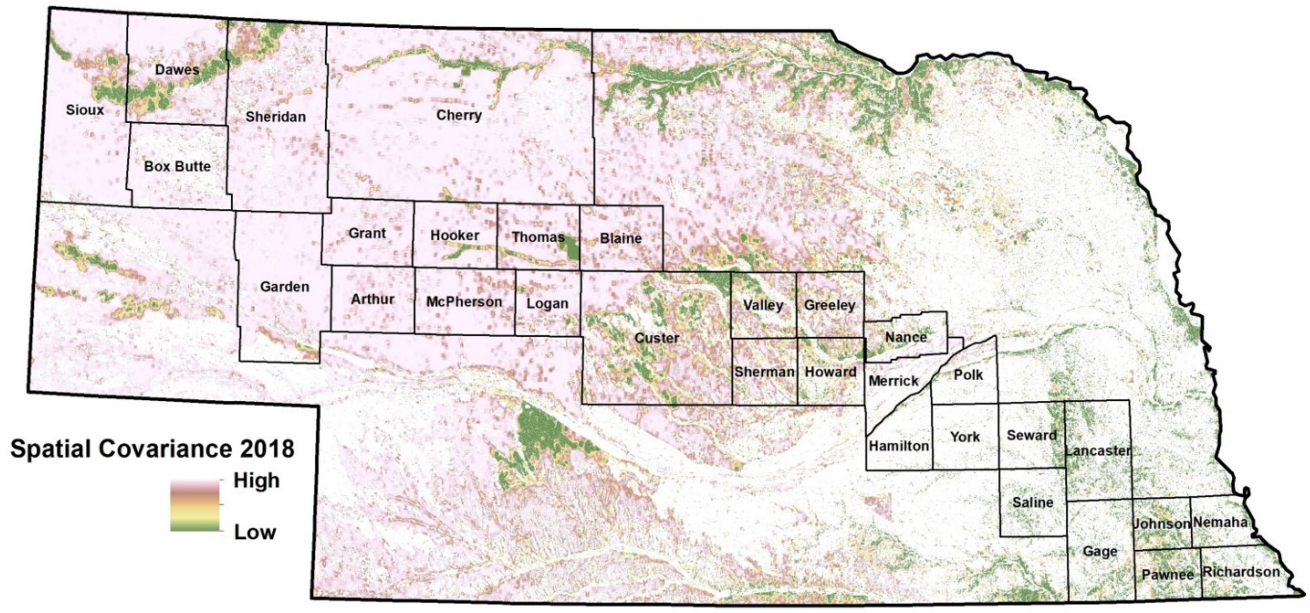
Nebraska Rangeland Survey 2021 - Summary Statistics of General Data

About the sample

We surveyed a cross-section of Nebraska counties from the NW corner to the SE corner of the state because these counties were representative of the vegetation transition gradient.



We bought names and addresses from FarmMarketID. The purchased list constitutes the entire population of people who responded to the National Agricultural Survey in the counties we requested who self-identified as having >20 acres of pasture/rangeland (6546 people). Of this population, 3448 people had emails. We took a simple random sample of 4500 from the population of 6546 individuals.

Response rates

Initial sample size = 4500
Sample size after duplicates were removed = 4494

Number of responses = 573
Number of refusals = 176

Response rate = 13%

Note: We did not receive any "return to sender" envelopes and the post office did not track this for us. Because the addresses were purchased, it's possible that all the mailings were deliverable, but we don't know for certain.

Responses by prompt

We administered the paper survey in three waves. The first wave was a letter introducing the survey, which included a TinyURL. The second and third waves included a letter and paper survey.

First mailing - 4494 people, 103 responses; June 4, 2021
Second mailing - 4385 people, 253 responses, 43 refusals; June 23, 2021
Third mailing - 3932 people, 211 responses, 71 refusals; July 23, 2021

In addition to the paper surveys, we sent out three waves of emails.

First email - 2409 people, 98 emails bounced, 30 responses, 42 refusals; May 26, 2021
Second email - 2314 people, 101 emails bounced, 12 responses, 12 refusals; June 11, 2021
Third email - 2302 people, 100 emails bounced, 12 responses, 8 refusals; June 24, 2021

After duplicates and completely empty responses were removed, the final number of responses for each prompt is shown below.

prompt	n
email	33
paper	456
tinyurl	84

q1 - Type of agricultural production

Which of these options makes up the largest proportion of your operation?

question	variable	n	mode
q1	production type	545	3

answer	n	percent
1. Cattle ranching	236	41.19%
2. Other livestock	10	1.75%
3. Farming	244	42.58%
4. Specialty farm products	5	0.87%
5. Other	50	8.73%
NA	28	4.89%

q1b Other livestock, please specify Note: If the respondent selected "2. Other livestock," they were prompted to specify with a fill in the blank.

answer	n	percent
BISON	1	0.17%
CATTLE & BOER GOATS	1	0.17%
CATTLE & SHEEP	1	0.17%
DAIRY	1	0.17%
HORSES	3	0.52%
PIGS	1	0.17%
POULTRY	1	0.17%
SHEEP	1	0.17%
SHEEP & GOAT	1	0.17%

answer	n	percent
NA	562	98.08%

q1d Specialty farm products, please specify Note: If the respondent selected "4. Specialty farm products," they were prompted to specify with a fill in the blank.

answer	n	percent
BEES & FRUIT	1	0%
CORN & BEANS	1	0%
LOCAL ECOTYPE WILDFOWER SEED PRODUCTION	1	0%
NATIVE GRASS SEED PRODUCTION	1	0%
NATIVE PRAIRIE FORBSEED POLLINATOR	1	0%
NA	568	99%

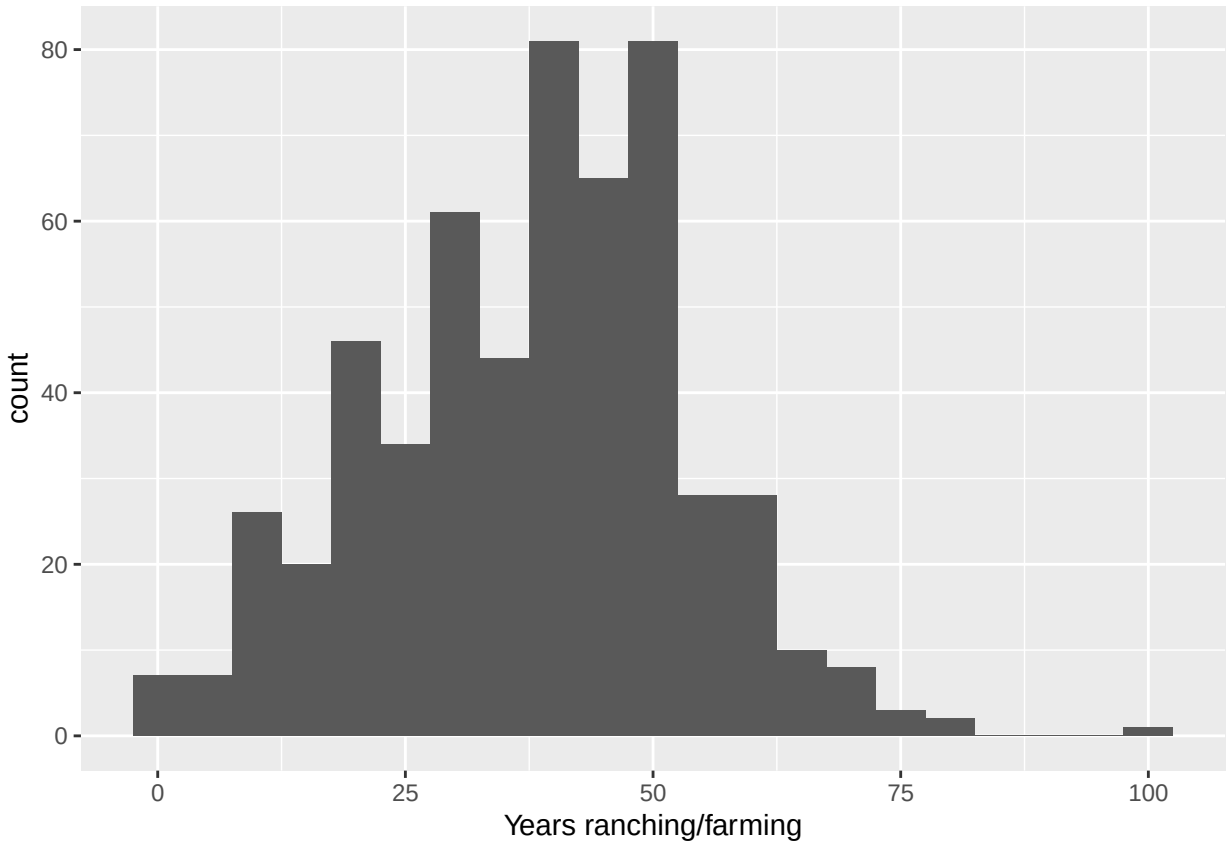
q1e Other, please specify Note: If the respondent selected "5. Other," they were prompted to specify with a fill in the blank.

answer	n	percent
ALFALFA & PRAIRIE	1	0.17%
CATTLE & FARM	4	0.70%
CATTLE & OFFFARM RUN	1	0.17%
CORN, BEANS, ALFALFA	1	0.17%
CROP	1	0.17%
CRP	11	1.92%
CRP & HABITAT RESTORATION	1	0.17%
CRP & PRAIRE HAY	1	0.17%
CRP & ROW CROPS	1	0.17%
CUSTOM HIRE & PASTURE RENTAL	1	0.17%
HAY	8	1.40%
HAY & PASTURE	1	0.17%
HORSES, HAY GROUND, FARMLAND LEASE	1	0.17%
MULTI SPECIES GRAZING	1	0.17%
NATIVE GRASS	1	0.17%
PASTURE & CPR LAND	1	0.17%
RENT/LEASE OUT	11	1.92%
RETIRED	2	0.35%
WILDLIFE ENHANCEMNET	1	0.17%
WORKED DAY TIME JOB	1	0.17%
NA	522	91.10%

q2 - Years in agricultural production

How many years have you personally been ranching or farming?

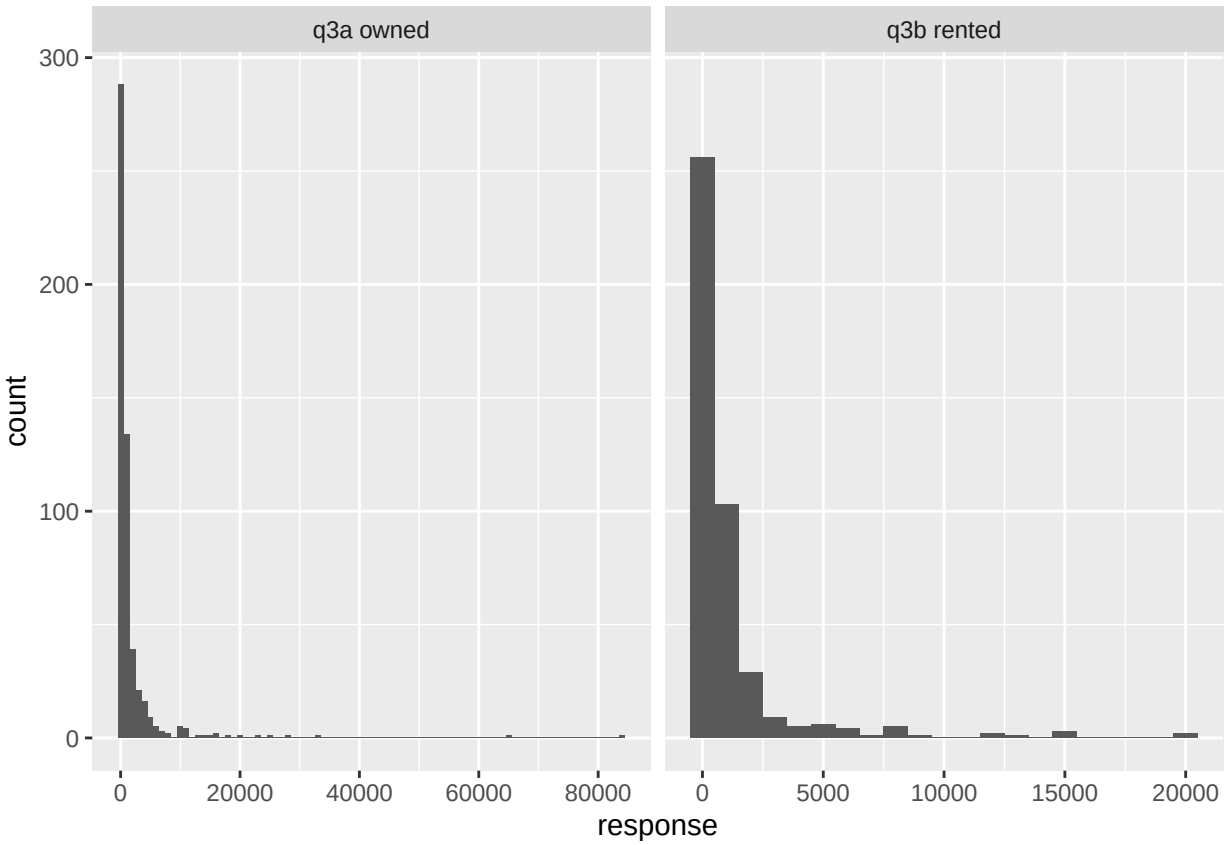
question	variable	n	mean	sd	min	median	max
q2	years ranching/farming	552	37.9	15.65	0	40	98



q3 - Acres owned/rented

Please estimate the acreage of your operation in 2020.

question	variable	n	mean	sd	min	median	max
q3a	owned	539	1800.52	5596.59	0	450	84000
q3b	rented	427	1073.72	2432.92	0	320	20000



Acres owned

owned_interval	n	percent
a. 0	8	1.40%
b. 0<acres<640	310	54.10%
c. 640-1279	87	15.18%
d. 1280-1919	25	4.36%
e. 1920-2559	31	5.41%
f. 2560-3199	15	2.62%
g. 3200-3839	9	1.57%
h. 3840-4479	11	1.92%
i. 4480-5119	5	0.87%
j. >5120	38	6.63%
NA	34	5.93%

Acres rented

rented_interval	n	percent
a. 0	116	20.24%
b. 0<acres<640	153	26.70%
c. 640-1279	80	13.96%
d. 1280-1919	22	3.84%
e. 1920-2559	17	2.97%
f. 2560-3199	6	1.05%
g. 3200-3839	5	0.87%

rented_interval	n	percent
h. 3840-4479	2	0.35%
i. 4480-5119	7	1.22%
j. >5120	19	3.32%
NA	146	25.48%

q4 - Main county of operation

In what county in Nebraska is the largest proportion of your operation located?

question	variable	n	mode
q4	main county of operation	573	CUSTER

answer	n	percent
ARTHUR	3	0.52%
BLAINE	2	0.35%
BOONE	1	0.17%
BOX BUTTE	15	2.62%
BOX BUTTE/SIOUX	1	0.17%
BUTLER	3	0.52%
CASS	1	0.17%
CHERRY	19	3.32%
CHERRY/THOMAS	1	0.17%
CHEYENNE	1	0.17%
CLAY	1	0.17%
CUSTER	46	8.03%
CUSTER/GOSPER	1	0.17%
DAWES	25	4.36%
DAWSON	1	0.17%
DUNDY	1	0.17%
FILLMORE	2	0.35%
GAGE	37	6.46%
GAGE/LANCASTER	1	0.17%
GAGE/SALINE	1	0.17%
GARDEN	8	1.40%
GARFIELD	2	0.35%
GRANT	4	0.70%
GRANT/CUSTER	1	0.17%
GREELEY	13	2.27%
HALL	1	0.17%
HAMILTON	16	2.79%
HOOKER	3	0.52%
HOWARD	24	4.19%
JEFFERSON	2	0.35%
JOHNSON	20	3.49%
KEYA PAHA	1	0.17%
KIMBALL	1	0.17%
KNOX	1	0.17%
LANCASTER	34	5.93%
LOGAN	3	0.52%
LOUP	3	0.52%

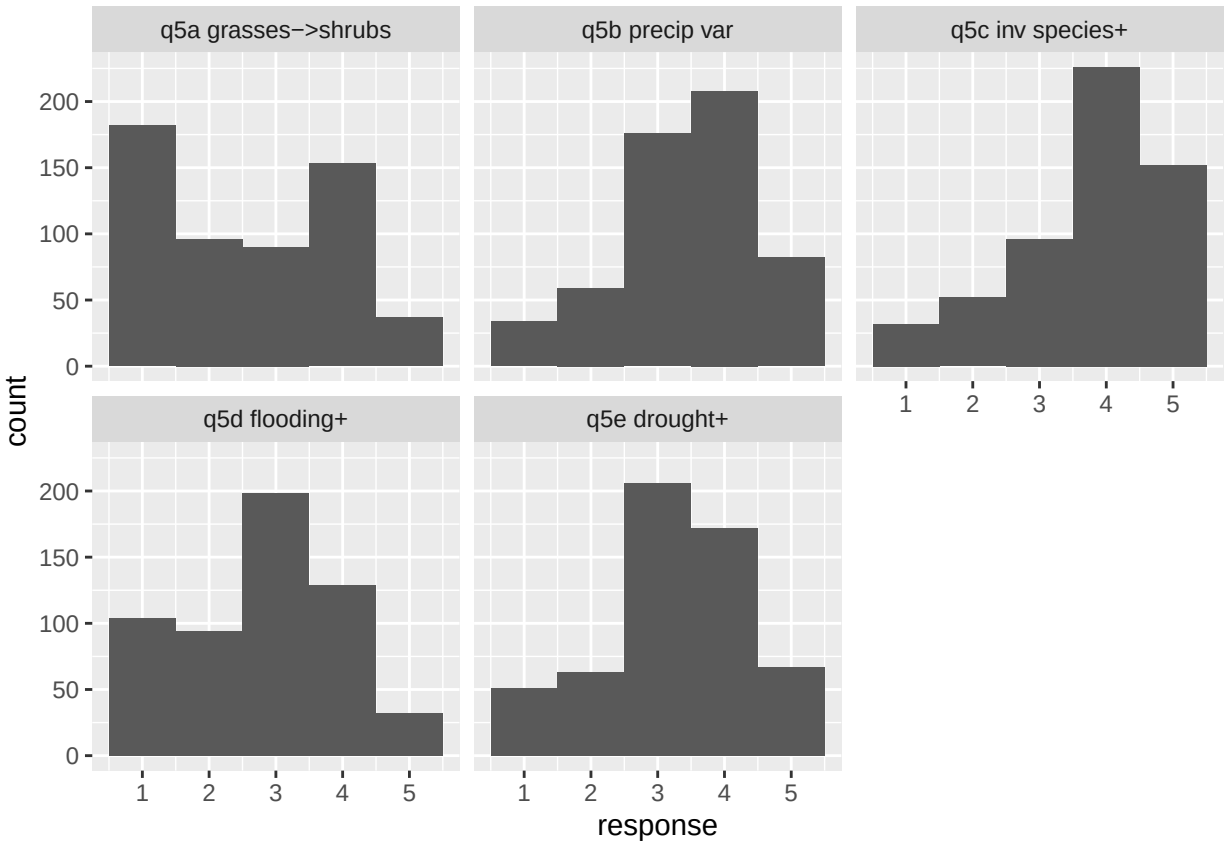
answer	n	percent
MADISON	1	0.17%
MCPHERSON	5	0.87%
MERRICK	11	1.92%
MORRILL	1	0.17%
NANCE	7	1.22%
NANCE/BOONE	1	0.17%
NEMAHA	14	2.44%
NUCKOLLS	1	0.17%
OTOE	1	0.17%
PAWNEE	20	3.49%
PIERCE	1	0.17%
PLATTE	1	0.17%
POLK	17	2.97%
RICHARDSON	17	2.97%
SALINE	29	5.06%
SAUNDERS	2	0.35%
SCOTTS BLUFF	1	0.17%
SEWARD	27	4.71%
SHERIDAN	27	4.71%
SHERMAN	17	2.97%
SIOUX	12	2.09%
THOMAS	1	0.17%
VALLEY	19	3.32%
WEBSTER	1	0.17%
WHEELER	2	0.35%
YORK	13	2.27%
NA	24	4.19%

q5 - Notice environmental changes

Please indicate how strongly you agree or disagree with the following statements about landscape changes in your area. In my time managing my operation, I have noticed...

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q5a	grasses->shrubs	558	2.58	1.36	1	3	5
q5b	precip var	559	3.44	1.06	1	4	5
q5c	inv species+	558	3.74	1.13	1	4	5
q5d	flooding+	557	2.80	1.16	1	3	5
q5e	drought+	559	3.25	1.10	1	3	5

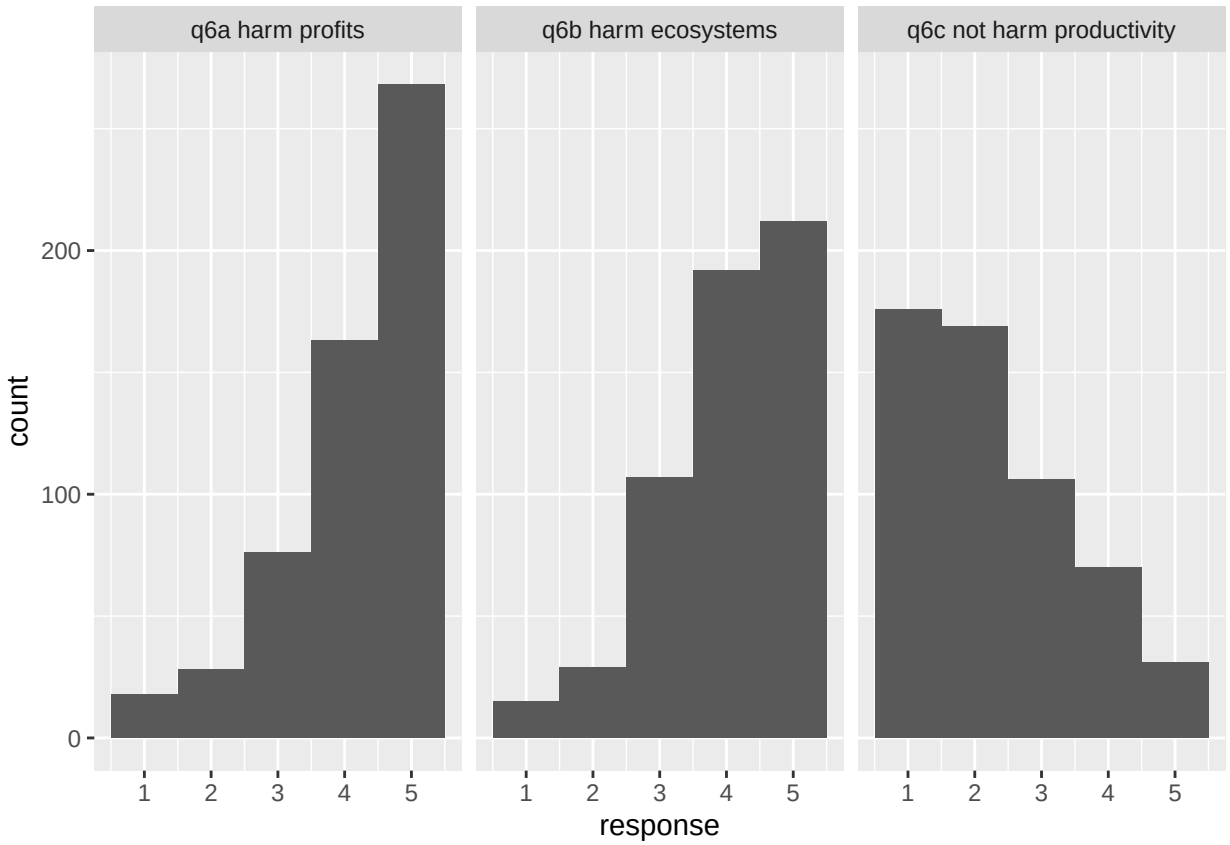


q6 - Effects of vegetation transitions

Please indicate how strongly you agree or disagree with the following statements about the general effects of vegetation transitions from mostly grasses to mostly shrubs/trees.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q6a	harm profits	553	4.15	1.05	1	4	5
q6b	harm ecosystems	555	4.00	1.01	1	4	5
q6c	not harm productivity	552	2.30	1.20	1	2	5

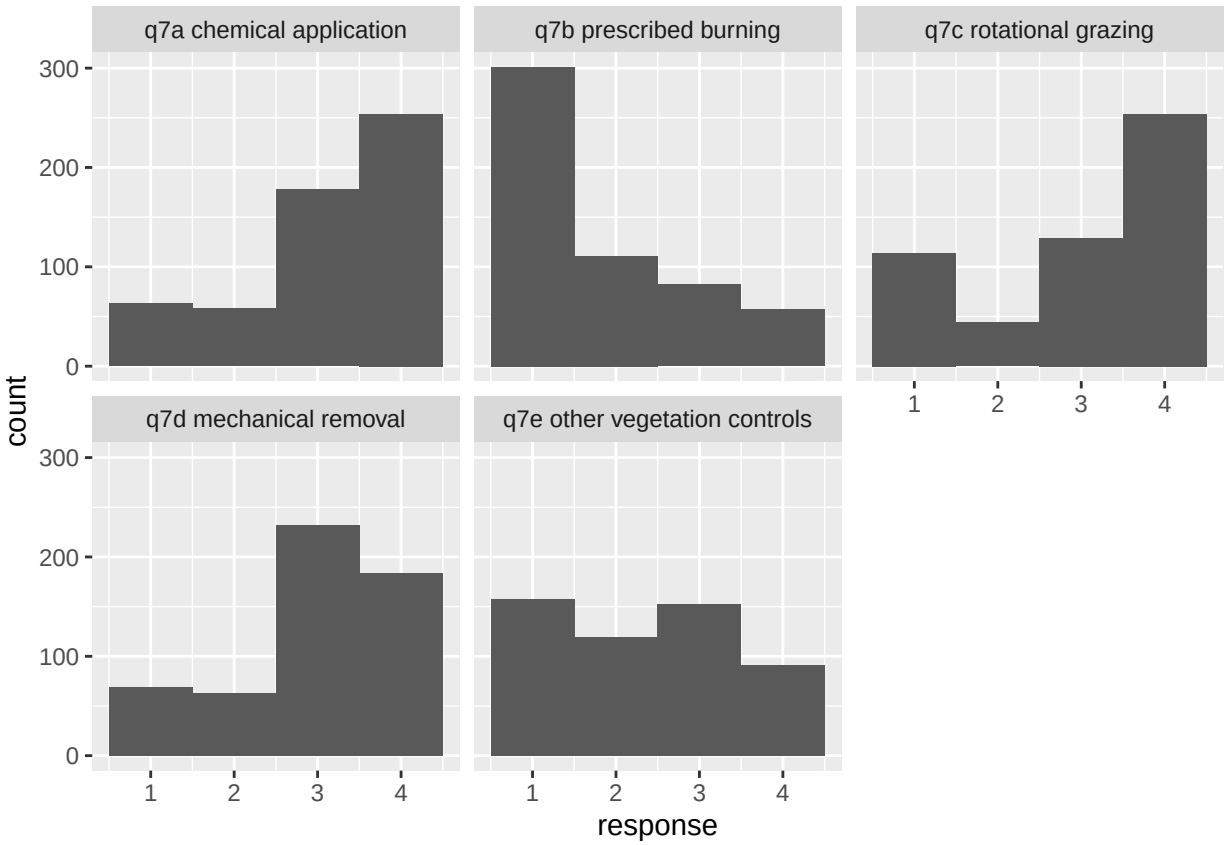


q7 - Adaptive behaviors

Please rate how often you have taken the following actions to manage vegetation transitions on your operation in the past three years.

(1=never, 2=rarely, 3=occasionally, 4=always as appropriate)

question	variable	n	mean	sd	min	median	max
q7a	chemical application	553	3.13	1.00	1	3	4
q7b	prescribed burning	551	1.81	1.04	1	1	4
q7c	rotational grazing	541	2.97	1.18	1	3	4
q7d	mechanical removal	548	2.97	0.98	1	3	4
q7e	other vegetation controls	520	2.34	1.09	1	2	4

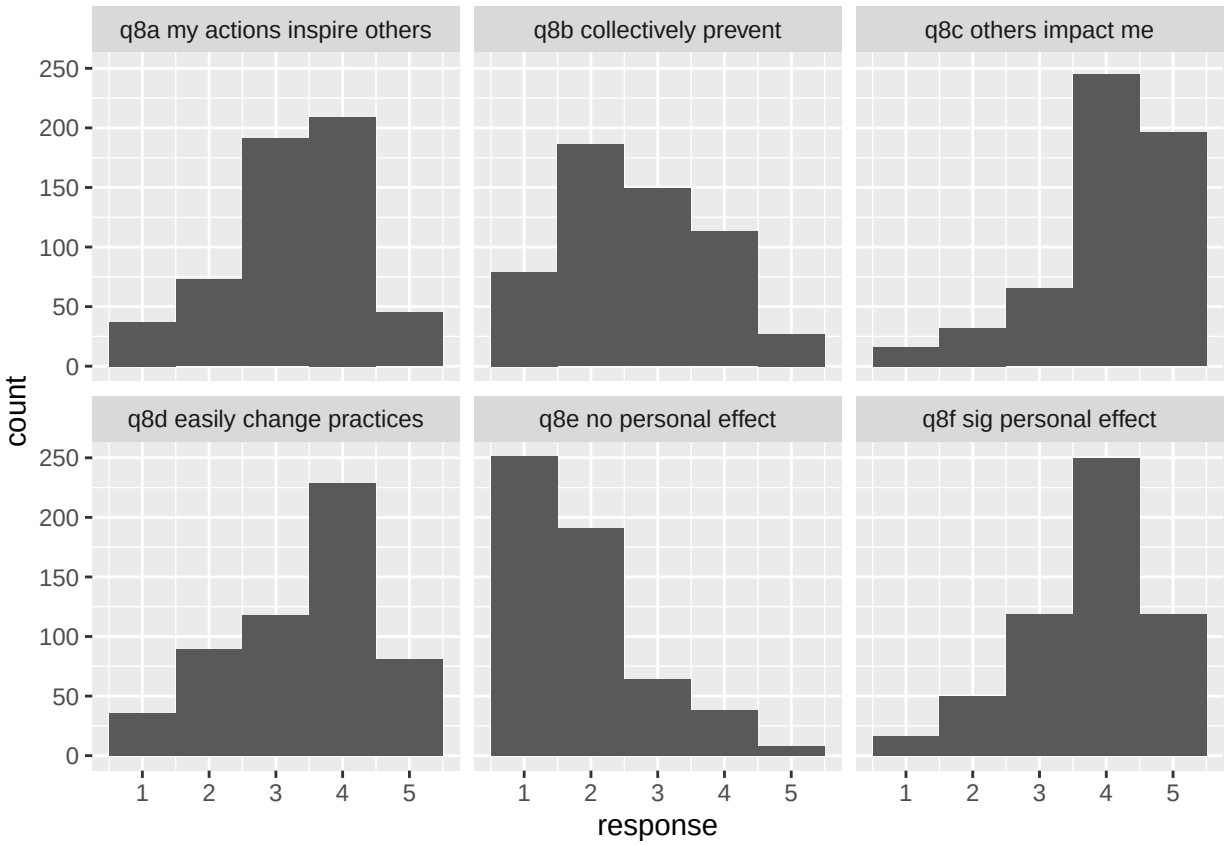


q8 - Group & self-efficacy

Please indicate how strongly you agree or disagree with the following statements about managing vegetation transitions from mostly grasses to mostly shrubs/trees on your operation.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q8a	my actions inspire others	555	3.27	1.01	1	3	5
q8b	collectively prevent	554	2.68	1.10	1	3	5
q8c	others impact me	554	4.03	0.98	1	4	5
q8d	easily change practices	553	3.42	1.12	1	4	5
q8e	no personal effect	552	1.84	0.98	1	2	5
q8f	sig personal effect	554	3.73	0.99	1	4	5

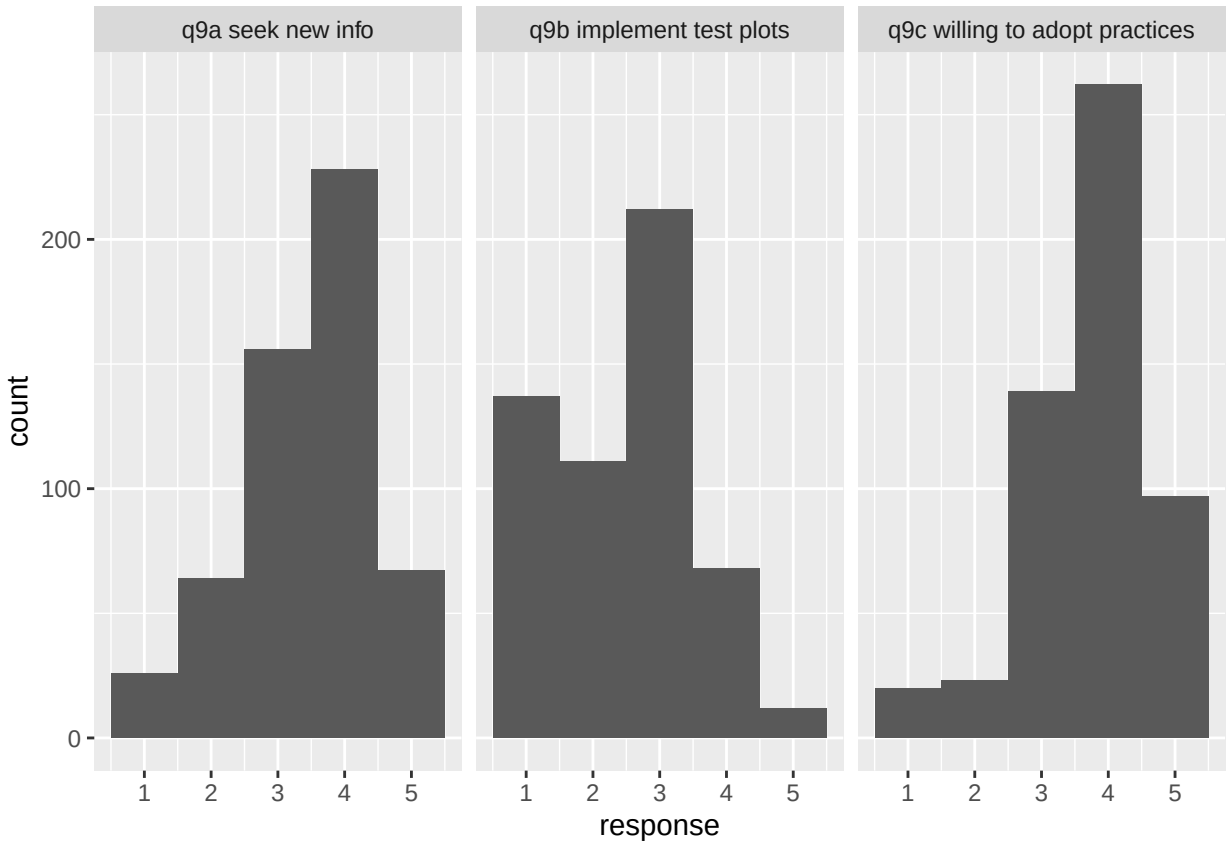


q9 - Innovation adoption

Please indicate how strongly you agree or disagree with the following statements about trying different ranching/farming practices on your operation to prevent vegetation transitions from mostly grasses to mostly shrubs/trees.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q9a	seek new info	541	3.45	1.01	1	4	5
q9b	implement test plots	540	2.46	1.07	1	3	5
q9c	willing to adopt practices	541	3.73	0.93	1	4	5

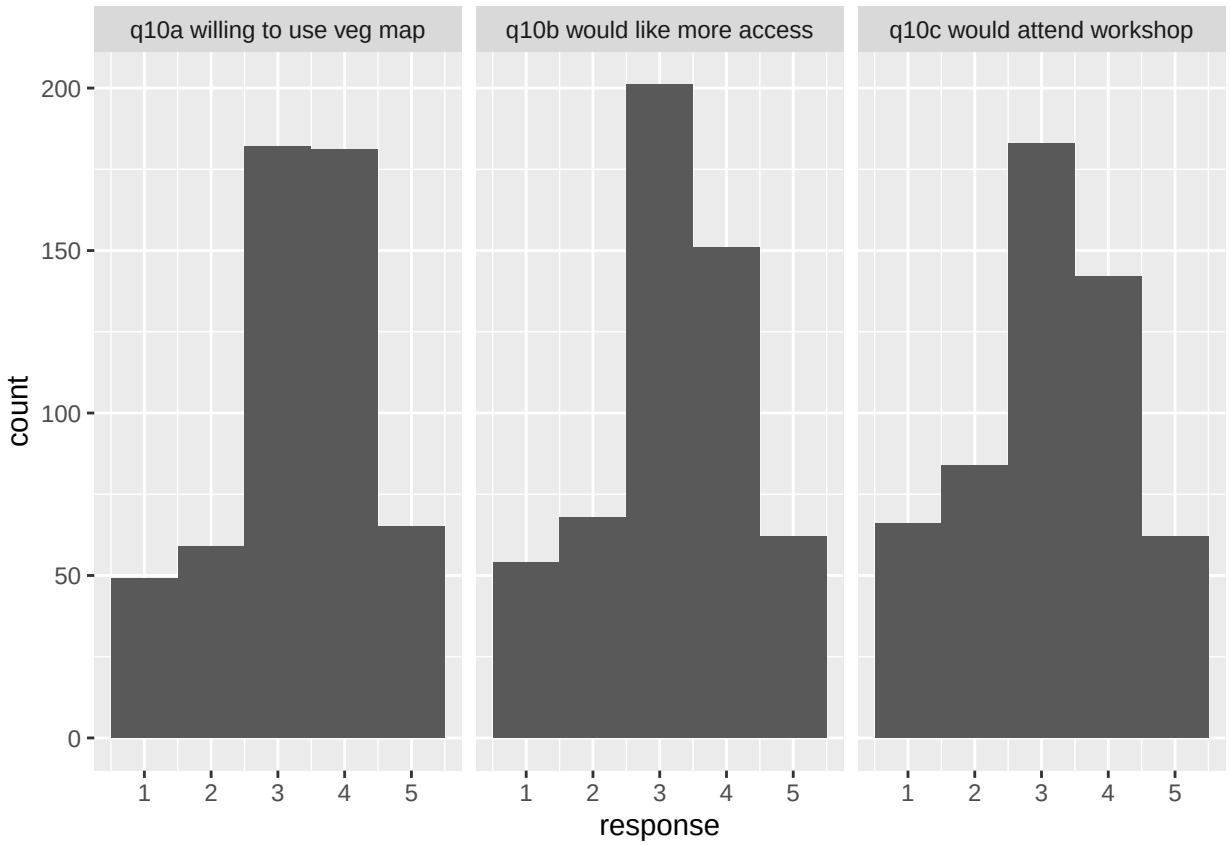


q10 - Vegetation mapping

Please indicate how strongly you agree or disagree with the following statements about information provided by technology.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q10a	willing to use veg map	536	3.29	1.10	1	3	5
q10b	would like more access	536	3.18	1.11	1	3	5
q10c	would attend workshop	537	3.09	1.17	1	3	5

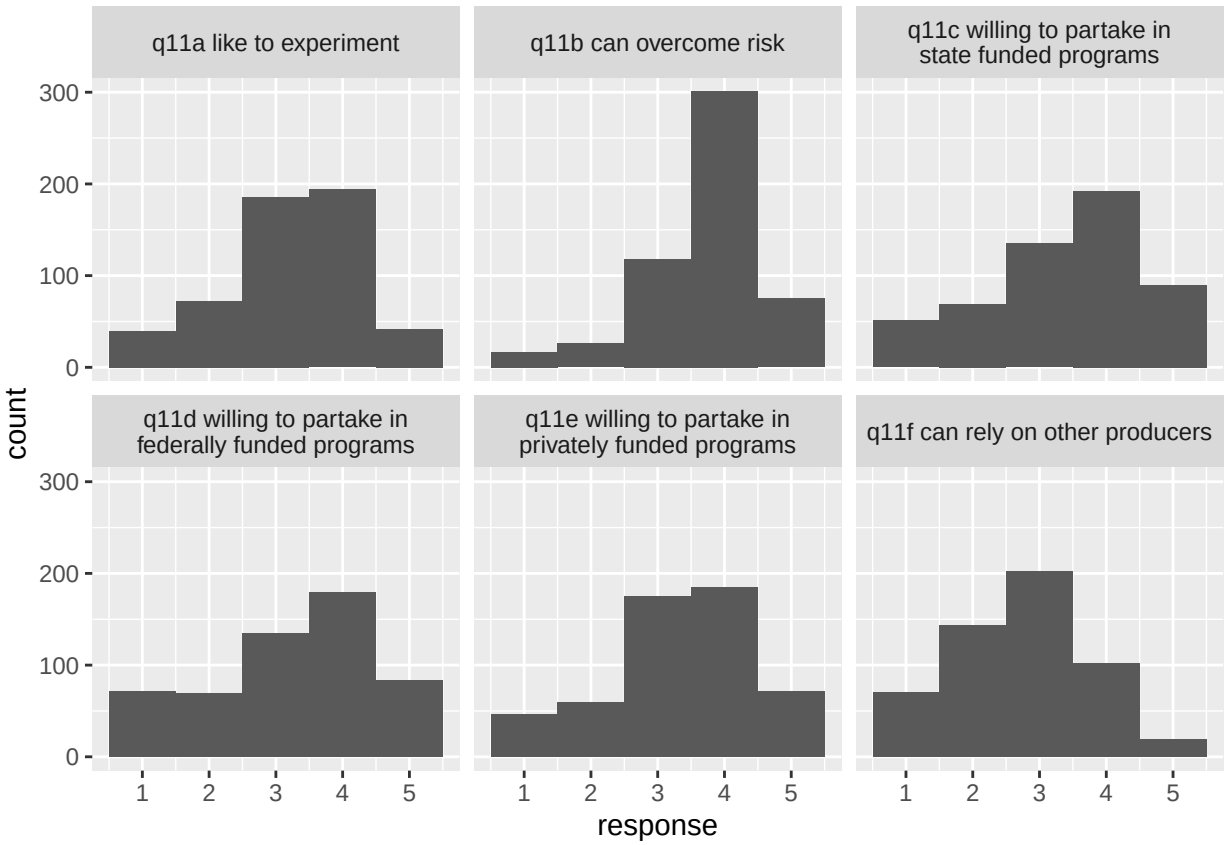


q11 - Risks, program participation, innovation

Please indicate how strongly you agree or disagree with the following statements about managing risk on your operation related to vegetation transitions from mostly grasses to mostly shrubs/trees.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q11a	like to experiment	534	3.24	1.03	1	3	5
q11b	can overcome risk	537	3.73	0.87	1	4	5
q11c	willing to partake i nstate funded programs	537	3.37	1.18	1	4	5
q11d	willing to partake in federally funded programs	537	3.25	1.24	1	3	5
q11e	willing to partake in privately funded programs	536	3.33	1.11	1	3	5
q11f	can rely on other producers	536	2.73	1.03	1	3	5
q11g	risks outweigh benefits of new tech	536	2.80	0.99	1	3	5

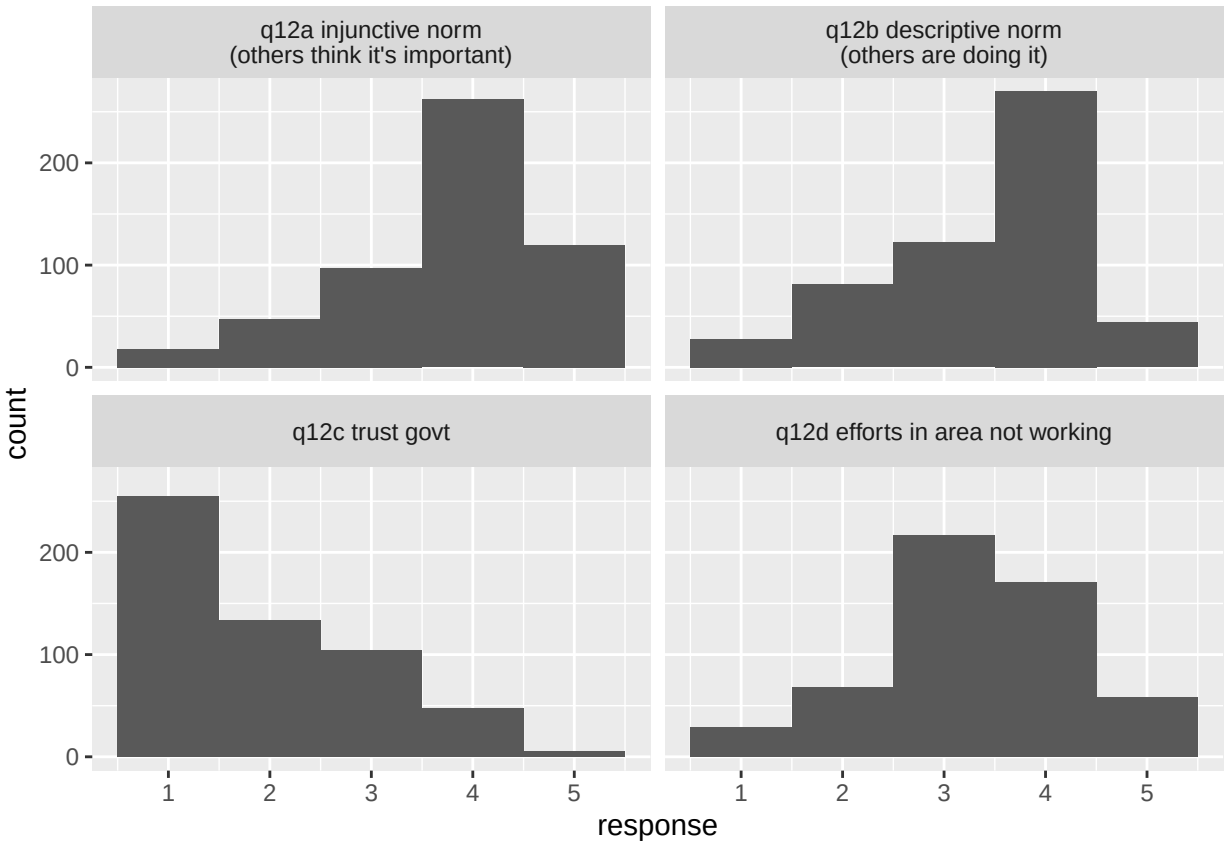


q12 - Norms, trust, satisfaction

Please indicate how strongly you agree or disagree with the following statements about other people's efforts to manage vegetation transitions from mostly grasses to mostly shrubs/trees.

(1=strongly disagree, 2=somewhat disagree, 3=neither, 4=somewhat agree, 5=strongly agree)

question	variable	n	mean	sd	min	median	max
q12a	injunctive norm	544	3.77	1.00	1	4	5
q12b	descriptive norm	545	3.41	1.00	1	4	5
q12c	trust govt	545	1.92	1.04	1	2	5
q12d	efforts in area not working	543	3.30	1.00	1	3	5



q19 - COVID-19

Due to COVID-19, communication with the people I listed above has been...

Note: This question is referring back to the people that the respondent listed in the social network section, which is not included here.

question	variable	n	mean	sd	min	median	max
q19	effects of COVID-19	371	2.71	0.71	0	3	5

answer	n	percent
1. very negatively affected	21	3.66%
2. somewhat negatively affected	84	14.66%
3. unaffected	252	43.98%
4. somewhat positively affected	4	0.70%
5. very positively affected	9	1.57%
NA	203	35.43%

q20 - Collaborative groups

Skip logic: q20) If no, skip to q21; if yes, continue to q20b. q20b) If not involved, skip to q21; if involved, continue to q20c.

question	variable	n	mean	sd	min	median	max
q20a	collaborative group(s) in area	410	0.12	0.32	0	0.0	1
q20b	involved in group(s)	65	1.83	1.17	0	1.0	4
q20c	years of involvement	40	3.08	1.56	0	3.5	5

a) Are there groups of people in your area that regularly meet to discuss rangeland management?

answer	n	percent
0. no	362	63%
1. yes	48	8%
NA	163	28%

b) What's the extent of your involvement with these groups?

Note: If you are using this question, you may want to recode it as the order is wonky.

answer	n	percent
1. not involved	37	6.46%
2. heavily involved	9	1.57%
3. moderately involved	8	1.40%
4. minimally involved	10	1.75%
NA	509	88.83%

c) What's the longest amount of time you have been involved in any of these groups?

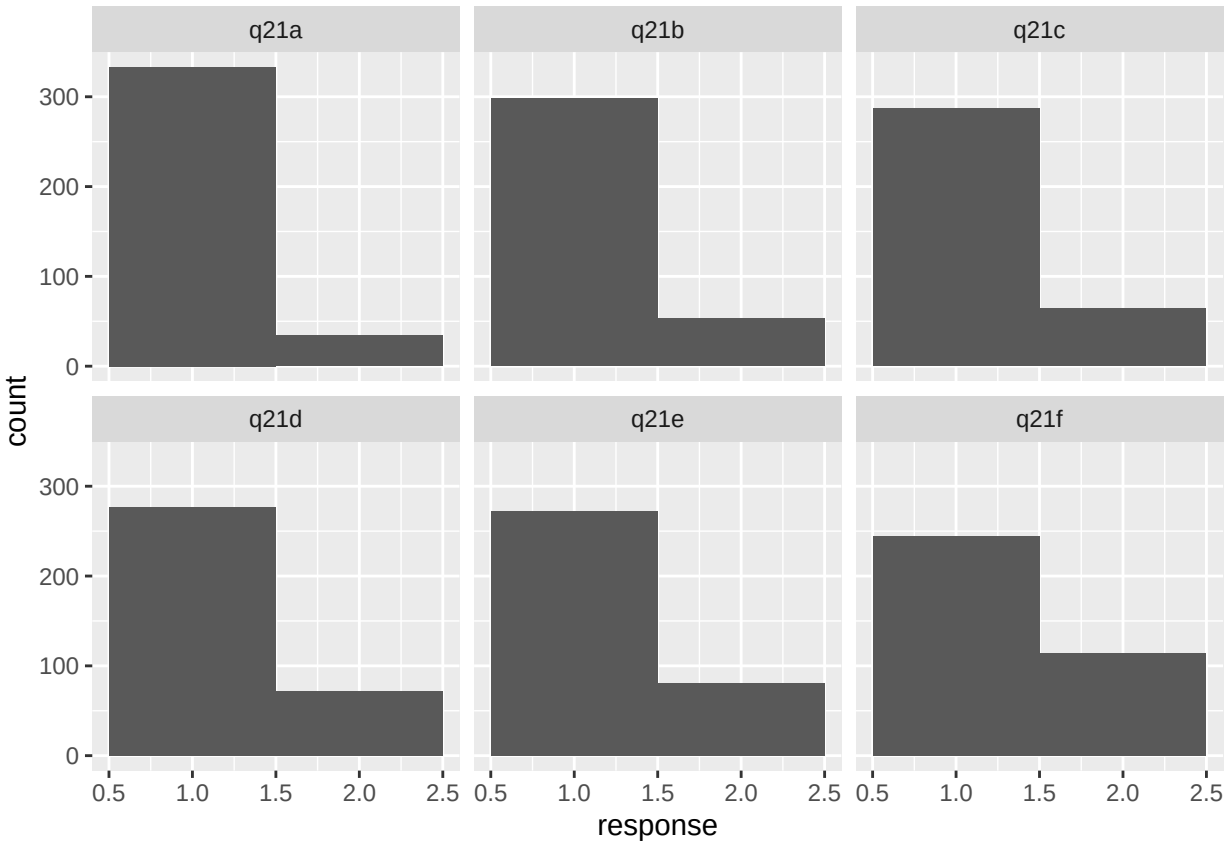
answer	n	percent
1. <1 year	10	1.75%
2. 1-3 years	2	0.35%
3. 4-10 years	7	1.22%
4. 11-20	12	2.09%
5. >20 years	8	1.40%
NA	534	93.19%

q21 - Risk preferences

Option A guarantees a payment of $25,000, while option B there is a 50-50 chance of winning a certain amount. Which option would you choose for each question?

(1=$25,000 in each question; 2=50-50 chance of $48K-$1K(a), $50K-$1K(b), $52K-$1K(c), $54K-$1K(d), $56K-$1K(e), $58K-$1K(f))

question	variable	n	mean	sd	min	median	max
q21a	50/50 $48K	367	1.09	0.29	1	1	2
q21b	50/50 $50K	351	1.15	0.36	1	1	2
q21c	50/50 $52K	351	1.18	0.39	1	1	2
q21d	50/50 $54K	349	1.21	0.41	1	1	2
q21e	50/50 $56K	353	1.23	0.42	1	1	2
q21f	50/50 $58K	358	1.32	0.47	1	1	2



q22 - Income from agricultural production

Approximately what percentage of your household income came from agriculture in 2019?

question	variable	n	mean	sd	min	median	max
q22	income from agricultural production	460	3.46	1.56	1	4	5

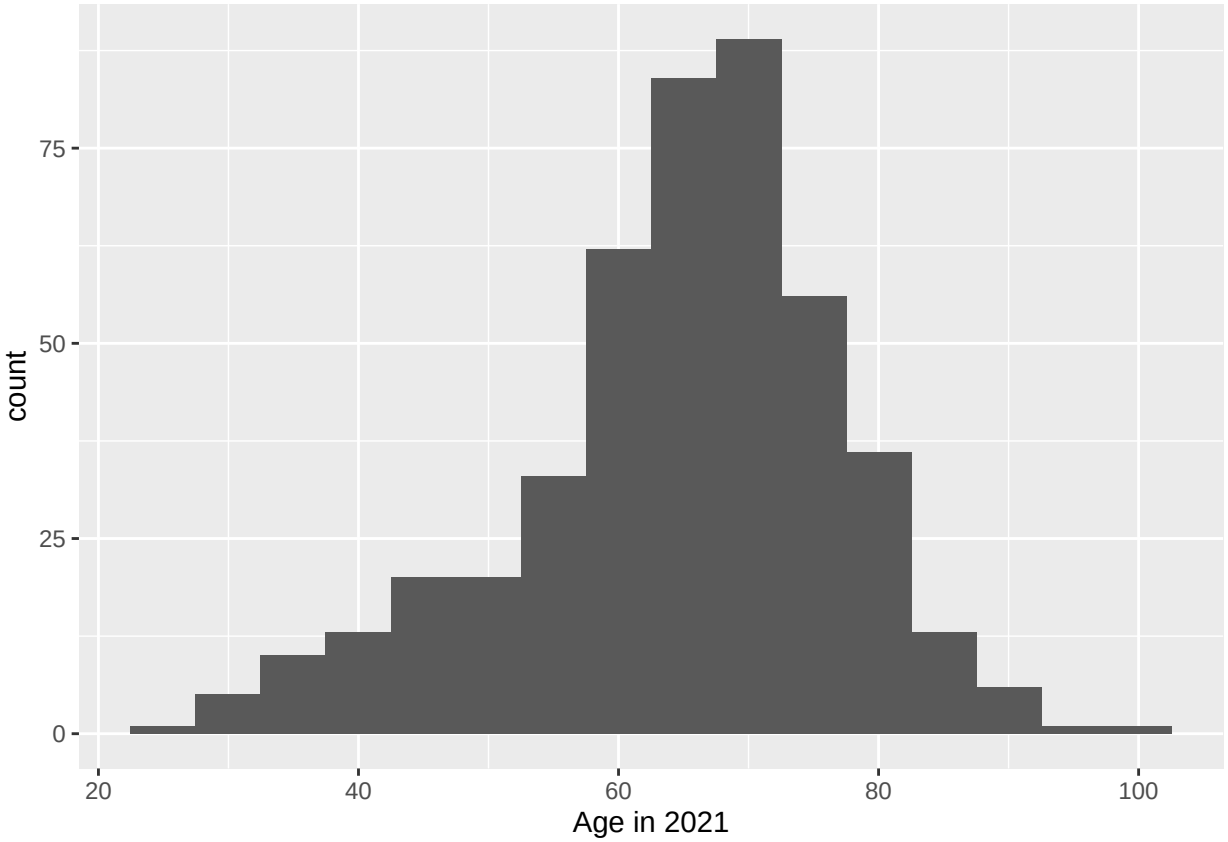
answer	n	percent
1. <20%	84	14.66%
2. 20-39%	59	10.30%
3. 40-59%	64	11.17%
4. 60-79%	66	11.52%
5. >80%	187	32.64%
NA	113	19.72%

q23 - Age

In what year were you born?

Note: This variable was converted to age in 2021 for this output.

question	variable	n	mean	sd	min	median	max
q1	age	450	64.81	12.35	23	67	98



q24 - Gender

Which best describes your gender?

question	variable	n	mode
q24	gender	463	1

answer	n	percent
1. male	419	73.1%
2. female	42	7.3%
3. other	2	0.3%
NA	110	19.2%

q25 - Education

What is the highest level of school you have completed?

question	variable	n	mean	sd	min	median	max
q25	education	516	3.7	1.39	1	3	6

answer	n	percent
1. grade school	4	0.70%
2. high school / GED	129	22.51%
3. some college or vocational training	126	21.99%
4. 2-yr college	74	12.91%
5. 4-yr college	125	21.82%
6. postgraduate	58	10.12%
NA	57	9.95%

q26 - Income

What was your total household income before taxes in 2019?

question	variable	n	mean	sd	min	median	max
q26	income	471	3.5	1.3	1	3	6

answer	n	percent
1. <$25k	20	3.5%
2. $25k-$49,999	79	13.8%
3. $50k-$99,999	170	29.7%
4. $100k-$149,999	95	16.6%
5. $150k-$249,999	62	10.8%
6. >$250k	45	7.9%
NA	102	17.8%

Descriptive statistics summary tables

question	variable	n	mean	sd	min	median	max
q2	years ranching/farming	552	37.90	15.65	0	40.0	98
q3a	acres owned	539	1800.52	5596.59	0	450.0	84000
q3b	acres rented	427	1073.72	2432.92	0	320.0	20000
q5a	grasses->shrubs	558	2.58	1.36	1	3.0	5
q5b	precip var	559	3.44	1.06	1	4.0	5
q5c	inv species+	558	3.74	1.13	1	4.0	5
q5d	flooding+	557	2.80	1.16	1	3.0	5
q5e	drought+	559	3.25	1.10	1	3.0	5
q6a	harm profits	553	4.15	1.05	1	4.0	5
q6b	harm ecosystems	555	4.00	1.01	1	4.0	5
q6c	not harm productivity	552	2.30	1.20	1	2.0	5
q7a	chemical application	553	3.13	1.00	1	3.0	4
q7b	prescribed burning	551	1.81	1.04	1	1.0	4
q7c	rotational grazing	541	2.97	1.18	1	3.0	4
q7d	mechanical removal	548	2.97	0.98	1	3.0	4
q7e	other vegetation controls	520	2.34	1.09	1	2.0	4

question	variable	n	mean	sd	min	median	max
q8a	my actions inspire others	555	3.27	1.01	1	3.0	5
q8b	collectively prevent	554	2.68	1.10	1	3.0	5
q8c	others impact me	554	4.03	0.98	1	4.0	5
q8d	easily change practices	553	3.42	1.12	1	4.0	5
q8e	no personal effect	552	1.84	0.98	1	2.0	5
q8f	sig personal effect	554	3.73	0.99	1	4.0	5
q9a	seek new info	541	3.45	1.01	1	4.0	5
q9b	implement test plots	540	2.46	1.07	1	3.0	5
q9c	willing to adopt practices	541	3.73	0.93	1	4.0	5
q10a	willing to use veg map	536	3.29	1.10	1	3.0	5
q10b	would like more access	536	3.18	1.11	1	3.0	5
q10c	would attend workshop	537	3.09	1.17	1	3.0	5
q11a	like to experiment	534	3.24	1.03	1	3.0	5
q11b	can overcome risk	537	3.73	0.87	1	4.0	5
q11c	willing to partake i nstate funded programs	537	3.37	1.18	1	4.0	5
q11d	willing to partake in federally funded programs	537	3.25	1.24	1	3.0	5
q11e	willing to partake in privately funded programs	536	3.33	1.11	1	3.0	5
q11f	can rely on other producers	536	2.73	1.03	1	3.0	5
q11g	risks outweigh benefits of new tech	536	2.80	0.99	1	3.0	5
q12a	injunctive norm	544	3.77	1.00	1	4.0	5
q12b	descriptive norm	545	3.41	1.00	1	4.0	5
q12c	trust govt	545	1.92	1.04	1	2.0	5
q12d	efforts in area not working	543	3.30	1.00	1	3.0	5
q19	effects of COVID-19	371	2.71	0.71	0	3.0	5
q20a	collaborative group(s) in area	410	0.12	0.32	0	0.0	1
q20b	involved in group(s)	65	1.83	1.17	0	1.0	4
q20c	years of involvement	40	3.08	1.56	0	3.5	5
q21a	50/50 $48K	367	1.09	0.29	1	1.0	2
q21b	50/50 $50K	351	1.15	0.36	1	1.0	2
q21c	50/50 $52K	351	1.18	0.39	1	1.0	2
q21d	50/50 $54K	349	1.21	0.41	1	1.0	2
q21e	50/50 $56K	353	1.23	0.42	1	1.0	2
q21f	50/50 $58K	358	1.32	0.47	1	1.0	2
q22	income from agricultural production	460	3.46	1.56	1	4.0	5
q23	year born	450	1956.19	12.35	1923	1954.0	1998
q25	education	516	3.70	1.39	1	3.0	6
q26	income	471	3.50	1.30	1	3.0	6

question	variable	n	mode
q1	production type	545	Farming
q4	main county of operation	549	Custer
q24	gender	463	Male