

NEVADA TRICH SURVEY RESULTS

Do you know where your cattle are tonight?



College of Agriculture, Biotechnology
and Natural Resources
University of Nevada, Reno



University of Nevada, Reno
Center for Economic Development

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Introduction

A survey of Nevada ranchers concerning their strategies with regard to Trichomoniasis, a cattle venereal disease was carried out during 2012 and 2013. The funding for the project, called Biosecurity Decisions by Nevada Cattle Ranchers on Public Lands, was provided for the survey from three sources:

1. Nevada Arid Rangeland Initiative
2. State of Nevada Hatch
3. ImMasche

Trichomoniasis causes substantial negative financial impacts to range cattle producers in Nevada. Infected bulls spread the disease to cows and vice versa during breeding. This is particularly a problem in Nevada where herds congregate on large tracts of public land. This situation, which is typical in Nevada, makes it difficult to isolate herds. Tests for Trich are only available for bulls. Vaccination helps limit the disease and the costly loss of cattle crop, but is only 65% effective and only lasts for a season.

Industry leaders requested public regulators' help in controlling Trich in Nevada. Surveys of ranchers done in the past indicate that not all individual cattle producers have tested their cattle regularly. In a survey carried out in 2006, approximately 30% of cow-calf operators in Nevada indicated that they did not test bulls for Trich. Current regulations and private efforts have failed to keep Trich incidence as low as is desired by many in the Nevada cattle industry.

In order to address the chronic Trich incidence in Nevada this survey has tried to collect more information about how ranchers are coping with Trich. Several questions have been addressed. First, the geographical distribution of the infection within Nevada, as reported by our respondents and within the bounds of protecting rancher privacy will be reported. In addition, we will be able to report ranchers' subjective judgment of their herd's risk of contracting Trich as well as their reported risk factors, such as degree of exposure on public lands. A third line of inquiry will be to update a study concerning why and how producers use the Trich vaccine. Finally, how many producers adopt other important Trich management options such as annual bull testing, what the characteristics of the producers are and why they adopt these strategies will be investigated.

The ultimate aim of this survey data collection is to help inform Nevada ranchers, the general public, and public policy makers and regulators, on how best to allocate limited public funds to control Trich in Nevada and reduce its negative financial consequences.

Development of the Survey Instrument

Final survey questionnaire development was done by Elizabeth Fadali and Malieka Landis of the Department of Economics. The final questionnaire was based on results from a pilot version sent to a sample of 203 Nevada ranchers in June and July of 2012. The survey instrument was revised based on pilot results and the final version sent to a sample of 800 Nevada ranchers in January and February of 2013. Preliminary lists of questions for the survey were developed by Mimi Kobayashi, formerly of the University of Nevada, Department of Economics, now of the World Bank, and David Thain, formerly State Extension Veterinarian, now retired. Survey methodology was developed following Salant and Dillman (1994), Alreck and Settle (1995) and Fowler (2002). The initial draft of the survey was given to a panel of five Nevada ranchers with expertise in various aspects of Trich or ranching in Nevada as well as the state extension veterinarian, David Thain. This expert panel helped to ensure wording was correct usage for the ranching audience, provided several additional content questions and pointed out some of the places questions could be better presented or streamlined.

Sampling Strategy

There was no publically available database that coincided exactly with the population we wished to survey. Two sources for mailing addresses were used. The first was of all those listed as owners of meadow, pasture or grazing land from all the county assessors in Nevada. The second source was of all those listed in the BLM Rangeland Administration System (RAS) as leasing public lands in Nevada for grazing. The lists were merged and duplicates deleted. All those addresses that were in the BLM Rangeland System were included in the final sample of 800. The rest of the sample was taken from the county assessors' lists.

Ranchers from Clark, Esmeralda, Mineral, and Storey counties were only sampled in the final survey due to desire to preserve small population for final sampling. We assumed the grazing database nearly completely overlapped with the population we wanted to sample: owners, renters and managers actively involved in

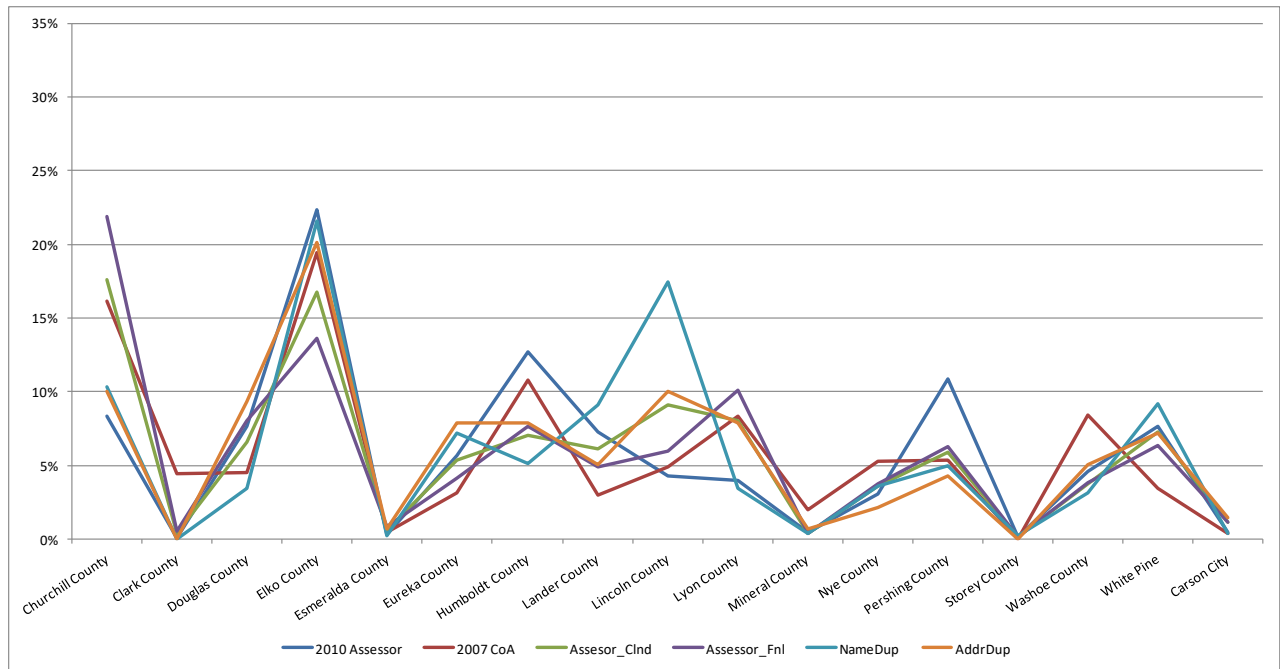
raising cattle in Nevada. The assessors list included many owners who were not involved in raising cattle. The first question on the survey questionnaire attempted to screen out this group.

Only the assessors' database described above was used for the pilot survey sample of 200 since the RAS dataset was smaller and represented by data points in the assessors' data. The final sample was a true random sample, while the pilot sample was drawn from each county independently to preserve small sub-populations within particular counties.

Sample Drawing

'Total Pilot'		'Pilot Sample'		
Count	% of Tot	Count	% of Tot	
430	21.11%	43	21.50%	Churchill County
11	0.56%	-	0.00%	Clark County
158	7.60%	15	7.50%	Douglas County
268	14.17%	29	14.50%	Elko County
17	0.80%	-	0.00%	Esmeralda County
82	4.50%	9	4.50%	Eureka County
150	7.79%	16	8.00%	Humboldt County
96	5.02%	10	5.00%	Lander County
117	6.10%	12	6.00%	Lincoln County
199	9.94%	21	10.50%	Lyon County
8	0.38%	-	0.00%	Mineral County
74	3.80%	8	4.00%	Nye County
124	6.29%	13	6.50%	Pershing County
3	0.14%	-	0.00%	Storey County
76	3.89%	8	4.00%	Washoe County
125	6.61%	13	6.50%	White Pine
23	1.31%	3	1.50%	Carson City
1961	100.00%	200	100.00%	Total

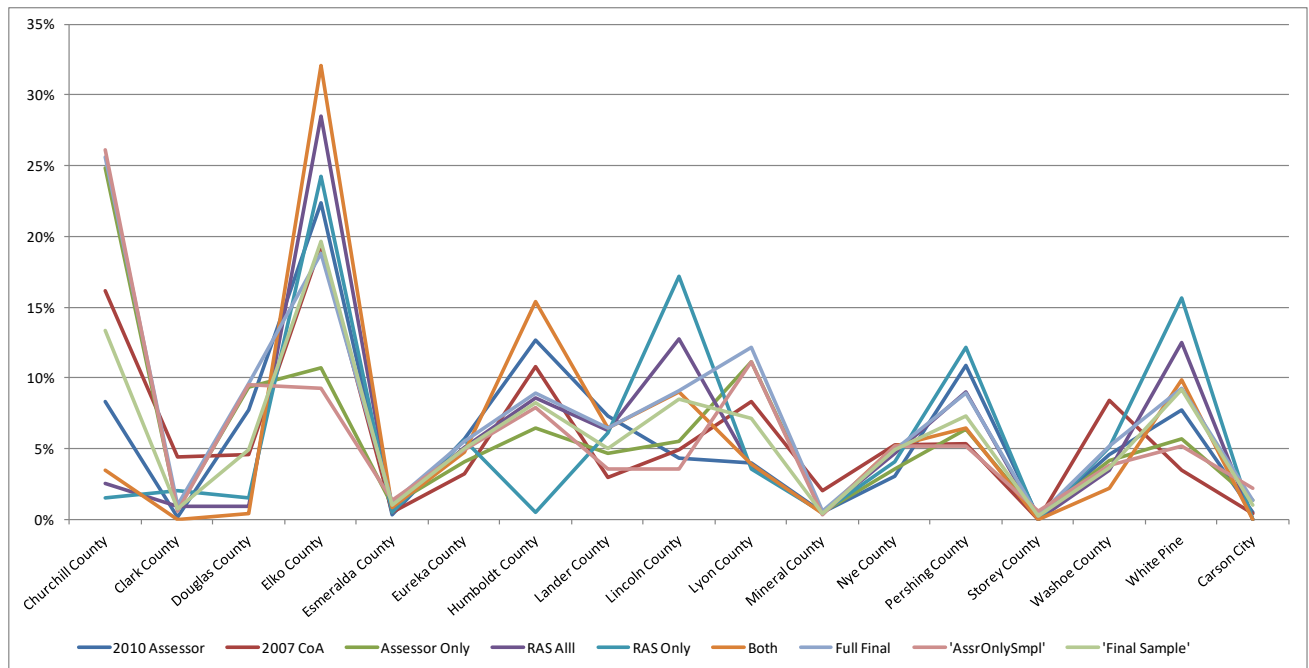
Pilot Sample Distributions by County and List



Final Drawing

'Final Total'		'Final Sample'		
Count	% of Tot	Count	% of Tot	
389	19.93%	107	13.38%	Churchill County
15	0.77%	6	0.75%	Clark County
146	7.48%	39	4.88%	Douglas County
286	14.65%	157	19.63%	Elko County
18	0.92%	8	1.00%	Esmeralda County
83	4.25%	40	5.00%	Eureka County
135	6.92%	66	8.25%	Humboldt County
98	5.02%	40	5.00%	Lander County
138	7.07%	68	8.50%	Lincoln County
185	9.48%	57	7.13%	Lyon County
9	0.46%	3	0.38%	Mineral County
74	3.79%	39	4.88%	Nye County
135	6.92%	58	7.25%	Pershing County
3	0.15%	2	0.25%	Storey County
78	4.00%	29	3.63%	Washoe County
140	7.17%	73	9.13%	White Pine
20	1.02%	8	1.00%	Carson City
1952	100.00%	800	100.00%	Total

Final Sample Distributions by County and List



Implementation

For the final survey, an initial contact letter was mailed out Dec 28, 2012 to the sample of 800. A week later the final version of the survey questionnaire along with a cover letter, addressed stamped return envelope, and postcard for lottery drawing were sent to the same 800. After another week, a reminder postcard was sent to all addresses. If no questionnaire was yet returned, a second copy of the survey was mailed to the address on Jan 25, 2013, for a total of four contacts. The pilot survey was carried out with the same methodology except that the wording of the letters and cards was somewhat different.

Response Rates

The response rate is computed according to the appropriate AAPOR formula (American Association for Public Opinion Research) which proposes a standardized classification system. There are six formulas proposed which are a little different from each other. We used the following:

$$RR4 = \frac{(I+P)}{(I+P)+(R+NC+O)+e(UH+UO)}$$

Where:

RR = Response rate

COOP= Cooperation rate

REF = Refusal rate

CON= Contact rate

I = Complete survey

P= Partial survey

R = Refusal and break-off

NC= Non-contact

O= Other

UH= Unknown if household/occupied

UO = Unknown, other

e = Estimated proportion of cases of unknown eligibility that are eligible

Out of total 1003 surveys mailed, 47% were returned and as the following table shows, 265 of them were complete (26.4%) and the total response rate following the AAPOR method is 35%. Also the response rate of pilot surveys is slightly less than the final survey.

Nevada Trich Survey Response rate

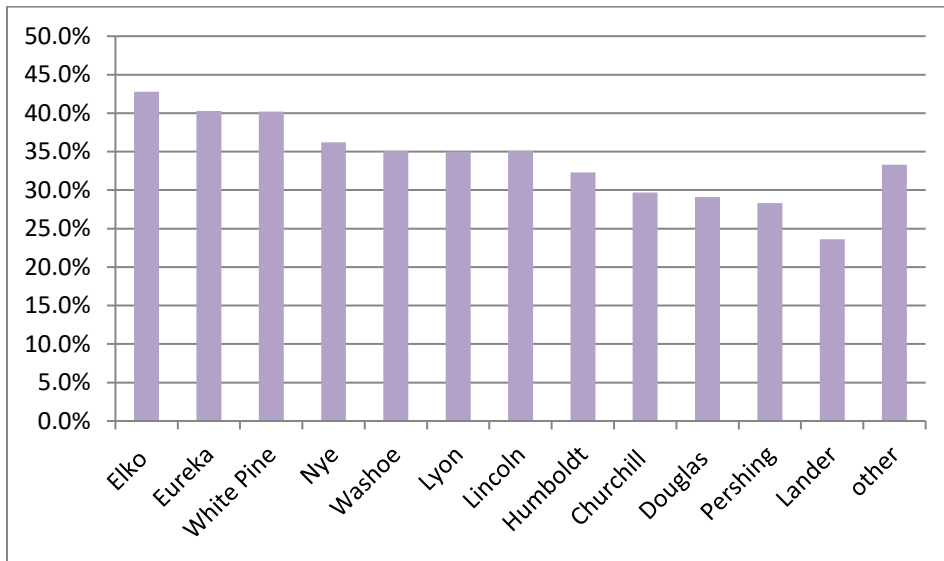
Survey	Pilot	Final	Total
Complete	48	217	265
Bad address	8	45	53
Update address	2	8	10
Blank	12	10	22
No cattle	22	72	94
Ambiguous	1	27	28
Not returned	110	421	531
Total	203	800	1003
Response Rate	32.3%	35.6%	35%

The following table shows the response rate for each county for the total 1003 surveys. The counties with less than 10 surveys are shown as “other” which includes Storey, Mineral, Carson City, Clark and Esmeralda counties. It can be seen that Elko County has the highest response rate (42.8%).

Nevada Trich Survey Response Rate by County

County	Complete	Bad address	Update address	Blank	Opt-out	Ambiguous	Not returned	Total	Response Rate
Elko	70	9	1	3	11	5	88	187	42.8%
Eureka	16	2	0	1	4	2	24	49	40.3%
White Pine	31	10	1	0	4	3	38	87	40.2%
Nye	13	3	0	0	4	2	25	47	36.2%
Washoe	10	0	1	0	3	1	22	37	35.1%
Lyon	16	3	2	1	12	4	40	78	35%
Lincoln	25	4	1	4	4	3	39	80	35.1%
Humboldt	21	4	0	2	6	1	48	82	32.3%
Churchill	22	7	0	5	28	2	87	151	29.7%
Douglas	12	2	2	1	4	1	32	54	29.1%
Pershing	14	4	0	2	7	2	42	71	28.3%
Lander	11	2	2	3	1	2	29	50	23.6%
other	4	3	0	0	6	0	17	30	33.3%

Nevada Trich Survey Response Rate by County



Codebook and Frequency Distributions

Tables in this section provide frequency distributions and other descriptive statistics for the survey questions. The values represent the total number of responses for the associated question. Additional comments are included for those cases in which alternative descriptive statistics such as averages are provided.

1. What best describes your situation? *[select all that apply]*

165	I own land that is used to raise cattle
108	I lease land for cattle grazing
126	I raise cattle or manage a cattle operation
12	Other (please specify): _____
72	I do not own or lease lands used to raise cattle and I do not raise or manage any cattle.

[If you check this, please stop here and return survey in prepaid envelope]

The last case is related to the “No cattle” respondents who had not continued filling out the rest of the questionnaire.

2. How many years have you been involved in cattle ranching? _____

The average was 35.1 years, with 212 individuals responding and 5 NOT responding. The maximum was 80 years and the minimum was 3 years.

3. What type of cattle do you raise? *[select all that apply]*

208	Cow-calf
41	Feeder cattle
19	Seedstock
7	Other (please specify): _____
5	No response

4. Do you have any specialized training/education? *[select all that apply]*

31	Technical school training
34	Animal science degree
38	Cooperative extension education
87	Cattlemen’s Update
79	Other (please specify): _____
48	No response

5. How concerned are you about the chances of the following impacting your ranching activities in a negative way sometime in the next 5 years?

	Very concerned	←—————→			not concerned	No response
Fluctuating cattle prices	80	54	54	6	3	20
Drought	126	53	18	5	7	8
Wildfire	80	47	34	16	24	16
Maintaining water rights	120	39	27	9	9	13
My herd contracting Trich	56	48	57	30	13	13
Limited access to financing	34	28	55	36	43	21
Endangered species	126	40	19	9	13	10

6. Are you optimistic or pessimistic about your ranch's profitability over the next 5 years?

Optimistic	←—————→			Pessimistic	No response
27	85	74	18	8	5

7. What are your main information sources for general ranch and cattle management? Trich management specifically? *[select all that apply]*

	Ranch/Cattle management	Trich management
Magazines or newspapers	148	88
Cooperatives	49	26
Extension personnel	67	45
Cattlemen's Update	91	60
Other ranchers	150	98
Veterinarian	119	166
Other (please specify)	10	13
No response	9	31

8. How concerned are you about the following cattle diseases? Which do you treat or vaccinate?

	Very concerned	←—————→			Not concerned	No response	Treat/Vaccinate
Trich	84	39	44	22	11	17	82
BVD	56	51	42	19	10	39	123
Anthrax	18	19	43	45	42	50	28
Lice and ticks	38	46	60	26	18	29	140
IBR	45	53	45	20	12	42	118
Vibrio	47	51	45	31	13	30	126
Lepto	49	49	44	29	14	32	127
Bangs-brucellosis	60	41	40	30	22	24	159
Clostridial diseases	48	45	41	21	15	47	116
Internal parasite	45	49	52	24	12	35	130
Other	4	7	5	1	2	198	7

No response: 48

9. How familiar are you with the following aspects of Trich?

	Very familiar	←—————→			Not familiar	No response
Cause and risk factors	89	58	29	20	14	7
Symptoms	77	48	38	21	18	15
Tests and diagnosis	96	45	34	18	14	10
Treatment and prevention	91	52	33	16	15	10

10. How familiar are you with the following aspects of *other cattle diseases in comparison* to Trich?

	Very familiar	←—————→			Not familiar	No response
Cause and risk factors	42	91	52	11	10	11
Symptoms	39	92	53	10	11	12
Tests and diagnosis	38	87	53	17	10	12
Treatment and prevention	41	91	50	12	11	12

11. Which of the following Trich management practices do you **currently** use? [select all that apply]

- 146 Test bulls annually
- 106 Fence cattle year round or otherwise run a closed operation
- 85 Market open cows if Trich-positive bull is found
- 51 Vaccinate herd against Trich
- 74 Narrow calving interval
- 61 Adjust breeding/calving season for open range
- 26 Use artificial insemination
- 90 Use only bulls less than 4 years of age
- 134 Conduct annual preg test of cows and cull late or open cows
- 68 Only purchase virgin or bred females
- 180 Only purchase bulls certified to be Trich-negative
- 20 Cooperative range agreements
- 5 I do not use any of these management practices
- 11 Other (please specify): _____
- 2 No response

12. Compared to other Nevada cattle ranches, is your herd at a high risk or low risk of contracting Trich?

High-Risk	←—————→			Low-risk	No response
6	29	52	55	62	13

13. How many days is your calving interval? _____ Days

- 37 Does not apply
- 38 No response

The average calving interval was 97.6 days reported by 142 individuals. The maximum was 365 days and the minimum was 30 days.

14. How many days is your target calving interval? _____Days

40 Does not apply 48 No response

The average target calving interval was 78.7 days reported by 129 individuals. The maximum was 365 days and the minimum was 30 days.

15. What was your herd’s conception rate for each of the following years?

	2012	2011	2010	2009	2008
Average conception rate %	88.9	89.6	89.3	88.8	88.2
No response	42	50	67	73	82

16. Have you suspected or known that your cattle were **exposed** to Trich anytime during the past 5 years?

59 Yes 154 No 4 No response

17. Have you suspected or known that your cattle were **infected** with Trich anytime during the past 5 years?

35 Yes 176 No 6 No response

↳ **If you checked NO on both Q16 and Q17 above, go to Q20**

153 of the total individuals answered “NO” to both Q16 and Q17 where 3 of them answered the following questions contradictorily. Therefore, the total population for Q18 and Q19 is 64.

18. Did your suspicion or knowledge of Trich exposure or infection cause you to take any of the following actions?

[select all that apply]

- 45 Performed bull test and sold off positive bulls
- 7 Sold off entire bull battery and replaced with a new bull battery
- 47 Culled late or open cows
- 28 Vaccinated cows/heifers
- 11 Other (please specify): _____
- 3 No response

19. Did this experience with Trich cause you to change any routine management practices?

29 Yes 27 No 3 Does not apply 5 No response

↳ a. If **YES**, please describe any management practices you changed: _____

Most of the individuals who checked “Yes” mentioned testing bulls and selling open cows which are in contact with the neighbors’ herd as their changed management practices.

20. Have you suspected or known that your **neighbor’s** cattle were infected with Trich anytime during the past 5 years?

87 Yes 99 No 9 Does not apply 22 No response

↳ a. If **YES**, did this cause you to change any routine management practices?

48 Yes

37 No

0 Does not apply

2 No response

↳ b. If **YES**, please describe any management practices you changed: _____

21. Suppose that you did not have to worry about Trich. How many years would you keep your bulls? ____Years

43 Not sure

28 No response

The average was 4.8 years reported by 146 individuals. The maximum was 10 years and the minimum was 2 years.

22. Are you able to test your bulls for Trich?

164 Yes

26 No

14 Does not apply

13 No response

↳ **go to Q31**

↳ **go to Q31**

40 of the total individuals checked “no” or “does not apply” and so, the total population for the next question is 177.

23. Do you ever test your bulls for Trich? *[select all that apply]*

25 Yes, when Trich infection is suspected

115 Yes, annually → Please specify month(s) and /or season(s): _____

24 Yes, other (please specify): _____

11 Never → **go to Q31**

14 No response

Most of the individuals test their bulls for Trich in spring and fall, but nobody does that in summer.

month	#	month	#	season	#
JAN	6	JUL	0	Spring	27
FEB	7	AUG	0	Summer	0
MAR	8	SEP	1	Fall	20
APR	9	OCT	10	Winter	5
MAY	4	NOV	8		
JUN	0	DEC	8	No response	22

11 of the total individuals said that they never test their bulls for Trich and so, the total population for Q24 to Q30 is 166.

24. If you test bulls for Trich, please indicate which classes/types of bulls you test. *[select all that apply]*

- 133 Entire bull battery
- 9 Retained replacement bulls only
- 3 Old bulls only
- 1 Young bulls only
- 6 Other (please specify): _____
- 14 No response

25. If you test bulls for Trich, what type of test(s) do you use? *[select all that apply]*

- 38 Pouch
- 21 PCR-DNA
- 94 Don't know / vet chooses
- 8 Other (please specify): _____
- 14 No response

26. How many times have you tested your bulls in the last 5 years? How many tests were positive?

Year	2012	2011	2010	2009	2008
Average # of bulls tested	33.3	30.8	30.3	28.9	29.9
No response	97	88	101	106	117
Average positive tests	0.23	0.22	0.17	0.24	0.22
No response	108	109	116	118	128

21 of the individuals did not respond to this question at all.

27. Do you combine Trich testing with other regular tests or activities?

↳ a. If **ALWAYS** or **SOMETIMES**, which tests or activities? _____

48 Always 50 Sometimes 49 Never 19 No response

28. Does Trich testing interfere with other ranch activities?

↳ a. If **ALWAYS** or **SOMETIMES**, which activities? _____

85 Always 45 Sometimes 14 Never 22 No response

29. In 2012, how much were total expenses specific to Trich testing? Include cost of materials and cost of labor for yourself and any hired labor. Actual amounts are great, but best estimates are also useful. \$ _____

53 Not sure 14 Does not apply

The average expenses specific to Trich testing was \$1646 reported by 72 individuals. The maximum was \$19500 and the minimum was \$0.

30. How much do you agree with the following?

<i>I test my bulls for Trich because.....</i>	Strongly agree	←—————→			Strongly disagree	No response
I notice that conception rates have dropped	24	10	19	24	39	50
it's required by regulation	44	14	20	19	27	42
it's veterinarian advised	70	22	22	9	8	35
it maintains herd health and good conception rates	96	23	11	4	2	30

35. Which classes/types of cattle do you vaccinate against Trich? *[select all that apply]*

- 29 Entire herd including bulls
- 31 Entire herd, cows only
- 10 Retained replacement heifers only
- 5 Other (please specify)_
- 13 No response

36. How far out from breeding do you give the Trich vaccine? _____weeks

The average period was 6.5 weeks reported by 51 individuals (26 No response). The maximum was 32 weeks and the minimum was 1 week.

37. Veterinarians advise giving Trich vaccine within two weeks of breeding in order to maximize the effectiveness of the vaccine. If you are not able to give the vaccine then, what barriers do you face that prevent you from following the suggested timing? *[select all that apply]*

- 16 Cows only handled in fall during preg testing
- 33 Location of cows at optimum time is on the range and inadequate facilities are available
- 19 I am able to vaccinate against Trich within two weeks of breeding
- 4 Other (please specify)
- 14 No response

38. Is Trich vaccination a separate operation for you?

- 13 Yes
- 51 No
- 13 No response

39. Do you use a combination vaccine for Trich vaccination?

- 45 Yes
- 17 No
- 15 No response

40. Does Trich vaccination interfere with other ranch activities?

- 40 Always
- 21 Sometimes
- 3 Never
- 13 No response

↳ a. If **ALWAYS** or **SOMETIMES**, which activities? _____

41. In 2012, how much were total expenses specific to Trich vaccination? Include cost of materials and cost of labor for yourself and any hired labor. Actual amounts are great, but best estimates are also useful. \$ _____

- 32 Not sure
- 4 Does not apply
- 12 No response

The average expenses specific to Trich vaccination was \$1541 reported by 29 individuals. The maximum was \$5000 and the minimum was \$0.

42. What are your primary reasons for including Trich vaccination as a management practice?

41 of the individuals answered this question where 21 of them mentioned "prevent infecting herd" as their primary reason. (36 No response)

If you DO vaccinate against Trich go to Q45

43. If you do **NOT** vaccinate against Trich, do you plan to in the future?
 2 Yes 81 Maybe 46 No 20 No response

44. If you do **NOT** vaccinate against Trich, how strongly is your decision impacted by the following?

<i>['Vaccinating' = vaccinating against Trich]</i>	Strongly impacted	←————→			Not at all impacted	No response
Vaccinating is too expensive	13	20	25	10	38	43
Vaccinating is too time consuming	11	11	25	13	46	43
Vaccination does not prevent Trich	19	15	31	11	26	47
I don't have enough information about Trich vaccines	28	17	22	11	31	40
There is no Trich in my ranching area	10	14	27	17	34	47
Vaccinating is too impractical or too complicated	6	12	25	20	36	50
Vaccinating gives a false sense of security	11	17	24	17	33	47
Vaccinating leaves a residue in the finished meat	2	3	20	22	49	53
I don't have any problems with Trich right now	48	20	15	14	29	23
Vaccinating can cause abscesses or other physical	4	7	26	17	43	52
Other (please specify)	2	0	1	0	5	141

45. How likely is it that your cattle are exposed to other rancher's cattle at any time during the year?
 59 Very likely 67 Likely 67 Unlikely 19 Not at all 1 Don't know 4 No response
 a. If **VERY LIKELY** or **LIKELY**, what month(s)/season(s)? _____

Most of the ranchers mentioned spring and summer and the months during these seasons.

month	#	month	#	season	#
JAN	7	JUL	15	Spring	12
FEB	3	AUG	15	Summer	23
MAR	5	SEP	19	Fall	9
APR	19	OCT	19	Winter	2
MAY	20	NOV	17		
JUN	19	DEC	8	No response	45

46. Do you share a common grazing allotment?
 143 No 65 Yes→total # of ranchers on allotment: _____ 9 No response

The average number of ranchers on allotment is 3.2 reported by 53 individuals. The maximum was 8 ranchers and the minimum was 1.

47. Do you share community pasture?

194 No 12 Yes→total # of ranchers on pasture: _____ 11 No response

The average number of ranchers on pasture is 8.1 reported by 10 individuals. The maximum was 40 ranchers and the minimum was 1.

48. How many ranchers do you run in common with? _____

96 of the total 166 individuals who responded to this question, answered it with 0 ranchers. The average of the other answers is 3.4 with the maximum of 40 and minimum of 1 rancher. (51 No response)

49. How many ranchers use grazing lands adjacent to yours? _____

The average number of ranchers is 4.2 reported by 190 individuals. The maximum was 25 ranchers and the minimum was 0. (27 No response)

50. Does your herd co-mingle with any neighboring herds?

131 No 69 Yes→total # of herds: _____ 17 No response

The average number of herds is 4.2 reported by 52 individuals. The maximum was 20 herds and the minimum was 1.

51. Is your herd ever exposed to feral bulls?

137 No 35 Yes 28 Not sure 17 No response

52. Do you use management practices to minimize exposure to other herds?

163 Yes 20 No 34 No response

↳ a. If **YES**, what management practices? *[select all that apply]*

- 172 Fencing
- 59 Breed cows prior to exposure to neighbor's bulls on open land
- 32 Other (please specify): _____
- 11 No response

Some of the ranchers mentioned riding as their management practice to keep herds separated.

53. In 2012, how much were total expenses specific to controlling exposure to other herds? Include cost of materials and cost of labor for yourself and any hired labor. Actual amounts are great, but best estimates are also useful. \$ _____

107 Not sure 24 Does not apply 22 No response

The average expenses specific to controlling exposure to other herds is \$5317 reported by 64 individuals. The maximum was \$80,000 and the minimum was \$0.

54. If your herd is exposed to cattle **NOT** under your management, do you know if those other cattle ranchers manage for Trich?

42 Yes, all do 76 Yes, some do 26 No 43 Don't know 30 No response

↳ a. If **YES** (all or some), which practices? *[select all that apply]*

- 91 Testing bulls
- 25 Vaccination against Trich
- 3 Other [please specify]: _____
- 56 Fencing
- 29 I'm not sure which practices they use
- 32 No response

55. What are your primary reasons for minimizing exposure to other herds?

128 of the ranchers answered this question. 65 of them mentioned “keep away from diseases”, 28 of them mentioned “closed herd (management)” and 22 of them mentioned “genetics (breeding)” as their primary reasons for minimizing exposure to other herds. (89 No response)

If you DO manage to minimize exposure to other herds go to Q58

56. If you do **NOT** manage to minimize exposure, do you plan to in the future?

8 Yes 11 Maybe 11 No 24 No response

57. If you do **NOT** currently manage your herd to minimize exposure to other herds, how strongly is your decision impacted by the following?

	Strongly impacted	←————→			Not at all impacted	No response
It is too expensive	1	1	11	1	16	24
It is too time consuming	1	3	9	2	15	24
It is difficult to limit exposure on public land	15	4	9	0	7	19
It is not effective for preventing cattle disease	2	1	12	3	8	28
Bulls break through fences	10	4	12	1	7	20
Red tape from federal agencies prevents fencing	8	5	8	0	8	25
Current state regulations aren't adequately enforced	5	2	9	3	11	24
I don't need to because my neighbors manage Trich well	1	5	8	3	11	26
My herd is never exposed to other herds	4	3	6	2	14	25
Other [please specify] _____	0	0	1	0	1	52

58. Suppose all of your neighbors use **GOOD** management practices to control Trich.

<i>Knowing this how likely would you be to...</i>	Very likely	←————→			Very unlikely	No response
continue the same management practices to control Trich?	142	32	14	2	2	25
increase time and energy spent on Trich management?	39	28	55	23	31	41
decrease time and energy spent on Trich management?	16	14	50	26	65	46

59. Now suppose that one or more of your neighbors use **POOR** Trich management practices.

<i>Knowing this how likely would you be to...</i>	Very likely	←————→			Very unlikely	No response
--	-------------	--------	--	--	---------------	-------------

continue the same management practices to control Trich?	120	29	10	14	17	27
increase time and energy spent on Trich management?	104	35	29	8	8	33
decrease time and energy spent on Trich management?	13	6	21	22	102	53

60. Imagine that you have \$60,000 in a retirement fund. The stock market is experiencing a downturn. A financial advisor gives you two strategies to choose from. Pretend that these two strategies are your only choices. Which strategy would you prefer given the limited choices?

- 134 Strategy A: \$40,000 of your retirement fund will be lost for certain. You will retain \$20,000
- 39 Strategy B: there is a 25% chance that nothing will be lost, and a 75% chance that the entire \$60,000 will be lost
- 44 No response

61. You are on a TV game show and can choose one of the following. Which do you choose?

- 77 \$1,000 in cash
- 60 A 50% chance at winning \$5,000
- 19 A 25% chance at winning \$10,000
- 28 A 5% chance at winning \$100,000
- 33 No response

62. How would you describe your willingness to take risks in general?

Risk-taker	←—————→			Prefer to avoid risk	No response
32	42	67	47	12	17

63. Our tendency to worry about harmful unplanned events influences our attitude towards risk. The intent of the following question is to better understand your attitude about common concerns.


<i>Do you worry about . . .</i>	Constantly worry	←—————→			Never worry	No response
being hurt or killed in a car accident?	1	19	56	63	61	17
being diagnosed with cancer?	10	25	61	63	39	19
getting bitten by a rattlesnake?	2	15	30	57	96	17
getting struck by lightening?	0	7	23	62	108	17

64. In Nevada, mandatory Trich testing is required of all bulls 12 months of age or older just prior to sale.

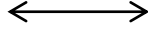
<i>Regarding this regulation, do you think.....</i>	Strongly agree	←—————→			Strongly disagree	No response
this regulation is agreeable?	140	33	14	3	11	16
bulls kept exclusively on private grazing lands should be exempt?	13	24	22	42	96	20

annual Trich testing of all bulls (not just bulls for sale) should be mandatory as it is in Idaho and Utah?	73	28	48	20	35	13
the minimum age should be raised from 12 months to 24 months as it is in Wyoming?	16	20	65	28	69	19

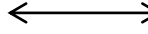
65. In Nevada, all bulls 12 months of age or older must be tested for Trich before entering Nevada, with exceptions for bulls going to slaughter, rodeo, or exhibition.

<i>Regarding this regulation, do you think...</i>	Strongly agree				Strongly disagree	No response
this regulation is agreeable?	125	52	19	3	6	12
that it is good to have exceptions?	39	32	45	21	50	30

66. In Nevada, any bull testing positive for Trich results in quarantine of the entire herd and epidemiological investigation by the state veterinarian's office. The quarantine is lifted once the bulls test negative.

<i>Regarding this regulation, do you think ...</i>	Strongly agree				Strongly disagree	No response
this regulation is agreeable?	88	62	24	10	17	16
herds exposed to the Trich-infected herd should also be quarantined until that herd's bulls test negative?	62	50	43	21	22	19
information about positive Trich cases should be made public?	71	40	39	20	28	19
slaughter of a Trich-positive bull should be mandatory?	138	30	24	4	5	16
slaughter of all bulls (including negative-tested bulls) in a Trich-positive herd should be mandatory?	15	14	44	39	89	16

67. We would like to know your opinions on current enforcement and follow-up of these existing Nevada state regulations:

<i>Regarding Nevada Trich regulation, do you think.....</i>	Strongly agree				Strongly disagree	No response
state enforcement of the regulations is adequate?	37	54	71	19	13	23
the state has clarified to you what your responsibilities are if you have a bull test positive for Trich?	38	47	63	24	21	24
state follow-up after a ranch has a positive Trich test is adequate?	29	53	77	22	12	24
you would be willing to contribute to a fund to help pay for adequate enforcement and follow-up?	7	11	52	59	60	28

68. In what county do you *primarily* operate? _____

Elko County has the largest number of respondents with 24.4% of the total. Other northern counties made up another 40% of the total. Central counties accounted for 10%. Also 15.7% of the respondents primarily

operate in southern counties. About 5% were from other counties including Clark, Esmeralda, and Mineral. 7% did not respond.

69. What is the zip code of the **primary** location of your operation? _____

70. Do you currently hire a consultant for assistance in managing your herd?

11 Yes 194 No 12 No response

71. Do you use a computer for record keeping?

105 Yes 98 No 14 No response

72. On average, how many cattle do you run on your operation?

	Cow-calf pairs	Bulls	Steers	Heifers	No response
Average # of cattle	496	38	242	190	18

73. In 2012, how many head of cattle did you purchase?

	Cows	Bulls	Steers	Heifers	No response
Average # of cattle	46	18	141	53	35

74. Do you currently have a herd veterinarian?

147 Yes 57 No 13 No response

75. Do you transport cattle out of state?

86 Yes 117 No 14 No response

↳ a. If **YES**, to what state(s) do you transport? _____

78 of the individuals named the states that they transport cattle to and as can be seen in the following table most of them transport to ID (50%).

ID	UT	CA	OR	AZ	No response
39	23	21	4	2	8

76. Do you **only** purchase or lease bulls certified Trich negative?

177 Purchase 5 Lease 15 No 20 No response

↳ a. Were any of these bulls purchased or leased out of state?

107 Purchase 4 Lease 71 No 35 No response

77. How many acres do you ranch on each type of land?

	Average acres in operation (acres)
Deeded land	8013

Public land (BLM, Forest Service, State of NV, etc.)	176454
Leased private land	4383
Other (please specify) _____	21248

37 No response

78. How many AUM's were you allotted in 2012 on each land type?

How many AUM's did you use on each type of land in 2012?

	Average AUM's permitted	Average AUM's used
Public land (BLM, Forest Service, State of NV, etc.)	3928	3383
Leased private land	2060	2373
Other (please specify) _____	772	734

96 No response

79. Is any of the land you use irrigated?

18 No

174 Yes→how many acres: _____

25 No response

The average irrigated land is 1014.2 acres. The maximum was 12200 acres and the minimum was 10 acres.

↳ a. If YES, what type of irrigation? *[select all that apply]*

49 Pivot

153 Flood

25 Other (please specify): _____

80. Where do your cattle breed? *[select all that apply]*

150 Deeded land

140 Public land (BLM, Forest Service, State of NV, etc.)

34 Leased private land

6 Other (please specify): _____

22 No response

81. How much hay did you produce, purchase, or sell in 2012?

	Average Hay (tons)
Total hay produced	1295
Total hay purchased	334
Total hay sold	926

56 No response

82. How many of each of the following cattle types did you sell in 2012?

	Average #/head
Cull cows	61
Cull bulls	7
Heifer calves	184
Steer calves	221

Other	626
Other	247

Demographics

1. How old are you? _____

The average age of the respondents is 59.4 reported by 186 individuals. The maximum was 94 years and the minimum was 30 years (31 No response).

2. What is your gender?

172 Male 23 Female 22 No response

3. Were you born in Nevada?

96 Yes 100 No 21 No response

↳ a. If **NO**, how long have you lived in Nevada? _____

The average years living in Nevada is 27.4 years. The maximum was 67 years and the minimum was 0.

↳ b. If **NO**, where did you move from? _____

Most of the total 63 individuals who answered this question mentioned that they moved from CA (30.2%).

4. Including yourself, how many people in each age group live in your household?

	0-17 yrs	18-24 yrs	25-64 yrs	65+ yrs
Average #	1.9	1	1.8	1.3

31 No response

5. Did you attend the 2012 Cattlemen's' Update?

35 Yes 152 No 30 No response

6. Please indicate how much of your total household income comes from different sources. (44 No response)

	Average %
Ranching	54.3

Farming	10.9
Custom work	1.4
Off-ranch/off-farm income	22.7
Other [please specify]	9.2

7. Please indicate your total household *income* from all sources for the 2012 tax year.

Please report *income* AFTER cattle production expenses and BEFORE taxes.

5	Under \$15,000	27	\$35,000-\$49,999	17	\$100,000-\$149,999
9	\$15,000-\$24,999	27	\$50,000-\$74,999	11	\$150,000-\$199,999
12	\$25,000-\$34,999	20	\$75,000-\$99,999	25	\$200,000 or more

64 No response

8. What is the *highest* level of education completed? (34 No response)

1	GED	12	Vocational Certificate	48	Bachelor's Degree
83	High School	22	Associate's Degree	17	Post-graduate

↳a. If you have a college degree, what was your course of study? _____

33 of the total 83 individuals who answered this question mentioned that they had a degree in "Agriculture" and 15 of them mentioned "Animal Science".

↳b. What college or university awarded your degree? _____

13 of the total 72 individuals who answered this question mentioned that they have studied in UNR.

9. Do you have regular access to internet service? [select all that apply]

154 Yes, at home 41 Yes, at work 31 No 27 No response

10. What is your current employment status? [select all that apply]

126	Self-employed full-time	45	Employed full-time	0	Student
12	Self-employed part-time	9	Employed part-time	30	Retired
0	Unemployed, job seeking	0	Unemployed, not job seeking	19	No response

“Appendix A: Pilot Survey”

This section provides copies of the letters, postcards and the questionnaire sent to each respondent during the pilot survey.

First contact letter:

«Name»
«Address»

June 27, 2012

Dear «Name»,

In the next few days you will be receiving a questionnaire from the Department of Agriculture, Nutrition and Veterinary Science and University Center for Economic Development. We are mailing it to you in an effort to learn more about rancher strategies with regard to the cattle disease Trichimoniasis (Trich). Information from the study will help University of Nevada researchers and the Nevada Department of Agriculture formulate the most cost effective ways to reduce or eliminate Trich in Nevada. We would greatly appreciate your taking half an hour to complete and return the questionnaire. Thank you in advance for your help.

Sincerely,

Dr. David Thain
State Extension Veterinarian
Department of Agriculture, Nutrition, and Veterinary Sciences

Dr. Thomas Harris
Director, University Center for Economic Development
Department of Economics

P.S. If you have any questions or comments about this study, we would be happy to talk to you. Please contact Dr. Harris at 775-784-1681 or harris@unr.edu.

First cover letter:

June 27, 2012

«Name»

«Address»

Dear «Name»,

Trichomoniasis, also known as 'Trich', is a persistent cattle venereal disease in Nevada that affects the profitability of Nevada cattle operations. We are writing to ask for your help with a study of how ranchers cope with Trich. This study is jointly conducted by the Department of Agriculture, Nutrition and Veterinary Sciences and the University Center for Economic Development. The study will help guide future research and outreach programs to help reduce the financial impacts of Trich on Nevada cattle producers.

You have been chosen for this study because you are listed in a county assessor's database in Nevada as an owner of meadow, pasture or grazing land, OR you are listed in the BLM Rangeland Administration System as a 2010 Nevada grazing permit holder. If you use this land to raise cattle, your participation is essential to ensure that cattle ranchers of all types are well represented. If you DO NOT raise cattle, but lease your land to someone who does, we would greatly appreciate your help in forwarding this survey to the ranch manager. For the study to be valid, we need to know about the full spectrum of those raising cattle in Nevada.

Your answers are confidential. They will be combined with the responses of others to produce a data set that represents all ranchers raising cattle in Nevada. When you return your completed questionnaire your name will be deleted from the mailing list and never connected to your answers. The questionnaire is voluntary. However, you can help us very much by taking half an hour to share your experiences and opinions.

As a way to thank you for your participation your name will be entered into a drawing for a \$500 gift certificate from Cabela's. To participate in this drawing please enter your name and address on the postcard that was enclosed in your survey package and mail it.

Your completed survey is extremely important to us, but if for some reason you prefer not to respond, please let us know by returning the blank questionnaire in the enclosed stamped envelope. This allows us to remove your name from our list so that you do not receive follow-up mailings. You may still enter the drawing for the gift certificate.

Sincerely,

Dr. Thomas Harris

Director

University Center for Economic Development

Department of Economics

Dr. David Thain, D.V.M.

State Extension Veterinarian

Department of Agriculture, Nutrition and Veterinary
Sciences

P.S. If you have any questions or comments about this study, we would be happy to talk to you.
Please contact Dr. Harris at 775-784-1681 or harris@unr.edu.

Reminder postcard:

July 13, 2012

Recently a questionnaire was mailed to you as part of a study of Nevada rancher strategies with regard to the cattle disease Trichomoniasis.

If you have already completed and returned the questionnaire, please accept my sincere thanks. I am especially grateful for your help, as only ranchers such as yourself can provide the information needed for this study.

If you have not already done so, please return your completed questionnaire to us in the postage-paid envelope.

If you have not received the questionnaire, or if it has been misplaced, please e-mail me at harris@cabnr.unr.edu or call me now at (775) 784-1681 and I will send another one to you by mail today.

Thomas Harris, Professor & Foundation Director
University Center for Economic Development
Department of Economics, MS 204
University of Nevada



Final drawing postcard:

University Center for Economic Development
Mail Stop 204
University of Nevada, Reno
Reno, NV 89557

University Center for Economic Development
Attn: Elizabeth Fadali, MS
Mail Stop 204
University of Nevada, Reno
Reno, NV 89557



Yes, I wish to be entered into the drawing for the Cabela's gift certificate.

If you checked the "yes" box, please write your name and address below. We will not have the necessary contact information for you unless you provide it here.

One entry per household.

Name: _____

Address: _____

Second cover letter:

July 20, 2012

«Name»

«Address»

Dear «Name»,

Several weeks ago we sent you a questionnaire as part of a study on Nevada ranchers' strategies regarding the cattle disease Trich. We have no record of receiving your returned questionnaire. Your participation increases the validity of the study by representing one of many different rancher perspectives. You've been chosen for this study because you are listed by a Nevada county assessor as the owner of grazing land or listed on the BLM Rangeland Administration System as using public grazing lands. The goal of this study is to better understand how ranchers cope with the risks of their cattle contracting Trich.

Without your response, views of ranchers like you will be poorly represented in the study. If this happens, Trich control strategies developed from the study may not address issues specific to ranchers in your situation. You can help develop more complete information for reducing the financial impact of Trich on Nevada ranchers by sharing your experiences and opinions.

Please take time (about 30 minutes) to complete this questionnaire and return it to us in the postage-paid self-addressed envelope. While your participation in this study is voluntary, the results will be most beneficial to you and all Nevada ranchers if the majority of ranchers respond.

Your answers are confidential. They will be combined with the responses of many other people to protect the privacy of those who have participated. When you return your completed questionnaire your name will be deleted from our mailing list and never connected to your answers.

To receive a copy of results, please write your name and address on a separate sheet of paper with the request for results, and send this with your returned survey.

As a token of our appreciation, you have the opportunity to enter a drawing for a \$500 Cabela's gift certificate. To participate, enter your name and address on the enclosed postage-paid self-addressed postcard and mail it to us. You may enter the drawing whether or not you choose to participate in the survey.

If you are not raising cattle, please note that on the questionnaire and return it so we can remove your name from the mailing list. If you *are* using this land to raise cattle, your participation is essential to ensure ranchers of all types are adequately represented. Your completed survey is very important to us and we hope you will respond. However, if you prefer not to respond simply return the blank questionnaire in the enclosed envelope and we will take your name off our mailing list.

Sincerely,

Dr. Thomas Harris

Director, University Center for Economic Development

University of Nevada, Reno

P.S. Contact Malieka Landis at 775-784-8050 or landis@unr.edu if you have any questions or comments about this study.

Pilot Survey Instrument:

Trich: Do you know where your cattle are tonight?



http://www.ag.unr.edu/research/research_project.aspx?GrandID=633

This survey asks cattle ranchers about their experience with Trich, a persistent cattle venereal disease in Nevada. This is a project conducted by University of Nevada, Reno researchers. The purpose of this study is to better understand how Nevada cattle producers cope with this disease.

The information from this study will help guide future research and outreach programs in order to best reduce the financial impacts of Trich on cattle producers in the state.

To be successful, ranchers of all types must be adequately represented in this study. We hope you will participate. Your experience, opinions, and time are very highly valued.

As a small token of thanks, we're offering a chance to win a \$500 Cabela's gift certificate. See the cover letter or back of this questionnaire for instructions.



Questions and Answers

Q: Who is conducting this study?

The study is being conducted by faculty and researchers at the University of Nevada, Reno College of Agriculture, Biotechnology, and Natural Resources and University Center for Economic Development. See the *back page* to contact the research group with questions or concerns. Survey results will be available at future Cattleman's education programs or by request.

Q: Why have I received this?

You were chosen because BLM records reflect that you were issued a grazing permit in 2010 or property tax records show that you own at least one parcel of land designated as grazing, pasture, or meadow. If you are not involved in ranching in Nevada please note this on the 1st question and return the survey to us. This will allow us to take you off the mailing list.

Q: Why should I respond?

Receiving feedback from all types of ranching operations in Nevada is essential to the success of our study. Your participation is essential to ensure that opinions and actions of ranchers in your community are represented. For our study to be valid, we need to know about the full range of opinions and situations of Nevada ranchers. While your participation is voluntary, you can help us very much by sharing your experiences and opinions.

Q: Are my answers confidential?

Absolutely! This University of Nevada sponsored research adheres to strict federal privacy standards. Upon receipt of your completed questionnaire, we will delete your name and address from our list, so that it is never connected with your answers.

Your answers will be combined with all of the other respondents' answers to produce a large data set. No individual answers will be identifiable. The research is specifically designed so that no individual responses are identified.

Q: What if I don't wish to respond?

If you prefer not to respond, please return the blank questionnaire in the enclosed stamped envelope and you will be removed from further mailings.

The survey will take approximately 20 minutes to complete. Please answer each question based on your own experience, opinions, knowledge, and values.

The word "neighbor" is used throughout the survey. For purposes of this survey, neighbor means a rancher with whom you share, or are adjacent to on, a community pasture, common allotment, and/or property line. The survey uses neighbor in this way because your cattle are most likely to be exposed to other cattle under these range situations.

1

Your Ranching Experience

1. What best describes your situation? *[select all that apply]*
- I own land that is used to raise cattle.
- I lease land for cattle grazing.
- I raise cattle or manage a cattle operation.
- I do not own or lease lands used to raise cattle and I do not raise or manage any cattle.
- (If you check this, please stop here and return survey in prepaid envelope)**
- Other (please specify): _____
2. How many years have you been involved in cattle ranching? _____
3. What type of cattle do you raise? *[select all that apply]*
- Cow-calf
- Feeder cattle
- Seedstock
- Dairy
- Hobby
- Other (please specify): _____
4. Do you have any specialized training/education? *[select all that apply]*
- Veterinary training
- Technical school training
- Animal science degree
- Agricultural economics degree
- Cooperative extension education
- Cattlemen's Update
- Other (please specify) _____
5. How concerned are you about the chances of the following impacting your ranching activities in a negative way sometime in the next 5 years?

	Very concerned ← ————— → Not concerned					Don't know
Fluctuating cattle prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildfire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My herd contracting Trich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited access to financial capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endangered species regulation(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2

Trich and Disease Risk Management

We would like to know what management practices you use as a rancher to reduce the risk of your herd contracting Trich and other diseases.

6. What are your major sources of information about Trich management? *[select all that apply]*
- Magazines or Newspapers
- Internet (please specify) _____
- Cooperatives
- Other ranchers
- Extension personnel
- Cattlemen's Update
- Veterinarian
- Sales representative
- Other (please specify) _____

7. How concerned are you about the following cattle diseases?

	Very Concerned	Concerned	Somewhat Concerned	Slightly Concerned	Not Concerned
Trich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BVD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anthrax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IBR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vibrio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lepto	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bangs-brucellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clostridial diseases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal parasite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Which of the following cattle diseases do you either treat for or vaccinate against.

Trich	<input type="checkbox"/>	IBR	<input type="checkbox"/>	Clostridial	<input type="checkbox"/>
BVD	<input type="checkbox"/>	Vibrio	<input type="checkbox"/>	Internal parasites	<input type="checkbox"/>
Anthrax	<input type="checkbox"/>	Lepto	<input type="checkbox"/>	Other	<input type="checkbox"/>
Lice and ticks	<input type="checkbox"/>	Bangs-brucellosis	<input type="checkbox"/>	(please specify _____)	

9. How familiar are you with the following aspects of Trich?

	Very Familiar	Familiar	Somewhat Familiar	Slightly Familiar	Not Familiar
Cause and risk factors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tests and diagnosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treatment and prevention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3

10. Which of the following Trich management practices do you *currently* use? [select all that apply]

- Test bulls annually
- Fence cattle year round or otherwise run a closed operation
- Market open cows if trich positive bull is found
- Vaccinate herd against Trich
- Cooperative range agreements
- Narrow calving interval
- Adjust breeding/calving season for open range
- Use artificial insemination
- Use leased bulls
- Use only bulls less than 4 years of age
- Conduct annual preg test of cows and cull late or open cows
- Only purchase virgin or bred females
- I do not use any of these management practices.
- Other (please specify) _____

11. How many days is your calving interval? _____ days does not apply
12. How many days is your target calving interval? _____ days does not apply
13. What was your herd's conception rate this past year? _____ does not apply
14. Has your herd's conception rate held steady over the past 5 years? Yes No does not apply

Your Herd's History with Trich Exposure

Please help us understand whether your herd has been effected by Trich and what the risk of Trich may cost you as a rancher.

15. Have you suspected that your cattle were exposed to Trich anytime during the past 5 years? Yes No
16. Have you suspected or known that your cattle were infected with Trich anytime during the past 5 years? Yes No
17. Did your suspicion or knowledge of Trich exposure or infection lead you to take any of the following action(s)? [select all that apply]
- Tested bulls
 - Sold off the entire exposed herd and purchased a new herd
 - Sold off the bull battery and replaced with a new bull battery
 - Sold off the Trich positive bulls
 - Culled open cows
 - Culled late cows (100 days or more late)
 - Vaccinated cows/heifers
 - Other (please specify): _____
 - I didn't have any suspicion or knowledge of Trich exposure or infection

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18. Did this experience with Trich cause you to change any routine management practices? Yes No Does not apply

a. If yes, please describe any management practices you changed:

19. Have you suspected or known that your neighbor's cattle were infected with Trich anytime during the past 5 years? Yes No Does not apply

a. If so, did this cause you to change any routine management practices? Yes No Does not apply

b. If yes, please describe any management practices you changed:

20. Suppose that you did not have to worry about Trich. How many years would you keep your bulls? _____ years Not sure

Trich Testing

21. Are you able to test your bulls for Trich? Yes No → In no, Go to Q31 on page 7

22. How many times have you tested your bulls in the last 5 years? How many tests were positive?

	2012	2011	2010	2009	2008
# of Bulls Tested					
Positive Tests					

23. Do you test all or part of the bull battery? Please indicate which classes/types of bulls you test.

- Entire bull battery
- Retained replacement bulls
- Bulls of high market value
- Bulls of low market value
- Old bulls
- Young bulls
- Randomly chosen bulls
- Other _____

24. When do you test the bulls for Trich? If annually, please indicate season, month, etc

- At bull sale
- When Trich infection is suspected
- Annually → Please specify month(s) and /or seasons _____
- Other → Please specify _____

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25. Do you combine Trich testing with other regular tests or activities? a. If so, which tests or activities? Always Sometimes Never

Tests/Activities: _____

26. Does Trich testing interfere with other ranch activities? a. If so, which activities does it interfere with? Always Sometimes Never

Activities: _____

We would like to understand how much extra money and time you spend, above and beyond normal ranch activities on Trich testing of bulls. For questions 27 and 28 a ballpark estimate is fine.

27. For the most recent year how much did you spend on additional ranch expenses as a result of Trich testing (include any paid labor)? \$ _____ Not Sure Does not apply
28. For the most recent year how many additional hours beyond normal ranch operations were spent on Trich testing? _____ hours Not Sure Does not apply
29. If you do test your bulls for Trich, how strongly is your decision impacted by the following?

	Strongly Agree	Agree	Maybe	Disagree	Strongly Disagree
I don't test my bulls for Trich.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do it when I notice that conception rates have dropped	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's required by regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My neighbors test and I want to support our neighborhood effort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's veterinarian advised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It maintains herd health and good conception rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I need to since not all of my neighbors test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have an agreement with my neighbors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My neighbor's herd contracted Trich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is the responsible thing to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's worthwhile because my neighbors also test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other [please specify] _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. If you do NOT test your bulls for Trich, do you plan to in the future? Yes Maybe No

31. If you do NOT test your bulls for Trich, how strongly is your decision impacted by the following? If you DO test your bulls for Trich go to Q32 below.

['Testing' = testing for Trich]	Strongly Agree	Agree	Maybe	Disagree	Strongly Disagree
Testing is too expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing is too time consuming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trich testing accuracy is too low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't have enough information about Trich testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is no Trich in my ranching area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing is too impractical or too complicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't have equipment to properly restrain bulls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restraint can cause injury/death to bull	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restraint can cause injury/death to personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restraint can damage equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Because my neighbors test, so it wouldn't help if I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Positive test results are reported to authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other [please specify] _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Trich Vaccination

32. Do you *currently* vaccinate your herd against Trich? If yes, do you vaccinate all or part of the herd? If you test part of the herd, please indicate which classes/types of cattle you test. [select all that apply]
- No → → If no, go to Q41 on page 8.
- Yes → → VACCINATE: Cows
 Bulls
 Dry Cows
 Retained replacement heifers
 Other _____
33. When do you vaccinate the herd against Trich? If annually, please indicate season, month, etc.
- At bull sale
 When Trich infection is suspected
 At preg testing
 At spring processing
 Annually → Please specify month(s) _____
 Other → Please specify _____
34. How far out from breeding do you give the Trich vaccine? _____ weeks
35. Is Trich vaccination a separate operation for you? Yes No
36. Do you use a combination vaccine for Trich vaccination? Yes No

37. Does Trich vaccination interfere with other ranch activities? Always Sometimes Never
 a. If so, which activities does it interfere with?

Activities: _____

38. Veterinarians advise giving Trich vaccine within two weeks of breeding in order to maximize the effectiveness of the vaccine. If you are not able to give the vaccine then, what barriers do you face that prevent you from following the suggested timing? [check all that apply]

- Cows only handled in fall during pregnancy check
 Location of cows at optimum time is on the range and inadequate facilities are available
 Never have considered vaccinating at this time
 Lack manpower to vaccinate at this time
 Other (please specify) _____

We would like to understand how much extra money and time you spend, above and beyond normal ranch activities on Trich vaccination. For questions 39 and 40 a ballpark estimate is fine.

39. For the most recent year how much did you spend on additional ranch expenses as a result of Trich vaccination (include any paid labor)? \$ _____ Not Sure Does not apply
 40. For the most recent year how many additional hours beyond normal ranch operations were spent on Trich vaccination? _____ hours Not Sure Does not apply
 41. If you do NOT vaccinate against Trich, do you plan to in the future? Yes Maybe No

42. If you do NOT vaccinate against Trich, how strongly is your decision impacted by the following?
 If you DO vaccinate against Trich go to Q43 on page 9.

['Vaccinating' = vaccinating against Trich]	Strongly Agree	Agree	Maybe	Disagree	Strongly Disagree
Vaccinating is too expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating is too time consuming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccination does not prevent Trich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't have enough information about Trich vaccines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is no Trich in my ranching area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating is too impractical or too complicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating gives a false sense of security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating leaves a residue in the finished meat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating gives a false sense of security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't have any problems with Trich right now	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaccinating can cause abscesses or other physical reactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other [please specify] _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Herd Co-mingling

43. How likely is it that your cattle are exposed to other rancher's cattle at any time during the year?
 If so, when?

Very Likely Likely Unlikely Not at all Don't know

In what month(s)/season(s)? _____

44. Do you use management practices to minimize exposure to other herds? Yes No
 Fencing
 Breed cows prior to exposure to neighbors bulls on open land
 Cooperative agreements with other ranchers
 Other (please specify) _____
45. Do you share a common grazing allotment? Yes No
 a. If yes, how many other ranchers share the allotment? _____
46. How many ranchers do you run in common with? _____
47. Do you share a community pasture? Yes No
 a. If yes, how many other ranchers share the pasture? _____
48. How many ranchers use grazing lands adjacent to yours? _____
49. Does your herd comeingle with any of your neighbor's herds? Yes No
 a. If yes, how many herds do you comeingle with? _____
50. If you do NOT currently manage your herd to minimize exposure to other herds, how strongly is your decision impacted by the following?

	Strongly Agree	Agree	Maybe	Disagree	Strongly Disagree
It is too expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is too time consuming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is difficult to limit exposure on public land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is not effective for preventing cattle disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bulls break through fences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Red tape from federal agencies prevents fencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't need to worry about it because my neighbors manage Trich well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My herd is never exposed to other herds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other [please specify] _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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We would like to understand how much extra money and time you spend, above and beyond normal ranch activities on fencing or other efforts to control exposure to other herds. For questions 51 and 52 a ballpark estimate is fine.

51. For the most recent year how much did you spend on additional ranch expenses to control exposure to other herds (include any paid labor)? \$ _____ Not Sure Does not apply
52. For the most recent year how many additional hours beyond normal ranch operations were spent on controlling exposure to other herds? _____ hours Not Sure Does not apply
53. If your herd is exposed to cattle NOT under your management, do you know if those other cattle ranchers manage for Trich?
 Yes, all do Yes, some do No Don't know
 a. If so, which practices? [select all that apply]
 Testing bulls Breed cows prior to exposure to neighbors' bulls on open land
 Vaccination against Trich Cooperative agreements with other ranchers
 Fencing Other → Please specify _____
 Isolation I'm not sure which practices they use.

We would like to understand how important your neighbors decisions about Trich management are when you make your decisions about how to manage Trich.

54. Suppose none of your neighbors use good management practices to control Trich. How likely is it you will... _____

	Very likely	Likely	Not sure	Unlikely	Very unlikely
Continue to use the same management practices to control Trich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase the time and energy you spend on Trich management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decrease the time and energy you spend on Trich management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ranch Size and Management

55. In what county do you primarily operate? _____
56. What is the zip code of the primary location of your operation? _____
57. Do you currently hire a consultant for assistance in managing your herd? Yes No
58. Do you use a computer for record keeping? Yes No
 a. If yes, do you use specialized software? Yes No
 i. If yes, what software? _____

59. On average, how many cattle do you run on your operation?

Cow-calf pairs	Bulls	Steers	Heifers
_____	_____	_____	_____

60. On average, how many cattle do you replace/purchase annually?

Cows	Bulls	Steers	Heifers
_____	_____	_____	_____

Please answer the following questions regarding the lands you use in your cattle operation.

61. Do you use the following categories of land for your cattle operation?

	Grazing/Hay	Breeding
BLM land	<input type="checkbox"/>	<input type="checkbox"/>
Forest Service land	<input type="checkbox"/>	<input type="checkbox"/>
State or other public land	<input type="checkbox"/>	<input type="checkbox"/>
Leased private land	<input type="checkbox"/>	<input type="checkbox"/>
Native American reservation land	<input type="checkbox"/>	<input type="checkbox"/>
Deeded land	<input type="checkbox"/>	<input type="checkbox"/>
Other [please specify] _____	<input type="checkbox"/>	<input type="checkbox"/>

62. Is any of the land you use irrigated? Yes No
 a. If yes, how many acres? _____
63. How many acres are in your operation? _____
 How many AUMs were permitted for 2011? _____ How many of them were used in 2011? _____

	Acres in Operation	AUM's Permitted	AUM's Used
Deeded land	_____ acres	_____ AUMs	_____ AUMs
Public land	_____ acres	_____ AUMs	_____ AUMs
Leased private land	_____ acres	_____ AUMs	_____ AUMs
Native American reservation land	_____ acres	_____ AUMs	_____ AUMs
Other [please specify] _____	_____ acres	_____ AUMs	_____ AUMs
Total	_____ acres	_____ AUMs	_____ AUMs

Your Attitude towards Risk

64. Imagine that you have \$60,000 in a retirement fund. The stock market is experiencing a downturn. A financial advisor gives you two strategies to choose from. Pretend that these two strategies are your only choices. Check the strategy that you would prefer given the limited choices.

- Strategy A: \$40,000 of your retirement fund will be lost for certain.
- Strategy B: there is a 1/4 probability that nothing will be lost, and a 3/4 probability that the entire \$60,000 will be lost.

65. You are on a TV game show and can choose one of the following. Which do you choose?

- \$1,000 in cash
- A 50% chance at winning \$5,000
- A 25% chance at winning \$10,000
- A 5% chance at winning \$100,000

66. Feelings about chance and risk are impacted in part by our tendency to worry about harmful unplanned events.

The intent of the following question is to better understand your attitude about common concerns.

Do you worry about . . .	Yes!!	yes	maybe	no	No!!
being hurt or killed in a car accident?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
being diagnosed with cancer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
getting bitten by a rattlesnake?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
getting struck by lightening?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please turn to the next page 

Your Opinions on Trich Regulation

67. In Nevada, mandatory Trich testing is required of all bulls 12 months of age or older just prior to sale.

Regarding this regulation, do you think.....	YES!!	yes	maybe	no	NO!!
this regulation is agreeable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bulls kept exclusively on private grazing lands should be exempt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
annual Trich testing of all bulls (not just bulls for sale) should be mandatory as in Idaho and Utah?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the minimum age should be raised from 12 months to 24 months as in Wyoming?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

68. In Nevada, all bulls 12 months of age or older must be tested for Trich before entering Nevada, with the exceptions for bulls going to slaughter, rodeo, or exhibition.

Regarding this regulation, do you think.....	YES!!	yes	maybe	no	NO!!
this regulation is agreeable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
that it is good to have exceptions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

69. In Nevada, any positive Trich test on a bull results in quarantine of the entire herd and epidemiological investigation conducted by the state veterinarian's office.

Regarding this regulation, do you think.....	YES!!	yes	maybe	no	NO!!
this regulation is agreeable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
herds exposed to a Trich infected herd should also be quarantined, regardless of testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
information about positive Trich cases should be made public?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
slaughter of a Trich positive bull should be mandatory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
slaughter of all bulls (including negative tested bulls) in a Trich-positive herd should be mandatory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

70. We would like to know your opinions on state enforcement and follow-up of these current regulations:

Regarding Nevada Trich regulation, do you think that . . .	YES!!	yes	maybe	no	NO!!
state enforcement of the regulations is adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
the state has made it clear to you what your responsibilities are if you have a bull test positive for Trich?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
state follow-up after a rancher has a positive Trich test is adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
you would be willing to contribute to a fund to help pay for adequate enforcement and follow-up?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Demographics

1. How old are you ? _____

2. What is your gender ? Male Female

3. Were you born in Nevada?
 Yes No → If no, how long have you lived in Nevada? _____
 If no, where did you move from? _____

4. Including yourself, how many people in each age group live in your household?

	0-17 yrs	18-24 yrs	25-64 yrs	65+ yrs

5. What is your race/ethnicity?

African-American	<input type="checkbox"/>	Latino	<input type="checkbox"/>	White	<input type="checkbox"/>
Asian	<input type="checkbox"/>	Native American	<input type="checkbox"/>	Other [please specify]	<input type="checkbox"/>

6. Did you attend the 2012 Cattleman's' Update? Yes No

7. Please indicate how much of your total household income comes from different sources.

Ranching	%
Farming	%
Custom work	%
Off-ranch/off-farm income	%
Income from granting access to wildlife hunting	%
Other	%
Total	100 %

8. Please indicate your total household income from all sources (before taxes) for the 2011 tax year.

Under \$15,000	<input type="checkbox"/>	\$35,000-\$49,999	<input type="checkbox"/>	\$100,000-\$149,999	<input type="checkbox"/>
\$15,000-\$24,999	<input type="checkbox"/>	\$50,000-\$74,999	<input type="checkbox"/>	\$150,000-\$199,999	<input type="checkbox"/>
\$25,000-\$34,999	<input type="checkbox"/>	\$75,000-\$99,999	<input type="checkbox"/>	\$200,000 or more	<input type="checkbox"/>

9. What is the highest level of education completed? [check one box only]

GED	<input type="checkbox"/>	Associate's Degree	<input type="checkbox"/>	Professional Degree	<input type="checkbox"/>
High School	<input type="checkbox"/>	Bachelor's Degree	<input type="checkbox"/>	Doctoral Degree	<input type="checkbox"/>
Vocational Certificate	<input type="checkbox"/>	Master's Degree	<input type="checkbox"/>		

10. Do you have regular access to internet service? [select all that apply]

Yes, at home Yes, at work No

11. What is your current employment status? [check all that apply]

Self-employed full-time	<input type="checkbox"/>	Employed full-time	<input type="checkbox"/>	Student	<input type="checkbox"/>
Self-employed part-time	<input type="checkbox"/>	Employed part-time	<input type="checkbox"/>	Retired	<input type="checkbox"/>
Unemployed, job seeking	<input type="checkbox"/>	Unemployed, not job seeking	<input type="checkbox"/>		

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Comments

Thank you!!

Thank you so much for taking the time to fill out this questionnaire. Your input and feedback are key components of this study and will help direct outreach and educational actions that will follow. Your participation is very much appreciated.

Please return this questionnaire in the enclosed postage-paid envelope.

If you wish to enter the raffle for the \$500 Cabela's gift card, return **SEPARATELY** the postage-paid postcard. Please make sure to include your preferred contact information so you can be notified if your name is drawn as the winner .

If you would like a copy of the aggregated survey results, please contact us by phone or e-mail and we will be happy to send them. Preliminary results will be ready by Fall 2012.

Contacts for survey questions and concerns:

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 Department of Agriculture
 775-784-1377

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“Appendix B: Final Survey”

This section provides copies of the letters, postcards and the questionnaire sent to each respondent during the final survey.

First contact letter:

[Address of ranch]

December 28, 2012

Dear [name],

In the next few days you will be receiving a questionnaire from the University Center for Economic Development. We are mailing it to you in an effort to learn more about rancher strategies with regard to the cattle disease Trichimoniasis (Trich).

Information from the study will help University of Nevada researchers and the Nevada Department of Agriculture representatives formulate the most cost effective ways to reduce or eliminate Trich in Nevada. Understanding how a diverse representation of Nevada ranchers cope with the risks of Trich is key to the study’s success. Your experience and opinions are very important to us.

We would greatly appreciate your taking 20-30 minutes to complete and return the questionnaire. Thank you in advance for your help.

Sincerely,

Dr. Thomas Harris
Director, University Center for Economic Development
University of Nevada, Reno

P.S. If you have any questions or comments about this study, we would be happy to talk to you. Please contact either Dr. Harris at 775-784-1681 or harris@unr.edu or Elizabeth “Betsy” Fadali at 775-784-8050 or elizabethf@unr.edu

First cover letter:

January 4, 2013

[ranch address]

Dear [name],

Trichomoniasis, also known as 'Trich', is a persistent cattle venereal disease in Nevada that affects the profitability of Nevada cattle operations. We are asking for your help with a survey about how ranchers cope with Trich. The survey is part of a study conducted by the University Center for Economic Development. Information gathered in the study will help determine the most effective ways to reduce the negative financial impacts of Trich on Nevada cattle producers.

You have been selected for this study because you are listed in a county assessor's database in Nevada as an owner of meadow, pasture or grazing land, OR you are listed in the BLM Rangeland Administration System as a Nevada grazing permit holder in 2012. If you use this land to raise cattle, your participation is essential to ensure that cattle ranchers of all types are well represented. If you DO NOT raise cattle, but lease your land to someone who does, we would greatly appreciate it if you could forward this survey to the ranch manager.

Your answers are confidential. They will be combined with the responses of others to produce a data set that represents all ranchers raising cattle in Nevada. When you return your completed questionnaire your name will be deleted from the mailing list and never connected to your answers. The questionnaire is voluntary. However, you can help us very much by taking 20-30 minutes to share your experiences and opinions.

As a way to thank you for your participation your name will be entered into a drawing for a \$500 gift certificate from Cabela's. To participate in this drawing please complete the postage paid postcard enclosed in your survey package and mail it back to us.

Your completed survey is extremely important to us but if for some reason you prefer not to respond, please let us know by returning the blank questionnaire in the enclosed postage paid envelope. Once received, we will remove your name from our list so that you do not receive follow-up mailings. You may still enter the drawing for the gift certificate.

Sincerely,

Dr. Thomas Harris
Director, University Center for Economic Development
University of Nevada, Reno

P.S. If you have any questions or comments about this study, we would be happy to talk to you.
Please contact Dr. Harris at 775-784-1681 or harris@unr.edu or Elizabeth (Betsy) Fadali at 775-784-8050 or eliabethf@unr.edu.

«ID»

Reminder postcard:

January 11, 2013

Recently a questionnaire was mailed to you as part of a study of Nevada rancher strategies with regard to the cattle disease Trichomoniasis.

If you have already completed and returned the questionnaire, please accept my sincere thanks. I am especially grateful for your help, as only ranchers such as yourself can provide the information needed for this study.



If you have not already done so, please return your completed questionnaire to us in the postage-paid envelope.

If you have not received the questionnaire, or if it has been misplaced, please e-mail me at harris@cabnr.unr.edu or call me now at (775) 784-1681 and I will send another one to you by mail today.

Thomas Harris, Professor & Foundation Director
University Center for Economic Development
Department of Economics, MS 204
University of Nevada

Second cover letter:

January 25, 2013
[Ranch address]

Dear [name],

Several weeks ago we sent you a questionnaire as part of a study on Nevada ranchers' strategies regarding the cattle disease Trich. We have no record of receiving your returned questionnaire. Your participation increases the validity of the study by representing one of many different rancher perspectives. You've been selected for this study because you are listed by a Nevada county assessor as the owner of grazing land or listed on the BLM Rangeland Administration System as using public grazing lands. The goal of this study is to better understand how ranchers cope with the risks of their cattle contracting Trich.

Without your response, views of ranchers like you will be poorly represented in the study. If this happens, Trich control strategies developed from the study may not address issues specific to ranchers in your situation. You can help develop more complete information for reducing the financial impact of Trich on Nevada ranchers by sharing your experiences and opinions.

Please complete this questionnaire and return it to us in the postage-paid self-addressed envelope. It takes about 20-30 minutes. While your participation in this study is voluntary, the results will be most beneficial to you and all Nevada ranchers if the majority of ranchers respond.

Your answers are confidential. They will be combined with the responses of many other people to protect the privacy of those who have participated. When you return your completed questionnaire your name will be deleted from our mailing list and never connected to your answers.

To receive a copy of results, please write your name and address on a separate sheet of paper with the request for results, and send this with your returned survey.

As a token of our appreciation, you have the opportunity to enter a drawing for a \$500 Cabela's gift certificate. To participate, enter your name and address on the enclosed postage-paid self-addressed postcard and mail it to us. You may enter the drawing whether or not you choose to participate in the survey.

If you are not raising cattle, please note that on the questionnaire and return it in the postage paid envelope so we can remove your name from the mailing list. If you *are* using this land to raise cattle, your participation is essential to ensure ranchers of all types are adequately represented. Your completed survey is very important to us and we hope you will respond. However, if you prefer not to respond simply return the blank questionnaire in the enclosed envelope and we will take your name off our mailing list.

Sincerely,

Dr. Thomas Harris
Director, University Center for Economic Development
University of Nevada, Reno

P.S Please contact either Dr. Harris at 775-784-1681 or harris@unr.edu or Elizabeth "Betsy" Fadali at 775-784-8050 or elizabethf@unr.edu , if you have any questions or comments about this study.

Final Survey Instrument:

Trich: Do you know where your cattle are tonight?



http://www.ag.uzh.ch/research/research_group.asp?ID=EMD1-653

This survey asks cattle ranchers about their experience with Trich, a persistent cattle venereal disease in Nevada. This is a project conducted by University of Nevada, Reno researchers. The purpose of this study is to better understand how Nevada cattle producers cope with this disease.

Information gathered in the study will help determine the most effective ways to reduce the negative financial impacts of Trich on Nevada cattle producers.

To be successful, ranchers of all types must be adequately represented in this study. We hope you will participate. Your experience, opinions, and time are very highly valued.

As a small token of appreciation, we're offering a chance to win a \$500 Cabela's gift certificate. See the cover letter or back of this questionnaire for instructions.



College of Agriculture, Biotechnology
and Natural Resources
University of Nevada, Reno



University of Nevada, Reno
Center for Economic Development

Questions and Answers

Q: Who is conducting this study?

The study is being conducted by faculty and researchers at the University of Nevada College of Agriculture, Biotechnology and Natural Resources and the University Center for Economic Development.

Q: Why should I participate?

Receiving feedback from all types of ranching operations in Nevada is essential to the success of our study. Your participation will ensure that opinions and actions of ranchers in your community are represented. Because your participation is voluntary, your willingness to share your opinions and experiences is greatly appreciated.

If you are not involved in ranching in Nevada please note this on the 1st question, return the survey, and we will take you off the mailing list. In addition, anyone who would prefer to be removed from the mailing list may return the blank questionnaire in the enclosed postage-paid self-addressed envelope.

Q: Who may I contact with questions and concerns?

The *back page* of this survey contains contact information for the research group. They can assist you with questions or concerns regarding participation. You can also request final survey results directly from the research group, or you can find the results at future Cattlemen's education programs.

Q: Are my answers confidential?

University of Nevada sponsored research adheres to strict federal privacy standards that require your answers to be confidential. They will be combined with all other respondents' answers to produce a large data set in such a way that individual respondent's answers will not be identifiable.

Q: What is required to complete the survey?

The survey will take approximately 20 minutes to complete. Please answer each question based on your own experience, opinions, knowledge, and values. The more complete each survey is, the better the final results will reflect Nevada ranchers as a whole.

Survey Notes

- The word "neighbor" is used throughout the survey. For purposes of this survey, "neighbor" means a rancher with whom you are adjacent or share a community pasture, common allotment, and/or property line. The survey uses "neighbor" in this way because your cattle are most likely to be exposed to other cattle under these range situations.
- Some questions have a next to the responses. For these questions, choose as many of the responses that are accurate for your cattle operation.
- Some questions have a next to the responses. For these questions, select only one response per row. For example on page 2 question 5, choose only one level of concern for "Fluctuating cattle prices". Please note, a unique level of concern should be selected for each row in the question.
- *Italic* wording provides further clarification or instruction for that question or set of questions.

Your Ranching Experience

1. What best describes your situation? *[select all that apply]*

- I own land that is used to raise cattle
 I lease land for cattle grazing
 I raise cattle or manage a cattle operation
 Other (please specify): _____
 I do not own or lease lands used to raise cattle and I do not raise or manage any cattle.
[If you check this, please stop here and return survey in prepaid envelope]

2. How many years have you been involved in cattle ranching? _____

3. What type of cattle do you raise? *[select all that apply]*

- Cow-calf
 Feeder cattle
 Seedstock
 Other (please specify): _____

4. Do you have any specialized training/education? *[select all that apply]*

- Technical school training
 Animal science degree
 Cooperative extension education
 Cattlemen's Update
 Other (please specify): _____

5. How concerned are you about the chances of the following impacting your ranching activities in a negative way sometime in the next 5 years?

	Very Concerned				Not Concerned
Fluctuating cattle prices	○	○	○	○	○
Drought	○	○	○	○	○
Wildfire	○	○	○	○	○
Maintaining water rights	○	○	○	○	○
My herd contracting Trich	○	○	○	○	○
Limited access to financing	○	○	○	○	○
Endangered species regulation	○	○	○	○	○

6. Are you optimistic or pessimistic about your ranch's profitability over the next 5 years?

Optimistic					Pessimistic
○	○	○	○	○	○

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Trich and Disease Management Practices

7. What are your main information sources for general ranch and cattle management? Trich management specifically? <i>[select all that apply]</i>	Ranch/Cattle Management	Trich Management
Magazines or newspapers	<input type="checkbox"/>	<input type="checkbox"/>
Cooperatives	<input type="checkbox"/>	<input type="checkbox"/>
Extension personnel	<input type="checkbox"/>	<input type="checkbox"/>
Cattlemen's Update	<input type="checkbox"/>	<input type="checkbox"/>
Other ranchers	<input type="checkbox"/>	<input type="checkbox"/>
Veterinarian	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

8. How concerned are you about the following cattle diseases? Which do you treat or vaccinate?

	Very Concerned				Not Concerned	Treat / Vaccinate <i>[select all that apply]</i>
Trich	○	○	○	○	○	<input type="checkbox"/>
BVD	○	○	○	○	○	<input type="checkbox"/>
Anthrax	○	○	○	○	○	<input type="checkbox"/>
Lice and ticks	○	○	○	○	○	<input type="checkbox"/>
IBR	○	○	○	○	○	<input type="checkbox"/>
Vibrio	○	○	○	○	○	<input type="checkbox"/>
Lepto	○	○	○	○	○	<input type="checkbox"/>
Bangs-brucellosis	○	○	○	○	○	<input type="checkbox"/>
Clostridial diseases	○	○	○	○	○	<input type="checkbox"/>
Internal parasite	○	○	○	○	○	<input type="checkbox"/>
Other ↳ (please specify) _____	○	○	○	○	○	<input type="checkbox"/>

9. How familiar are you with the following aspects of Trich?

	Very Familiar				Not Familiar
Cause and risk factors	○	○	○	○	○
Symptoms	○	○	○	○	○
Tests and diagnosis	○	○	○	○	○
Treatment and prevention	○	○	○	○	○

10. How familiar are you with the following aspects of *other cattle diseases in comparison* to Trich?

	Very Familiar				Not Familiar
Cause and risk factors	○	○	○	○	○
Symptoms	○	○	○	○	○
Tests and diagnosis	○	○	○	○	○
Treatment and prevention	○	○	○	○	○

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27. Do you combine Trich testing with other regular tests or activities? Always Sometimes Never
 ↳ a. If **ALWAYS** or **SOMETIMES**, which tests or activities? _____
28. Does Trich testing interfere with other ranch activities? Always Sometimes Never
 ↳ a. If **ALWAYS** or **SOMETIMES**, which activities? _____
29. In 2012, how much were total expenses specific to Trich testing? Not Does not
 Include cost of materials and cost of labor for yourself and any hired apply
 labor. Actual amounts are great, but best estimates are also useful. \$ Sure apply

30. How much do you agree with the following?

<i>I test my bulls for Trich because.....</i>	Strongly Agree				Strongly Disagree
I notice that conception rates have dropped	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it's required by regulation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it's veterinarian advised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it maintains herd health and good conception rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I need to since not all of my neighbors test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have an agreement with my neighbors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
my neighbor's herd contracted Trich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is the responsible thing to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it's worthwhile because my neighbors also test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you DO test your bulls for Trich, go to Q33 on page 7

31. If you do **NOT** test your bulls for Trich, do you plan to in the future? Yes Maybe No
32. If you do **NOT** test your bulls for Trich, how important are the following in your decision? [Testing = testing for Trich]
- | | Very Important | | | | Not Important |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Testing is too expensive | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Testing is too time consuming | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Testing accuracy is too low | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I don't have enough information about testing | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There is no Trich in my ranching area | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I don't have equipment to properly restrain bulls | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Restraining bulls can cause damage, injury, or death | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Testing isn't effective if neighbors don't also test | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Because my neighbors test, I don't need to | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Positive test results are reported to authorities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (please specify) _____ | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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Trich Vaccination

33. Do you ever vaccinate your herd against Trich? Yes No Does not apply
 ↳ **go to Q43** ↳ **go to Q43**
34. When do you vaccinate against Trich? [select all that apply]
 At preg testing
 At spring processing
 When Trich exposure is suspected
 Annually → Please specify month(s) _____
 Other (please specify) _____
35. Which classes/types of cattle do you vaccinate against Trich? [select all that apply]
 Entire herd including bulls
 Entire herd, cows only
 Retained replacement heifers only
 Other (please specify) _____
36. How far out from breeding do you give the Trich vaccine? _____ weeks
37. Veterinarians advise giving Trich vaccine within two weeks of breeding in order to maximize the effectiveness of the vaccine. If you are not able to give the vaccine then, what barriers do you face that prevent you from following the suggested timing? [select all that apply]
 Cows only handled in fall during preg testing
 Location of cows at optimum time is on the range and inadequate facilities are available
 I am able to vaccinate against Trich within two weeks of breeding
 Other (please specify) _____
38. Is Trich vaccination a separate operation for you? Yes No
39. Do you use a combination vaccine for Trich vaccination? Yes No
40. Does Trich vaccination interfere with other ranch activities? Always Sometimes Never
 ↳ a. If **ALWAYS** or **SOMETIMES**, which activities? _____
41. In 2012, how much were total expenses specific to Trich vaccination? Not Does not
 Include cost of materials and cost of labor for yourself and any hired labor. Sure apply
 Actual amounts are great, but best estimates are also useful. \$ Sure apply

42. What are your primary reasons for including Trich vaccination as a management practice?

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If you DO vaccinate against Trich go to Q45

43. If you do **NOT** vaccinate against Trich, do you plan to in the future? Yes Maybe No

44. If you do **NOT** vaccinate against Trich, how strongly is your decision impacted by the following?

['Vaccinating' = vaccinating against Trich]	Strongly Impacted				Not at all Impacted
Vaccinating is too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinating is too time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccination does not prevent Trich	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't have enough information about Trich vaccines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no Trich in my ranching area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinating is too impractical or too complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinating gives a false sense of security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinating leaves a residue in the finished meat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't have any problems with Trich right now	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccinating can cause abscesses or other physical reactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Herd Co-mingling

45. How likely is it that your cattle are exposed to other rancher's cattle at any time during the year?

Very Likely Likely Unlikely Not at all Don't know

↳ a. if **VERY LIKELY** or **LIKELY**, what month(s)/season(s)? _____

46. Do you share a common grazing allotment? No Yes → total # of ranchers on allotment _____

47. Do you share community pasture? No Yes → total # of ranchers on pasture _____

48. How many ranchers do you run in common with? _____

49. How many ranchers use grazing lands adjacent to yours? _____

50. Does your herd co-mingle with any neighboring herds? No Yes → total # of herds _____

51. Is your herd ever exposed to feral bulls? No Yes Not sure

52. Do you use management practices to minimize exposure to other herds? Yes No

↳ a. if **YES**, what management practices? [select all that apply]
 Fencing
 Breed cows prior to exposure to neighbor's bulls on open land
 Other (please specify) _____

53. In 2012, how much were total expenses specific to controlling exposure to other herds? Include cost of materials and cost of labor for yourself and any hired labor. Actual amounts are great, but best estimates are also useful.
 \$ _____ Not Sure Does not apply

54. If your herd is exposed to cattle **NOT** under your management, do you know if those other cattle ranchers manage for Trich?

Yes, all do Yes, some do No Don't know

↳ a. If **YES** (all or some), which practices? [select all that apply]

- Testing bulls
- Vaccination against Trich
- Other [please specify] _____
- Fencing
- I'm not sure which practices they use

55. What are your primary reasons for minimizing exposure to other herds?

If you DO manage to minimize exposure to other herds go to Q58

56. If you do **NOT** manage to minimize exposure, do you plan to in the future? Yes Maybe No

57. If you do **NOT** currently manage your herd to minimize exposure to other herds, how strongly is your decision impacted by the following?

	Strongly Impacted				Not at all Impacted
It is too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is too time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult to limit exposure on public land	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is not effective for preventing cattle disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bulls break through fences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Red tape from federal agencies prevents fencing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current state regulations aren't adequately enforced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't need to because my neighbors manage Trich well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My herd is never exposed to other herds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q58 and Q59 are hypothetical questions. We want to better understand how your neighbors' decisions about Trich management impact your decisions about Trich management for your own herd.

58. Suppose all of your neighbors use **GOOD** management practices to control Trich.

Knowing this how likely would you be to...	Very likely				Very unlikely
continue the same management practices to control Trich?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increase time and energy spent on Trich management?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
decrease time and energy spent on Trich management?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

59. Now suppose that one or more of your neighbors use **POOR** Trich management practices.

Knowing this how likely would you be to...	Very likely				Very unlikely
continue the same management practices to control Trich?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
increase time and energy spent on Trich management?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
decrease time and energy spent on Trich management ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your Attitude towards Risk

Managing for Trich and other cattle disease requires making decisions with varying degrees of risk. To better understand how you make decisions, we want to know how tolerant you are of risk in general.

60. Imagine that you have \$60,000 in a retirement fund. The stock market is experiencing a downturn. A financial advisor gives you two strategies to choose from. Pretend that these two strategies are your only choices. Which strategy would you prefer given the limited choices?
- Strategy A: \$40,000 of your retirement fund will be lost for certain. You will retain \$20,000
 - Strategy B: there is a 25% chance that nothing will be lost, and a 75% chance that the entire \$60,000 will be lost
61. You are on a TV game show and can choose one of the following. Which do you choose?
- \$1,000 in cash
 - A 50% chance at winning \$5,000
 - A 25% chance at winning \$10,000
 - A 5% chance at winning \$100,000

62. How would you describe your willingness to take risks in general?

Risk-taker	←	→	Prefer to avoid risk
○			○

63. Our tendency to worry about harmful unplanned events influences our attitude towards risk. The intent of the following question is to better understand your attitude about common concerns.

Do you worry about . . .	Constantly Worry	←	→	Never Worry
being hurt or killed in a car accident?	○			○
being diagnosed with cancer?	○			○
getting bitten by a rattlesnake?	○			○
getting struck by lightning?	○			○

Your Opinions on Trich Regulation

64. In Nevada, mandatory Trich testing is required of all bulls 12 months of age or older just prior to sale.

Regarding this regulation, do you think.....	Strongly Agree	←	→	Strongly Disagree
this regulation is agreeable?	○			○
bulls kept exclusively on private grazing lands should be exempt?	○			○
annual Trich testing of all bulls (not just bulls for sale) should be mandatory as it is in Idaho and Utah?	○			○
the minimum age should be raised from 12 months to 24 months as it is in Wyoming?	○			○

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65. In Nevada, all bulls 12 months of age or older must be tested for Trich before entering Nevada, with exceptions for bulls going to slaughter, rodeo, or exhibition.

Regarding this regulation, do you think.....	Strongly Agree	←	→	Strongly Disagree
this regulation is agreeable?	○			○
that it is good to have exceptions?	○			○

66. In Nevada, any bull testing positive for Trich results in quarantine of the entire herd and epidemiological investigation by the state veterinarian's office. The quarantine is lifted once the bulls test negative.

Regarding this regulation, do you think.....	Strongly Agree	←	→	Strongly Disagree
this regulation is agreeable?	○			○
herds exposed to the Trich-infected herd should also be quarantined until that herd's bulls test negative?	○			○
information about positive Trich cases should be made public?	○			○
slaughter of a Trich-positive bull should be mandatory?	○			○
slaughter of all bulls (including negative-tested bulls) in a Trich-positive herd should be mandatory?	○			○

67. We would like to know your opinions on current enforcement and follow-up of these existing Nevada state regulations:

Regarding Nevada Trich regulation, do you think.....	Strongly Agree	←	→	Strongly Disagree
state enforcement of the regulations is adequate?	○			○
the state has clarified to you what your responsibilities are if you have a bull test positive for Trich?	○			○
state follow-up after a ranch has a positive Trich test is adequate?	○			○
you would be willing to contribute to a fund to help pay for adequate enforcement and follow-up?	○			○

Ranch Size and Management

68. In what county do you **primarily** operate? _____

69. What is the zip code of the **primary** location of your operation? _____

70. Do you currently hire a consultant for assistance in managing your herd? Yes No

71. Do you use a computer for record keeping? Yes No

72. On average, how many cattle do you run on your operation?

Cow-calf pairs	Bulls	Steers	Heifers
_____	_____	_____	_____

73. In 2012, how many head of cattle did you purchase?

Cows	Bulls	Steers	Heifers
_____	_____	_____	_____

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74. Do you currently have a herd veterinarian? Yes No

75. Do you transport cattle out of state? Yes No

↳ a. If YES, to what state(s) do you transport? _____

76. Do you **only** purchase or lease bulls certified Trich negative? Purchase Lease No

↳ a. Were any of these bulls purchased or leased out of state? Purchase Lease No

77. How many acres do you ranch on each type of land?	Acres in Operation	
Deeded land		acres
Public land (BLM, Forest Service, State of NV, etc.)		acres
Leased private land		acres
Other (please specify) _____		acres
	TOTAL	acres

78. How many AUM's were you allotted in 2012 on each land type? How many AUM's did you use on each type of land in 2012?	AUM's Permitted	AUM's Used
Public land (BLM, Forest Service, State of NV, etc.)	AUM's	AUM's
Leased private land	AUM's	AUM's
Other (please specify) _____	AUM's	AUM's
	TOTAL	AUM's

79. Is any of the land you use irrigated? No Yes → → → how many acres? _____

↳ a. If YES, what type of irrigation? [select all that apply]

Pivot Flood Other (please specify) _____

80. Where do your cattle breed? [select all that apply]

- Deeded land
- Public land (BLM, Forest Service, State of NV, etc.)
- Leased private land
- Other (please specify) _____

81. How much hay did you produce, purchase, or sell in 2012?	Hay (tons)
Total hay produced	tons
Total hay purchased	tons
Total hay sold	tons
	TOTAL

82. How many of each of the following cattle types did you sell in 2012?	#/head
Cull cows	head
Cull bulls	head
Heifer calves	head
Steer calves	head
Other _____	head
Other _____	head
	TOTAL

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Demographics

1. How old are you? _____

2. What is your gender? Male Female

3. Were you born in Nevada? Yes No → → → a. If NO, how long have you lived in Nevada? _____

↳ b. If NO, where did you move from? _____

4. Including yourself, how many people in each age group live in your household?

0-17 yrs	18-24 yrs	25-64 yrs	65+ yrs

5. Did you attend the 2012 Cattlemen's Update? Yes No

6. Please indicate how much of your total household income comes from different sources.	
Ranching	%
Farming	%
Custom work	%
Off-ranch/off-farm income	%
Other (please specify) _____	%
	TOTAL 100%

7. Please indicate your total household income from all sources for the 2012 tax year. Please report income AFTER cattle production expenses and BEFORE taxes.		
<input type="radio"/> Under \$15,000	<input type="radio"/> \$35,000-\$49,999	<input type="radio"/> \$100,000-\$149,999
<input type="radio"/> \$15,000-\$24,999	<input type="radio"/> \$50,000-\$74,999	<input type="radio"/> \$150,000-\$199,999
<input type="radio"/> \$25,000-\$34,999	<input type="radio"/> \$75,000-\$99,999	<input type="radio"/> \$200,000 or more

8. What is the highest level of education completed?		
<input type="radio"/> GED	<input type="radio"/> Vocational Certificate	<input type="radio"/> Bachelor's Degree
<input type="radio"/> High School	<input type="radio"/> Associate's Degree	<input type="radio"/> Post-graduate Degree

↳ a. If you have a college degree, what was your course of study? _____

↳ b. What college or university awarded your degree? _____

9. Do you have regular access to internet service? [select all that apply]
Yes, at home Yes, at work No

10. What is your current employment status? [select all that apply]		
<input type="checkbox"/> Self-employed full-time	<input type="checkbox"/> Employed full-time	<input type="checkbox"/> Student
<input type="checkbox"/> Self-employed part-time	<input type="checkbox"/> Employed part-time	<input type="checkbox"/> Retired
<input type="checkbox"/> Unemployed, job seeking	<input type="checkbox"/> Unemployed, not job seeking	

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Comments:

Please help us better understand your experience with Trich. What did we miss? What else would you like us to know?

Thank you!!

Thank you so much for taking the time to fill out this questionnaire. Your input and feedback are key components of this study and will help direct outreach and educational actions that will follow. Your participation is very much appreciated.

Please return this questionnaire in the enclosed postage-paid envelope.

If you wish to enter the raffle for the \$500 Cabela's gift card, return **SEPARATELY** the postage-paid postcard. Please make sure to include your preferred contact information so you can be notified if your name is drawn as the winner.

If you would like a copy of the aggregated survey results, please contact us by phone or e-mail and we will be happy to send them. Preliminary results will be ready by Summer 2013.

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