluded crop.

Concluding Comments

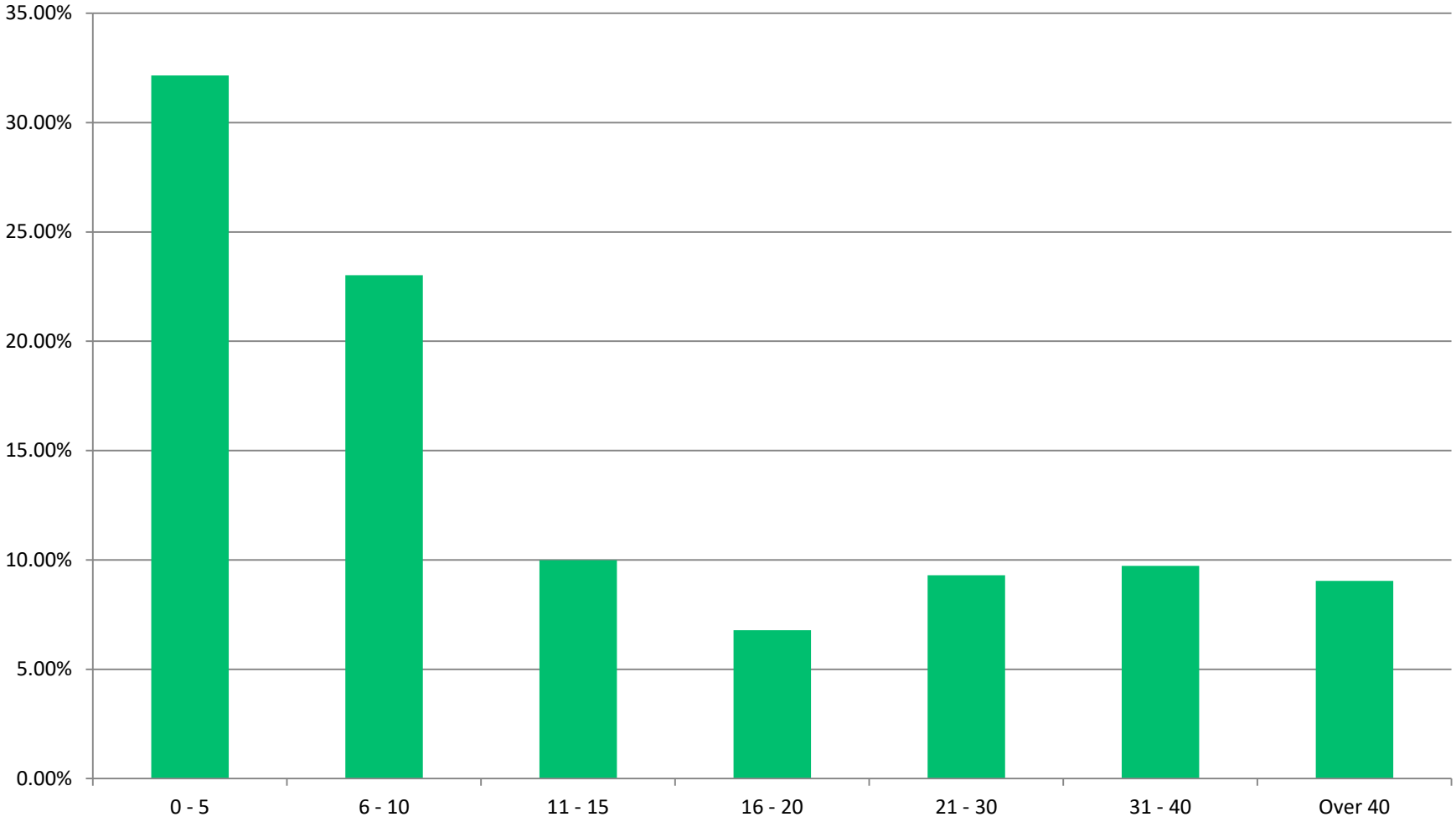
- Commercialization and scale biggest determinants of crop insurance participation.
- Large education gaps exist related to:
  - Less experienced farmers
  - High value/specialty crops
  - Other Field Crops
  - Small farms and those without operating loans
- Organic production is positively related to participation, though other determinants also have a role.
- Future work focused on determinants of WTP for crop insurance.

Thank you for your time

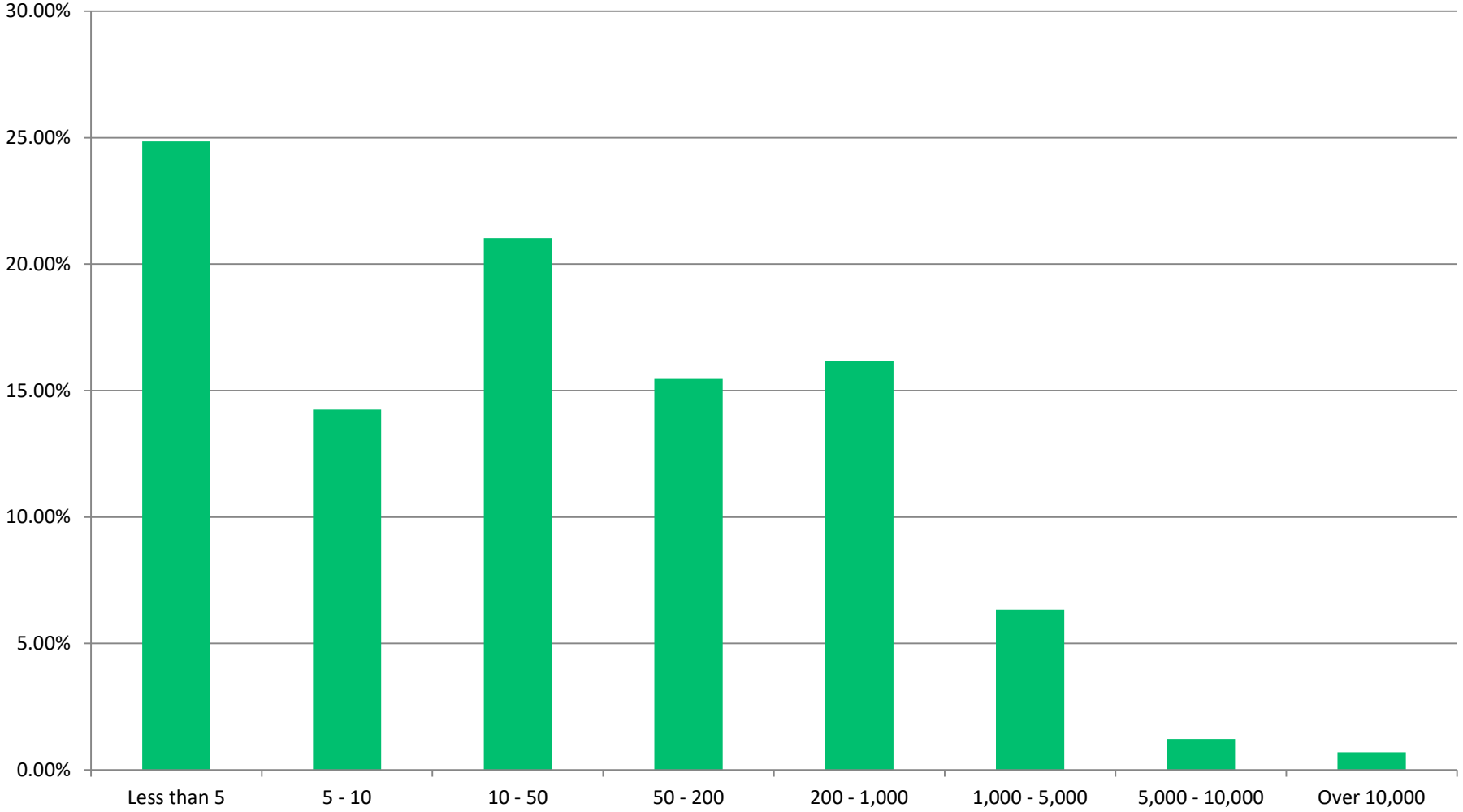
Please send suggestions, questions,
or ideas to me at

eric.belasco@montana.edu
Twitter: @ejbelasco

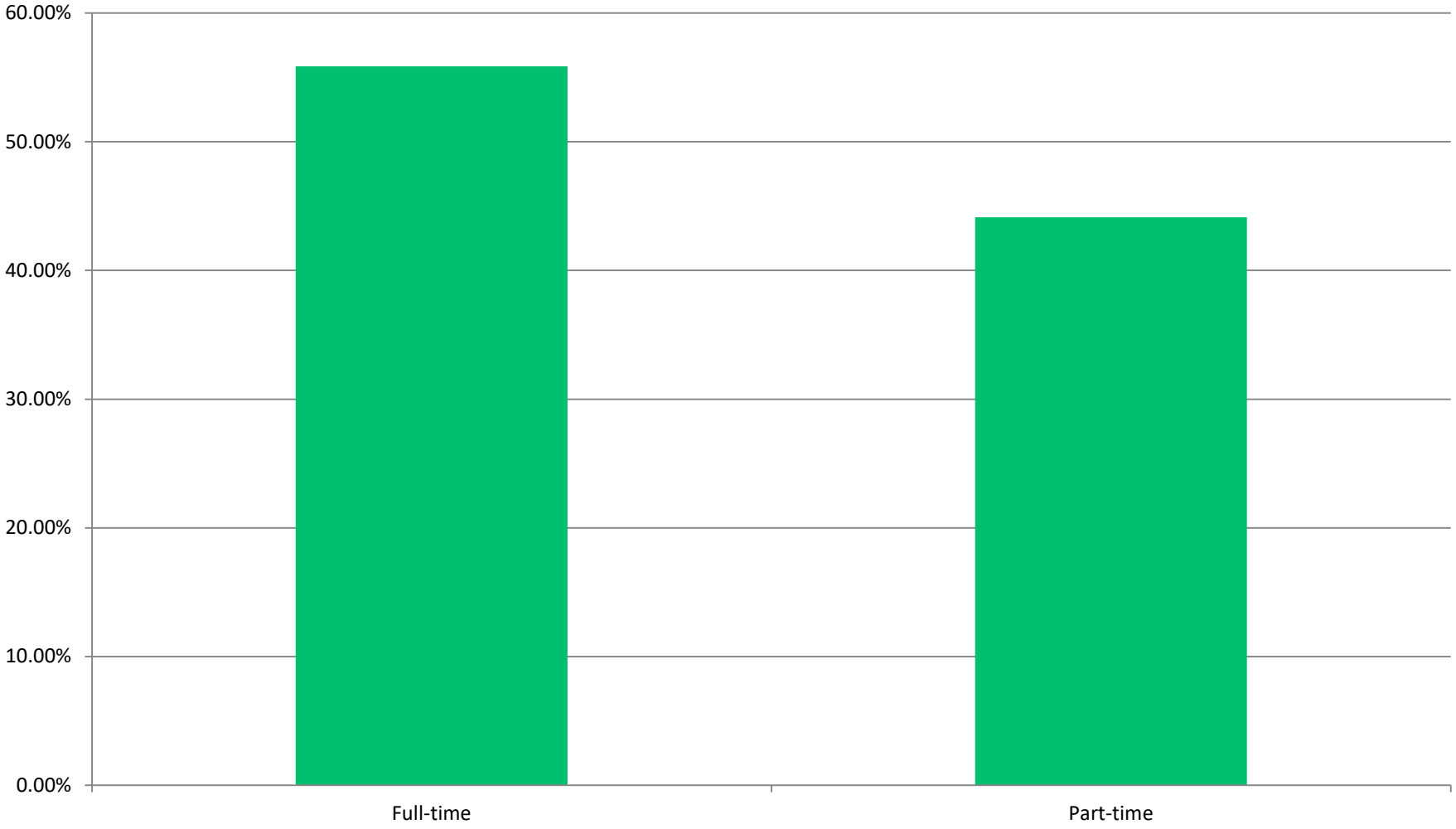
How many YEARS have you been farming or ranching?



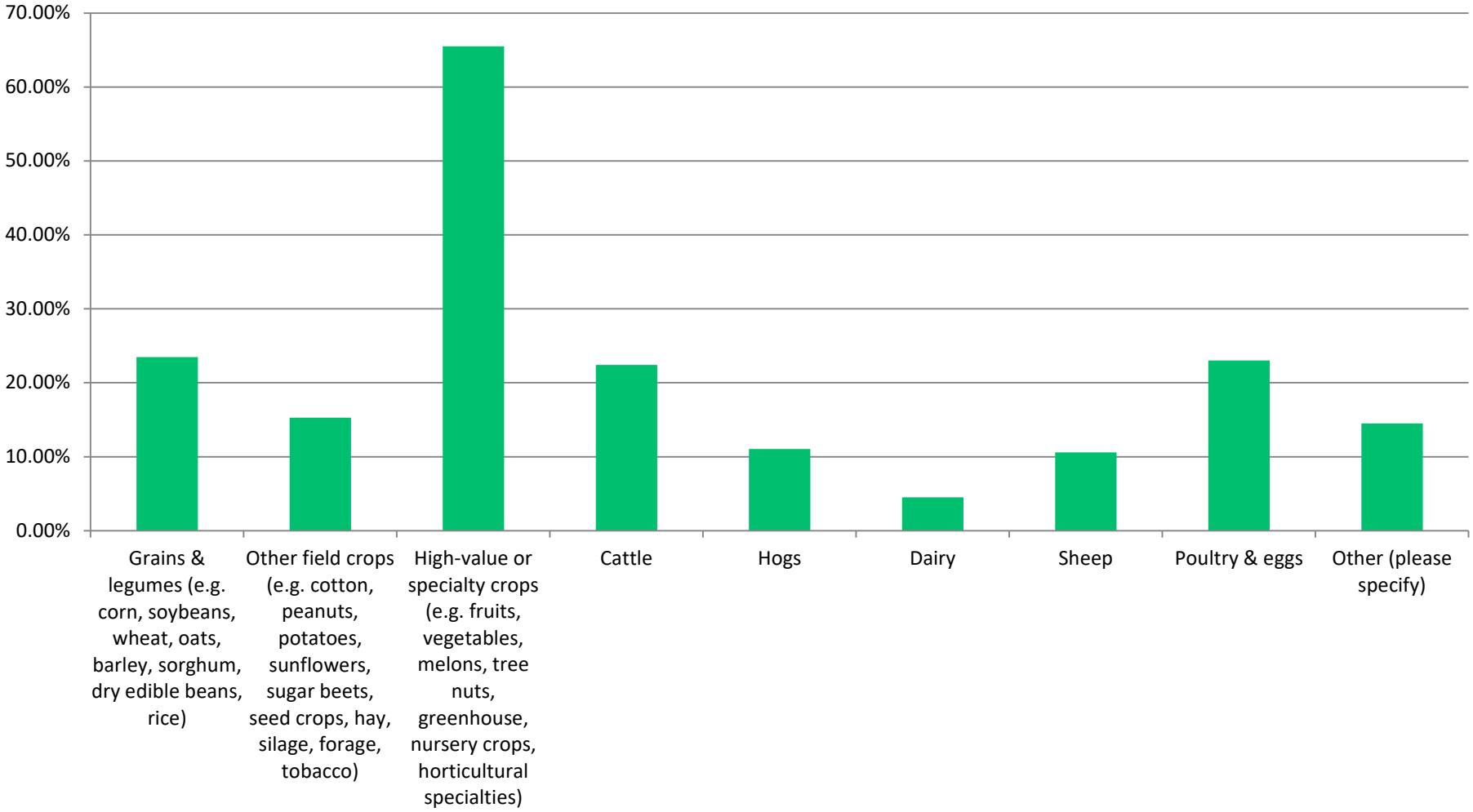
How many ACRES do you farm or ranch?



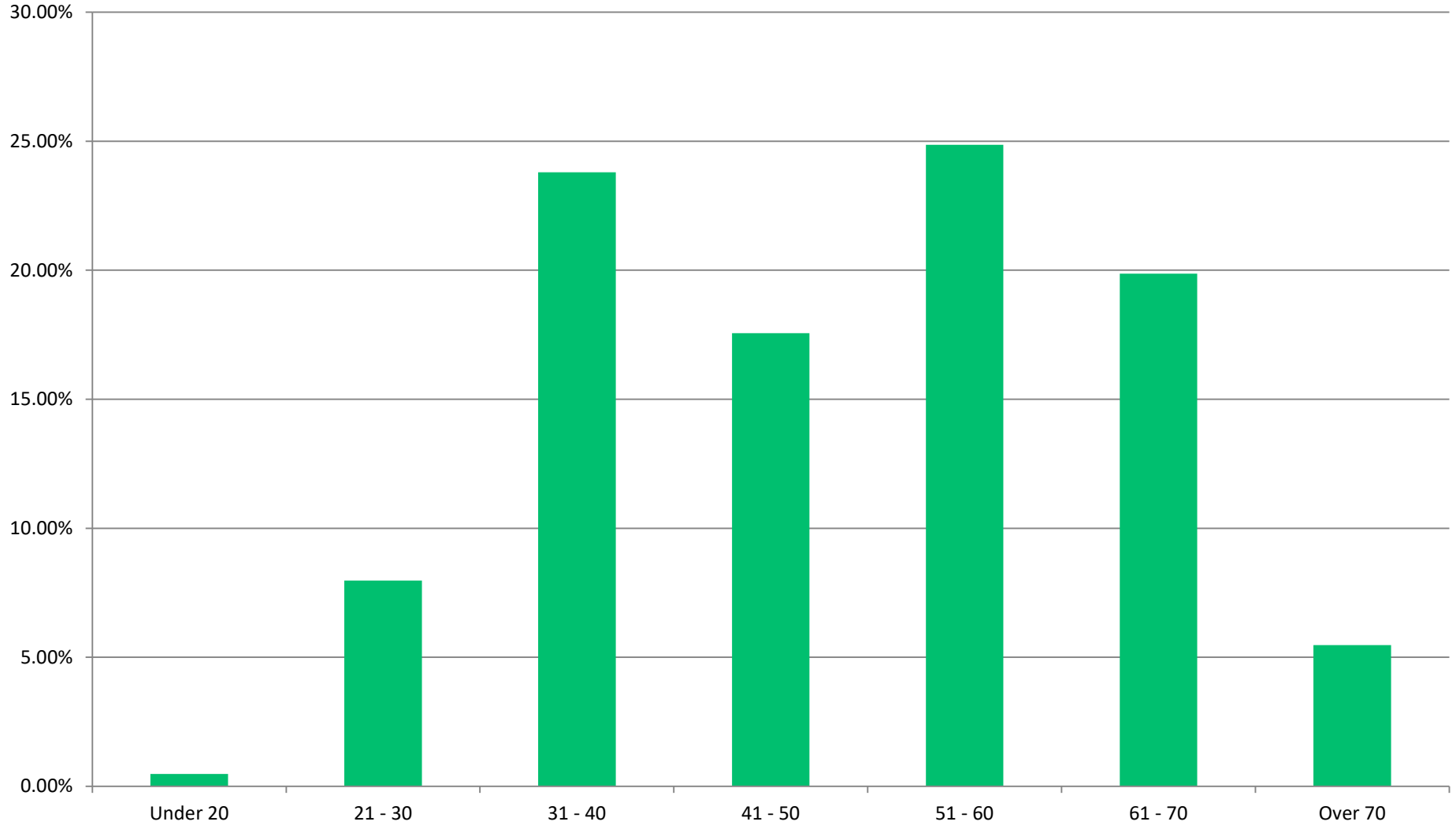
Do you farm FULL-TIME or PART-TIME?



What DESCRIPTION best fits your operation? (OK to choose more than one.)



What's your AGE?



What's your highest level of EDUCATION?

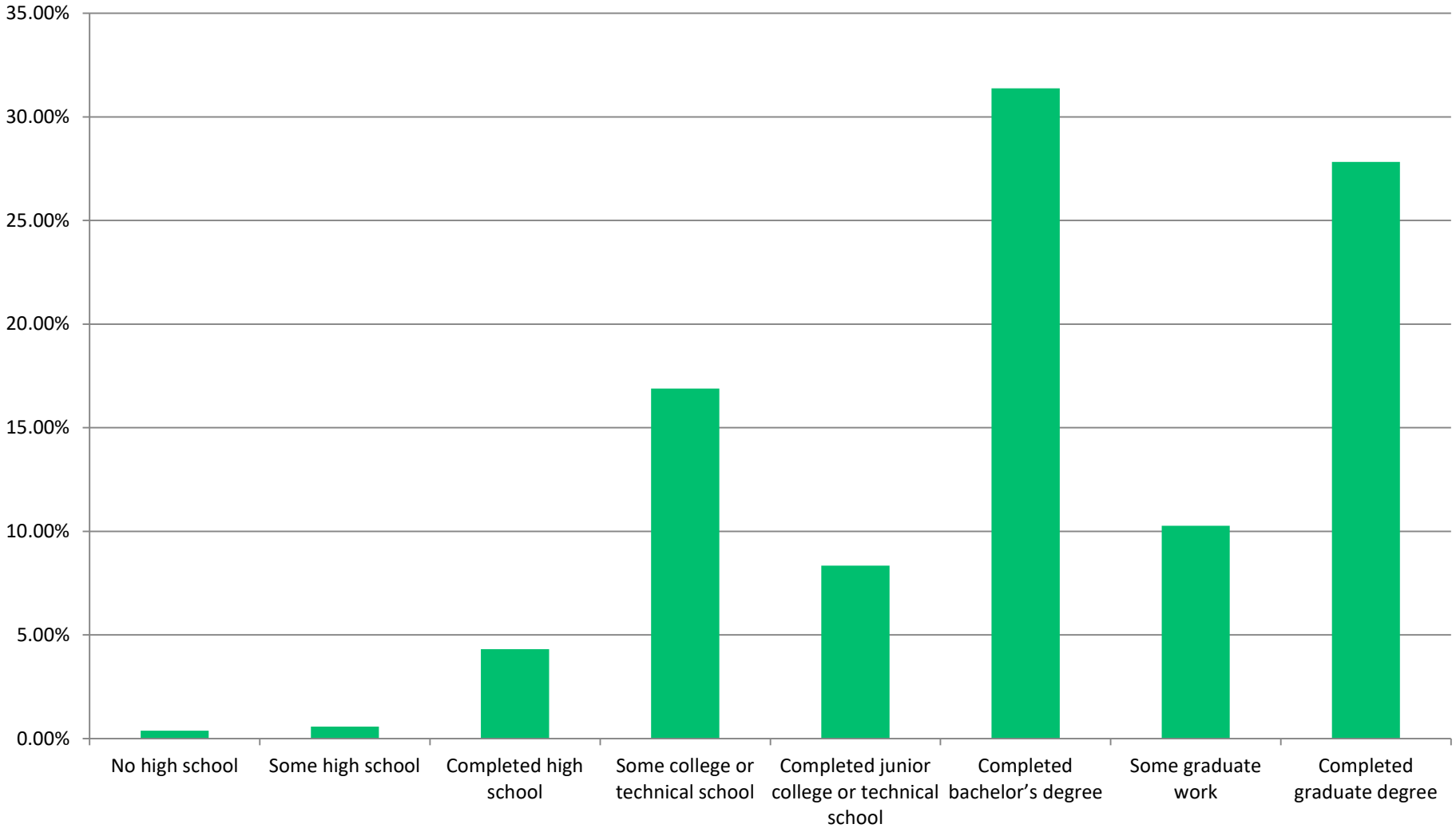


Table. Summary variables, by Crop

Crop	Percent of Production that is Organic	Percent of Production that is Certified Organic	Acres	Experience (in Years)	Age (in Years)	Obs.
Grains Legumes	52.22	33.30	1,395.12	22.76	50.12	270
Other Field Crops	64.99	28.03	983.86	19.27	48.73	176
High Value / Specialty Crop	77.22	25.75	172.03	12.58	48.53	754
Cattle	60.56	22.46	1,005.23	18.75	48.04	258
Hogs	77.85	18.38	374.07	14.50	45.87	127
Dairy	67.31	39.44	1,105.63	21.80	45.73	52
Sheep	70.59	18.38	291.54	14.63	46.68	122
Poultry / Eggs	79.81	16.31	254.70	10.90	46.21	265

Linear Regression Results : Dependent Variable - Participation

Variable	Estimate	Standard Error	T Value	P value
Any Certified Organic Acres	0.192	0.077	2.504	0.013**
Percentage of Certified Acres	-0.001	0.001	-1.520	0.129
Adjusted Gross Income (in $10,000s)	0.002	0.001	3.204	0.001***
Amount of Acres (in 1,000 Acres)	0.036	0.015	2.380	0.018**
Different Number of Products Produced	-0.002	0.001	-1.822	0.069*
Organic Experience (in years)	-0.003	0.002	-1.605	0.109
Farming Experience (in years)	0.004	0.002	2.696	0.007***
Is an Operating Loan Commonly Used?	0.195	0.036	5.373	0.000***
High Value or Specialty Crops	-0.111	0.039	-2.874	0.004***
Hogs	-0.122	0.050	-2.442	0.015**

Note: Other variables include an intercept, Willingness to Pay for crop insurance, other crop types. Grains/Legumes are excluded crop.