

```

1  PROC SQL;
2  CREATE TABLE WORK.query AS
3  SELECT CASEID , Q1 , STATE , REGION , Q2C1 , Q2C1T1 , Q2C1T2 , Q2C2 , Q2C2T1 , Q2C2T2 , Q3A , Q3B , Q3C , Q3D , Q4
4  RUN;
5  QUIT;
6
7  PROC DATASETS NOLIST NODetails;
8  CONTENTS DATA=WORK.query OUT=WORK.details;
9  RUN;
10
11 PROC PRINT DATA=WORK.details;
12 RUN;
13 /*thesis */
14
15 libname sasintro "/folders/myfolders/";
16 proc print data =sasintro.dakotal5;
17 run;
18
19 /*data cleaning proceess, delete missing variable*/
20
21 data sasintro.dakotal5clean;
22 set sasintro.dakotal5;
23 if Q19 = 9 then Q19=.;
24 if Q20 = 9 then Q20=.;
25 if Q21 = 9 then Q21=.;
26 if Q22 = 9 then Q22=.;
27 if Q22 = 5 then Q22=.;
28 if Q23 = 1 then Q23=12;
29 if Q23 = 2 then Q23=12;
30 if Q4=7 then Q4=.;
31 if Q15a1=9 then Q15a1=.;
32 if Q15a2=9 then Q15a2=.;
33 if Q15a3=9 then Q15a3=.;
34 if Q15a4=9 then Q15a4=.;
35 if Q15a5=9 then Q15a5=.;
36 if Q15a6=9 then Q15a6=.;
37 if Q15a7=9 then Q15a7=.;
38 if Q15a8=9 then Q15a8=.;
39 if Q15a9=9 then Q15a9=.;
40 if Q15a10=9 then Q15a10=.;
41 if Q15b= 99 then Q15b=.;
42 if Q15ACHEC=9 then Q15ACHEC=.;
43 run;
44 proc print data=sasintro.dakotal5clean;run;
45
46
47 /*question 1*/
48
49 proc format;
50 value operation
51 1='Have been a farm operator'
52 2='less than 10 years as a farm operator'
53 3='10 to 10 years as a farm operator'
54 4='20 to 29 years as a farm operator'
55 5='30 years or more as a farm operator'
56 ;
57 run;
58
59 proc freq data=sasintro.dakotal5;
60 label Q1 ='Years as a farm opertor';
61 tables Q1*State /norow nocol nocum;
62 format Q1 operation.;
63 run;
64
65 proc format;
66 value operation
67 1='Have been a farm operator'
68 2='less than 10 years as a farm operator'
69 3='10 to 10 years as a farm operator'
70 4='20 to 29 years as a farm operator'
71 5='30 years or more as a farm operator'
72 ;
73 run;
74
75 proc freq data=sasintro.dakotal5;

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76 label Q1 ='Years as a farm opertor';
77 tables Q1*Region /norow nocol nocum;
78 format Q1 operation.;
79 run;
80
81
82 /** Summary Statistics on 3a with Means**/
83
84 proc format;
85 value Farmland 10-259='1 to 259 acres'
86                 260-499='260 to 499 acres'
87                 500-999='500 to 999 acres'
88                 1000-1999='1000 to 1999 acres'
89                 2000-4999='2000 to 4999 acres'
90                 5000-high ='5000 acres and above';
91 run;
92
93 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
94 class State;
95 var Q3a;
96 label CaseID='State'
97        Q3a ='Total Farmland acres';
98 format CaseID State.;
99 run;
100
101
102 proc format;
103 value Farmland 10-259='1 to 259 acres'
104                 260-499='260 to 499 acres'
105                 500-999='500 to 999 acres'
106                 1000-1999='1000 to 1999 acres'
107                 2000-4999='2000 to 4999 acres'
108                 5000-high ='5000 acres and above';
109 run;
110
111 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
112 class Region;
113 var Q3a;
114 label Q3a ='Total Farmland acres';
115 run;
116
117 /** Summary Statistics on 3a, frequency with chisq**/
118
119 proc format;
120 value Farmland 10-259='1 to 259 acres'
121                 260-499='260 to 499 acres'
122                 500-999='500 to 999 acres'
123                 1000-1999='1000 to 1999 acres'
124                 2000-4999='2000 to 4999 acres'
125                 5000-high ='5000 acres and above';
126 run;
127
128 proc freq data=sasintro.dakota15;
129 tables Q3a*State /chisq;
130 format Q3a Farmland. ;
131 run;
132
133 proc format;
134 value Farmland 10-259='1 to 259 acres'
135                 260-499='260 to 499 acres'
136                 500-999='500 to 999 acres'
137                 1000-1999='1000 to 1999 acres'
138                 2000-4999='2000 to 4999 acres'
139                 5000-high ='5000 acres and above';
140 run;
141
142 proc freq data=sasintro.dakota15;
143 tables Q3a*Region /chisq;
144 format Q3a Farmland.;
145 run;
146
147
148 /** question 10 **/
149 proc format;
150 value Impact
151     1='No Impact'

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152     2='Slight Impact'
153     3='Some Impact'
154     4='Quite a bit of Impact'
155     5='Great Impact';
156 run;
157 proc freq data=sasintro.dakota15;
158 label
159     Q10a1='Changing crop prices'
160     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
161     Q10a3='Availability of crop and revenue insurance policies'
162     Q10a4='Availability of drought-tolerant seed'
163     Q10a5='Developments in pest management practices, including pest management seed traits'
164     Q10a6='Improved crop yields (other than seed related traits)'
165     Q10a7='Development of more efficient cropping equipment'
166     Q10a8='Labor availability problems'
167     Q10a9='Improving wildlife habitat'
168     Q10a10='Changing weather /climate patterns';
169 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*STATE/norow;
170 format Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
171 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
172 run;
173
174 *question 10b;
175
176 proc format;
177 value State
178     1001-2182,9002='North Dakota'
179     2183-4000,9001='South Dakota';
180 value gimpact
181     01 = 'Changing crop prices'
182     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
183     03 = 'Availability of crop and revenue insurance policies'
184     04= 'Availability of drought-tolerant seed'
185     05= 'Developments in pest management practices, including pest management seed traits'
186     06= 'Improved crop yields (other than seed related traits) '
187     07 = 'Development of more efficient cropping equipment'
188     08 = 'Labor availability problems'
189     09 = 'Improving wildlife habitat'
190     10 = 'Changing weather /climate patterns';
191 proc tabulate data=sasintro.dakota15;
192 class STATE Q10b;
193 tables Q10b,STATE;
194 format Q10b gimpact.;
195 run;
196
197 /*my data anyalysis start */
198
199 /* region and state based means analysis question 10a */
200
201 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
202 class region;
203 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
204 label
205     Q10a1='Changing crop prices'
206     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
207     Q10a3='Availability of crop and revenue insurance policies'
208     Q10a4='Availability of drought-tolerant seed'
209     Q10a5='Developments in pest management practices, including pest management seed traits'
210     Q10a6='Improved crop yields (other than seed related traits)'
211     Q10a7='Development of more efficient cropping equipment'
212     Q10a8='Labor availability problems'
213     Q10a9='Improving wildlife habitat'
214     Q10a10='Changing weather /climate patterns';
215 run;
216
217
218 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
219 class state;
220 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
221 label
222     Q10a1='Changing crop prices'
223     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
224     Q10a3='Availability of crop and revenue insurance policies'
225     Q10a4='Availability of drought-tolerant seed'
226     Q10a5='Developments in pest management practices, including pest management seed traits'
227     Q10a6='Improved crop yields (other than seed related traits)'

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228     Q10a7='Development of more efficient cropping equipment'
229     Q10a8='Labor availability problems'
230     Q10a9='Improving wildlife habitat'
231     Q10a10='Changing weather /climate patterns';
232 run;
233
234
235 /*region and State based frequency analysis question 10a */
236
237
238 proc format;
239 value Impact
240     1='No Impact'
241     2='Slight Impact'
242     3='Some Impact'
243     4='Quite a bit of Impact'
244     5='Great Impact';
245 run;
246 proc freq data=sasintro.dakota15;
247 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Region / norow nocum;
248 format CaseID region. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
249 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
250 run;
251
252
253 proc format;
254 value Impact
255     1='No Impact'
256     2='Slight Impact'
257     3='Some Impact'
258     4='Quite a bit of Impact'
259     5='Great Impact';
260 run;
261 proc freq data=sasintro.dakota15;
262 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*State / norow nocum;
263 format CaseID State. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
264 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
265 run;
266
267 /*region and State based frequency question 10a with chisq*/
268
269 proc format;
270 value Impact
271     1='No Impact'
272     2='Slight Impact'
273     3='Some Impact'
274     4='Quite a bit of Impact'
275     5='Great Impact';
276 run;
277 proc freq data=sasintro.dakota15;
278 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Region /chisq;
279 format CaseID region. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
280 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
281 run;
282
283
284 proc format;
285 value Impact
286     1='No Impact'
287     2='Slight Impact'
288     3='Some Impact'
289     4='Quite a bit of Impact'
290     5='Great Impact';
291 run;
292 proc freq data=sasintro.dakota15;
293 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*State / chisq;
294 format CaseID State. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
295 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
296 run;
297
298
299 /* proc tabulate region and state based 10a*/
300
301 proc tabulate data=sasintro.dakota15 format=6.;
302 class Region;
303 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;

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304 label
305     Q10a1='Changing crop prices'
306     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
307     Q10a3='Availability of crop and revenue insurance policies'
308     Q10a4='Availability of drought-tolerant seed'
309     Q10a5='Developments in pest management practices, including pest management seed traits'
310     Q10a6='Improved crop yields (other than seed related traits)'
311     Q10a7='Development of more efficient cropping equipment'
312     Q10a8='Labor availability problems'
313     Q10a9='Improving wildlife habitat'
314     Q10a10='Changing weather /climate patterns';
315 table (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10),Region;
316 run;
317
318
319 proc tabulate data=sasintro.dakota15 format=6.;
320 class State;
321 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
322 label
323     Q10a1='Changing crop prices'
324     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
325     Q10a3='Availability of crop and revenue insurance policies'
326     Q10a4='Availability of drought-tolerant seed'
327     Q10a5='Developments in pest management practices, including pest management seed traits'
328     Q10a6='Improved crop yields (other than seed related traits)'
329     Q10a7='Development of more efficient cropping equipment'
330     Q10a8='Labor availability problems'
331     Q10a9='Improving wildlife habitat'
332     Q10a10='Changing weather /climate patterns';
333 table (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10),State;
334 run;
335
336
337 /* 10b tabulate analysis region and state based */
338
339 proc format;
340 value State
341     1001-2182,9002='North Dakota'
342     2183-4000,9001='South Dakota';
343 value gimpact
344     01 = 'Changing crop prices'
345     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
346     03 = 'Availability of crop and revenue insurance policies'
347     04 = 'Availability of drought-tolerant seed'
348     05 = 'Developments in pest management practices, including pest management seed traits'
349     06 = 'Improved crop yields (other than seed related traits) '
350     07 = 'Development of more efficient cropping equipment'
351     08 = 'Labor availability problems'
352     09 = 'Improving wildlife habitat'
353     10 = 'Changing weather /climate patterns';
354 proc tabulate data=sasintro.dakota15;
355 class STATE Q10b;
356 tables Q10b,STATE;
357 format Q10b gimpact.;
358 run;
359
360 proc format;
361 value State
362     1001-2182,9002='North Dakota'
363     2183-4000,9001='South Dakota';
364 value gimpact
365     01 = 'Changing crop prices'
366     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
367     03 = 'Availability of crop and revenue insurance policies'
368     04 = 'Availability of drought-tolerant seed'
369     05 = 'Developments in pest management practices, including pest management seed traits'
370     06 = 'Improved crop yields (other than seed related traits) '
371     07 = 'Development of more efficient cropping equipment'
372     08 = 'Labor availability problems'
373     09 = 'Improving wildlife habitat'
374     10 = 'Changing weather /climate patterns';
375 run;
376 proc tabulate data=sasintro.dakota15;
377 class region;
378 tables Q10b, Region;
379 format Q10b gimpact.;

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```

380 run;
381
382
383 /* 10b means analysis region and state based */
384
385 proc format;
386 value State
387     1001-2182,9002='North Dakota'
388     2183-4000,9001='South Dakota';
389 value gimpact
390     01 = 'Changing crop prices'
391     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
392     03 = 'Availability of crop and revenue insurance policies'
393     04= 'Availability of drought-tolerant seed'
394     05= 'Developments in pest management practices, including pest management seed traits'
395     06= 'Improved crop yields (other than seed related traits) '
396     07 = 'Development of more efficient cropping equipment'
397     08 = 'Labor availability problems'
398     09 = 'Improving wildlife habitat'
399     10 = 'Changing weather /climate patterns';
400 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
401 class State;
402 var Q10B;
403 format Q10b gimpact.;
404 run;
405
406
407
408 proc format;
409 value State
410     1001-2182,9002='North Dakota'
411     2183-4000,9001='South Dakota';
412 value gimpact
413     01 = 'Changing crop prices'
414     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
415     03 = 'Availability of crop and revenue insurance policies'
416     04= 'Availability of drought-tolerant seed'
417     05= 'Developments in pest management practices, including pest management seed traits'
418     06= 'Improved crop yields (other than seed related traits) '
419     07 = 'Development of more efficient cropping equipment'
420     08 = 'Labor availability problems'
421     09 = 'Improving wildlife habitat'
422     10 = 'Changing weather /climate patterns';
423 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
424 class Region;
425 var Q10B;
426 format Q10b gimpact.;
427 run;
428
429 /* 10b frequency distribution analysis region and state based */
430
431 proc format;
432 value State
433     1001-2182,9002='North Dakota'
434     2183-4000,9001='South Dakota';
435 value gimpact
436     01 = 'Changing crop prices'
437     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
438     03 = 'Availability of crop and revenue insurance policies'
439     04= 'Availability of drought-tolerant seed'
440     05= 'Developments in pest management practices, including pest management seed traits'
441     06= 'Improved crop yields (other than seed related traits) '
442     07 = 'Development of more efficient cropping equipment'
443     08 = 'Labor availability problems'
444     09 = 'Improving wildlife habitat'
445     10 = 'Changing weather /climate patterns';
446 run;
447 proc freq data=sasintro.dakota15;
448 label
449     Q10B ='Greatest Impact on Changes in Land Use';
450 tables Q10B *Region / nocum;
451 format Q10B gimpact.;
452 run;
453
454
455 proc format;

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456 value State
457     1001-2182,9002='North Dakota'
458     2183-4000,9001='South Dakota';
459 value gimpact
460     01 = 'Changing crop prices'
461     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
462     03 = 'Availability of crop and revenue insurance policies'
463     04= 'Availability of drought-tolerant seed'
464     05= 'Developments in pest management practices, including pest management seed traits'
465     06= 'Improved crop yields (other than seed related traits) '
466     07 = 'Development of more efficient cropping equipment'
467     08 = 'Labor availability problems'
468     09 = 'Improving wildlife habitat'
469     10 = 'Changing weather /climate patterns';
470 proc freq data=sasintro.dakota15;
471 label
472     Q10B ='Greatest Impact on Changes in Land Use';
473 tables Q10B *STATE/ norow nocum;
474 format Q10B gimpact. ;
475 run;
476
477 /* 10b frequency distribution analysis region and state based with chisq */
478
479 proc format;
480 value State
481     1001-2182,9002='North Dakota'
482     2183-4000,9001='South Dakota';
483 value gimpact
484     01 = 'Changing crop prices'
485     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
486     03 = 'Availability of crop and revenue insurance policies'
487     04= 'Availability of drought-tolerant seed'
488     05= 'Developments in pest management practices, including pest management seed traits'
489     06= 'Improved crop yields (other than seed related traits) '
490     07 = 'Development of more efficient cropping equipment'
491     08 = 'Labor availability problems'
492     09 = 'Improving wildlife habitat'
493     10 = 'Changing weather /climate patterns';
494 run;
495 proc freq data=sasintro.dakota15;
496 label
497     Q10B ='Greatest Impact on Changes in Land Use';
498 tables Q10B *Region / chisq;
499 format Q10B gimpact.;
500 run;
501
502
503 proc format;
504 value State
505     1001-2182,9002='North Dakota'
506     2183-4000,9001='South Dakota';
507 value gimpact
508     01 = 'Changing crop prices'
509     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
510     03 = 'Availability of crop and revenue insurance policies'
511     04= 'Availability of drought-tolerant seed'
512     05= 'Developments in pest management practices, including pest management seed traits'
513     06= 'Improved crop yields (other than seed related traits) '
514     07 = 'Development of more efficient cropping equipment'
515     08 = 'Labor availability problems'
516     09 = 'Improving wildlife habitat'
517     10 = 'Changing weather /climate patterns';
518 proc freq data=sasintro.dakota15;
519 label
520     Q10B ='Greatest Impact on Changes in Land Use';
521 tables Q10B *STATE / chisq;
522 format Q10B gimpact.;
523 run;
524
525
526 /* Q10a and means by selected farm operator 19-23 plus 1, 3a and 4*/
527
528 proc format;
529 value Age
530     1='19 to 34 years'
531     2='35 to 49 years'

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532     3='50 to 59 years'
533     4='60 to 69 years'
534     5='70 years and over';
535
536 value Gender
537     1='Male'
538     2='Female';
539
540
541 value Education
542     1='Less than high school'
543     2='High school'
544     3='Some college/technical school'
545     4='4-year college degree'
546     5='Advanced degree (Masters, etc.)';
547
548
549 value Occupation
550     1='Farming or Ranching'
551     2='Employment in off-farm job'
552     3='Own/operate a non-farm business'
553     4='Retired';
554
555 value Sales
556
557     12='Less than $99,999'
558     3='From $100,000 up to $249,999'
559     4='From $250,000 up to $499,999'
560     5='From $500,000 up to $999,999'
561     6='$1 million or more';
562 run;
563
564
565 proc means data=sasintro.dakotal5clean n nmiss sum min max mean std maxdec=1;
566 class Q19;
567 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
568 label Q19='Respondent Age'
569     Q10a1='Changing crop prices'
570     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
571     Q10a3='Availability of crop and revenue insurance policies'
572     Q10a4='Availability of drought-tolerant seed'
573     Q10a5='Developments in pest management practices, including pest management seed traits'
574     Q10a6='Improved crop yields (other than seed related traits)'
575     Q10a7='Development of more efficient cropping equipment'
576     Q10a8='Labor availability problems'
577     Q10a9='Improving wildlife habitat'
578     Q10a10='Changing weather /climate patterns';
579 format Q19 Age.;
580 run;
581
582
583 proc means data=sasintro.dakotal5clean n nmiss sum min max mean std maxdec=1;
584 class Q20;
585 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
586 label Q20='Respondent Gender'
587     Q10a1='Changing crop prices'
588     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
589     Q10a3='Availability of crop and revenue insurance policies'
590     Q10a4='Availability of drought-tolerant seed'
591     Q10a5='Developments in pest management practices, including pest management seed traits'
592     Q10a6='Improved crop yields (other than seed related traits)'
593     Q10a7='Development of more efficient cropping equipment'
594     Q10a8='Labor availability problems'
595     Q10a9='Improving wildlife habitat'
596     Q10a10='Changing weather /climate patterns';
597 format Q20 Gender.;
598 run;
599
600 proc means data=sasintro.dakotal5clean n nmiss sum min max mean std maxdec=1;
601 class Q21;
602 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
603 label Q21='Respondent Level of Education'
604     Q10a1='Changing crop prices'
605     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
606     Q10a3='Availability of crop and revenue insurance policies'
607     Q10a4='Availability of drought-tolerant seed'

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608     Q10a5='Developments in pest management practices, including pest management seed traits'
609     Q10a6='Improved crop yields (other than seed related traits)'
610     Q10a7='Development of more efficient cropping equipment'
611     Q10a8='Labor availability problems'
612     Q10a9='Improving wildlife habitat'
613     Q10a10='Changing weather /climate patterns';
614 format Q21 Education.;
615 run;
616
617 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
618 class Q22;
619 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
620 label Q22='Principal Occupation'
621     Q10a1='Changing crop prices'
622     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
623     Q10a3='Availability of crop and revenue insurance policies'
624     Q10a4='Availability of drought-tolerant seed'
625     Q10a5='Developments in pest management practices, including pest management seed traits'
626     Q10a6='Improved crop yields (other than seed related traits)'
627     Q10a7='Development of more efficient cropping equipment'
628     Q10a8='Labor availability problems'
629     Q10a9='Improving wildlife habitat'
630     Q10a10='Changing weather /climate patterns';
631 format Q22 Occupation.;
632 run;
633
634 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
635 class Q23;
636 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
637 label Q23='Gross farm/ranch sales'
638     Q10a1='Changing crop prices'
639     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
640     Q10a3='Availability of crop and revenue insurance policies'
641     Q10a4='Availability of drought-tolerant seed'
642     Q10a5='Developments in pest management practices, including pest management seed traits'
643     Q10a6='Improved crop yields (other than seed related traits)'
644     Q10a7='Development of more efficient cropping equipment'
645     Q10a8='Labor availability problems'
646     Q10a9='Improving wildlife habitat'
647     Q10a10='Changing weather /climate patterns';
648 format Q23 Sales.;
649 run;
650
651
652 proc format;
653 value operation
654     1='Have been a farm operator'
655     2='less than 10 years as a farm operator'
656     3='10 to 10 years as a farm operator'
657     4='20 to 29 years as a farm operator'
658     5='30 years or more as a farm operator'
659     ;
660 run;
661
662 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
663 class Q1;
664 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
665 label Q1='Years as a farm opertor'
666     Q10a1='Changing crop prices'
667     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
668     Q10a3='Availability of crop and revenue insurance policies'
669     Q10a4='Availability of drought-tolerant seed'
670     Q10a5='Developments in pest management practices, including pest management seed traits'
671     Q10a6='Improved crop yields (other than seed related traits)'
672     Q10a7='Development of more efficient cropping equipment'
673     Q10a8='Labor availability problems'
674     Q10a9='Improving wildlife habitat'
675     Q10a10='Changing weather /climate patterns';
676 format Q1 operation.;
677 run;
678
679 proc format;
680 value Farmland 10-259='1 to 259 acres'
681     260-499='260 to 499 acres'
682     500-999='500 to 999 acres'
683     1000-1999='1000 to 1999 acres'

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684         2000-4999='2000 to 4999 acres'
685         5000-high ='5000 acres and above';
686 run;
687
688 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
689 class Q3a;
690 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
691 label Q3a ='Farmland acres operated in 2014'
692       Q10a1='Changing crop prices'
693       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
694       Q10a3='Availability of crop and revenue insurance policies'
695       Q10a4='Availability of drought-tolerant seed'
696       Q10a5='Developments in pest management practices, including pest management seed traits'
697       Q10a6='Improved crop yields (other than seed related traits)'
698       Q10a7='Development of more efficient cropping equipment'
699       Q10a8='Labor availability problems'
700       Q10a9='Improving wildlife habitat'
701       Q10a10='Changing weather /climate patterns';
702 format Q3a Farmland.;
703 run;
704
705 proc format;
706 value Ownership
707     1='Own all acres farmed'
708     2='Own most acres farmed, rented the remainder'
709     3='Own and rent roughly equal number of farmland acres'
710     4='Rented most of the acres farmed,owned the remainder'
711     5='Rented all acres farmland'
712     6='Professional farm manager';
713 run;
714
715 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
716 class Q4;
717 var Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
718 label Q4 ='Best Ownership Status in 2014'
719       Q10a1='Changing crop prices'
720       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
721       Q10a3='Availability of crop and revenue insurance policies'
722       Q10a4='Availability of drought-tolerant seed'
723       Q10a5='Developments in pest management practices, including pest management seed traits'
724       Q10a6='Improved crop yields (other than seed related traits)'
725       Q10a7='Development of more efficient cropping equipment'
726       Q10a8='Labor availability problems'
727       Q10a9='Improving wildlife habitat'
728       Q10a10='Changing weather /climate patterns';
729 format Q4 Ownership.;
730 run;
731
732
733 /* Q10a and frequency distribution by selected farm operator 19-23 plus 1, 3a and 4*/
734
735 proc format;
736 value Age
737     1='19 to 34 years'
738     2='35 to 49 years'
739     3='50 to 59 years'
740     4='60 to 69 years'
741     5='70 years and over';
742
743 value Gender
744     1='Male'
745     2='Female';
746
747 value Education
748     1='Less than high school'
749     2='High school'
750     3='Some college/technical school'
751     4='4-year college degree'
752     5='Advanced degree (Masters, etc.)';
753
754 value Occupation
755     1='Farming or Ranching'
756     2='Employment in off-farm job'
757     3='Own/operate a non-farm business'
758     4='Retired';
759

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760 value Sales
761
762     12='Less than $99,999'
763     3='From $100,000 up to $249,999'
764     4='From $250,000 up to $499,999'
765     5='From $500,000 up to $999,999'
766     6='$1 million or more'
767
768 proc format;
769 value Impact
770     1='No Impact'
771     2='Slight Impact'
772     3='Some Impact'
773     4='Quite a bit of Impact'
774     5='Great Impact';
775 run;
776
777
778 proc freq data=sasintro.dakotal5clean;
779 label Q19='Respondent Age'
780     Q10a1='Changing crop prices'
781     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
782     Q10a3='Availability of crop and revenue insurance policies'
783     Q10a4='Availability of drought-tolerant seed'
784     Q10a5='Developments in pest management practices, including pest management seed traits'
785     Q10a6='Improved crop yields (other than seed related traits)'
786     Q10a7='Development of more efficient cropping equipment'
787     Q10a8='Labor availability problems'
788     Q10a9='Improving wildlife habitat'
789     Q10a10='Changing weather /climate patterns';
790 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q19/norow;
791 format Q19 Age. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
792 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
793 run;
794
795 proc freq data=sasintro.dakotal5clean;
796 label Q20='Respondent Gender'
797     Q10a1='Changing crop prices'
798     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
799     Q10a3='Availability of crop and revenue insurance policies'
800     Q10a4='Availability of drought-tolerant seed'
801     Q10a5='Developments in pest management practices, including pest management seed traits'
802     Q10a6='Improved crop yields (other than seed related traits)'
803     Q10a7='Development of more efficient cropping equipment'
804     Q10a8='Labor availability problems'
805     Q10a9='Improving wildlife habitat'
806     Q10a10='Changing weather /climate patterns';
807 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q20/norow;
808 format Q20 Gender. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
809 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
810 run;
811
812 proc freq data=sasintro.dakotal5clean;
813 label Q21='Respondent Level of Education'
814     Q10a1='Changing crop prices'
815     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
816     Q10a3='Availability of crop and revenue insurance policies'
817     Q10a4='Availability of drought-tolerant seed'
818     Q10a5='Developments in pest management practices, including pest management seed traits'
819     Q10a6='Improved crop yields (other than seed related traits)'
820     Q10a7='Development of more efficient cropping equipment'
821     Q10a8='Labor availability problems'
822     Q10a9='Improving wildlife habitat'
823     Q10a10='Changing weather /climate patterns';
824 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q21/norow;
825 format Q21 Education. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
826 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
827 run;
828
829 proc freq data=sasintro.dakotal5clean;
830 label Q22='Principal Occupation'
831     Q10a1='Changing crop prices'
832     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
833     Q10a3='Availability of crop and revenue insurance policies'
834     Q10a4='Availability of drought-tolerant seed'
835     Q10a5='Developments in pest management practices, including pest management seed traits'

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836 Q10a6='Improved crop yields (other than seed related traits)'
837 Q10a7='Development of more efficient cropping equipment'
838 Q10a8='Labor availability problems'
839 Q10a9='Improving wildlife habitat'
840 Q10a10='Changing weather /climate patterns';
841 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q22/norow;
842 format Q22 Occupation. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
843 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
844 run;
845
846 proc freq data=sasintro.dakotal5clean;
847 label Q23='Gross farm/ranch sales'
848 Q10a1='Changing crop prices'
849 Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
850 Q10a3='Availability of crop and revenue insurance policies'
851 Q10a4='Availability of drought-tolerant seed'
852 Q10a5='Developments in pest management practices, including pest management seed traits'
853 Q10a6='Improved crop yields (other than seed related traits)'
854 Q10a7='Development of more efficient cropping equipment'
855 Q10a8='Labor availability problems'
856 Q10a9='Improving wildlife habitat'
857 Q10a10='Changing weather /climate patterns';
858 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q23/norow;
859 format Q23 Sales. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
860 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
861 run;
862
863
864 proc format;
865 value operation
866 1='Have been a farm operator'
867 2='less than 10 years as a farm operator'
868 3='10 to 10 years as a farm operator'
869 4='20 to 29 years as a farm operator'
870 5='30 years or more as a farm operator'
871 ;
872 run;
873
874 proc freq data=sasintro.dakotal5clean;
875 label Q1='Years as a farm opertor'
876 Q10a1='Changing crop prices'
877 Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
878 Q10a3='Availability of crop and revenue insurance policies'
879 Q10a4='Availability of drought-tolerant seed'
880 Q10a5='Developments in pest management practices, including pest management seed traits'
881 Q10a6='Improved crop yields (other than seed related traits)'
882 Q10a7='Development of more efficient cropping equipment'
883 Q10a8='Labor availability problems'
884 Q10a9='Improving wildlife habitat'
885 Q10a10='Changing weather /climate patterns';
886 tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q1/norow;
887 format Q1 Operation. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
888 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
889 run;
890
891 proc format;
892 value Farmland 10-259='1 to 259 acres'
893 260-499='260 to 499 acres'
894 500-999='500 to 999 acres'
895 1000-1999='1000 to 1999 acres'
896 2000-4999='2000 to 4999 acres'
897 5000-high='5000 acres and above';
898 run;
899
900 proc freq data=sasintro.dakotal5clean;
901 label Q3a='Farmland Acres Operated in 2014'
902 Q10a1='Changing crop prices'
903 Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
904 Q10a3='Availability of crop and revenue insurance policies'
905 Q10a4='Availability of drought-tolerant seed'
906 Q10a5='Developments in pest management practices, including pest management seed traits'
907 Q10a6='Improved crop yields (other than seed related traits)'
908 Q10a7='Development of more efficient cropping equipment'
909 Q10a8='Labor availability problems'
910 Q10a9='Improving wildlife habitat'
911 Q10a10='Changing weather /climate patterns';

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912 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q3a/norow;
913 format Q3a Farmland. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
914 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
915 run;
916
917
918 proc format;
919 value Ownership
920     1='Own all acres farmed'
921     2='Own most acres farmed, rented the remainder'
922     3='Own and rent roughly equal number of farmland acres'
923     4='Rented most of the acres farmed,owned the remainder'
924     5='Rented all acres farmland'
925     6='Professional farm manager';
926 run;
927
928 proc freq data=sasintro.dakotal5clean;
929 label Q4 ='Best Ownersip Status in 2014'
930       Q10a1='Changing crop prices'
931       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
932       Q10a3='Availability of crop and revenue insurance policies'
933       Q10a4='Availability of drought-tolerant seed'
934       Q10a5='Developments in pest management practices, including pest management seed traits'
935       Q10a6='Improved crop yields (other than seed related traits)'
936       Q10a7='Development of more efficient cropping equipment'
937       Q10a8='Labor availability problems'
938       Q10a9='Improving wildlife habitat'
939       Q10a10='Changing weather /climate patterns';
940 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q4/norow;
941 format Q4 Ownership. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
942 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
943 run;
944
945 /* 10a frequency distribution by Selected Farm operator(19-23, 1,3a and 4 with chisqu*/
946
947 proc format;
948 value Age
949     1='19 to 34 years'
950     2='35 to 49 years'
951     3='50 to 59 years'
952     4='60 to 69 years'
953     5='70 years and over';
954
955 value Gender
956     1='Male'
957     2='Female';
958
959 value Education
960     1='Less than high school'
961     2='High school'
962     3='Some college/technical school'
963     4='4-year college degree'
964     5='Advanced degree (Masters, etc.)';
965
966 value Occupation
967     1='Farming or Ranching'
968     2='Employment in off-farm job'
969     3='Own/operate a non-farm business'
970     4='Retired';
971
972 value Sales
973
974     12='Less than $99,999'
975     3='From $100,000 up to $249,999'
976     4='From $250,000 up to $499,999'
977     5='From $500,000 up to $999,999'
978     6='$1 million or more';
979
980
981 proc format;
982 value Impact
983     1='No Impact'
984     2='Slight Impact'
985     3='Some Impact'
986     4='Quite a bit of Impact'
987     5='Great Impact';

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988 run;
989
990 proc freq data=sasintro.dakotal5clean;
991 label Q19='Respondent Age'
992       Q10a1='Changing crop prices'
993       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
994       Q10a3='Availability of crop and revenue insurance policies'
995       Q10a4='Availability of drought-tolerant seed'
996       Q10a5='Developments in pest management practices, including pest management seed traits'
997       Q10a6='Improved crop yields (other than seed related traits)'
998       Q10a7='Development of more efficient cropping equipment'
999       Q10a8='Labor availability problems'
1000      Q10a9='Improving wildlife habitat'
1001      Q10a10='Changing weather /climate patterns';
1002 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q19/chisq;
1003 format Q19 Age. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1004 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1005 run;
1006
1007 proc freq data=sasintro.dakotal5clean;
1008 label Q20='Respondent Gender'
1009       Q10a1='Changing crop prices'
1010       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1011       Q10a3='Availability of crop and revenue insurance policies'
1012       Q10a4='Availability of drought-tolerant seed'
1013       Q10a5='Developments in pest management practices, including pest management seed traits'
1014       Q10a6='Improved crop yields (other than seed related traits)'
1015       Q10a7='Development of more efficient cropping equipment'
1016       Q10a8='Labor availability problems'
1017       Q10a9='Improving wildlife habitat'
1018       Q10a10='Changing weather /climate patterns';
1019 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q20/chisq;
1020 format Q20 Gender. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1021 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1022 run;
1023
1024 proc freq data=sasintro.dakotal5clean;
1025 label Q21='Respondent Level of Education'
1026       Q10a1='Changing crop prices'
1027       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1028       Q10a3='Availability of crop and revenue insurance policies'
1029       Q10a4='Availability of drought-tolerant seed'
1030       Q10a5='Developments in pest management practices, including pest management seed traits'
1031       Q10a6='Improved crop yields (other than seed related traits)'
1032       Q10a7='Development of more efficient cropping equipment'
1033       Q10a8='Labor availability problems'
1034       Q10a9='Improving wildlife habitat'
1035       Q10a10='Changing weather /climate patterns';
1036 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q21/chisq;
1037 format Q21 Education. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1038 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1039 run;
1040
1041 proc freq data=sasintro.dakotal5clean;
1042 label Q22='Principal Occupation'
1043       Q10a1='Changing crop prices'
1044       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1045       Q10a3='Availability of crop and revenue insurance policies'
1046       Q10a4='Availability of drought-tolerant seed'
1047       Q10a5='Developments in pest management practices, including pest management seed traits'
1048       Q10a6='Improved crop yields (other than seed related traits)'
1049       Q10a7='Development of more efficient cropping equipment'
1050       Q10a8='Labor availability problems'
1051       Q10a9='Improving wildlife habitat'
1052       Q10a10='Changing weather /climate patterns';
1053 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q22/chisq;
1054 format Q22 Occupation. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1055 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1056 run;
1057
1058 proc freq data=sasintro.dakotal5clean;
1059 label Q23='Gross farm/ranch sales'
1060       Q10a1='Changing crop prices'
1061       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1062       Q10a3='Availability of crop and revenue insurance policies'
1063       Q10a4='Availability of drought-tolerant seed'

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1064      Q10a5='Developments in pest management practices, including pest management seed traits'
1065      Q10a6='Improved crop yields (other than seed related traits)'
1066      Q10a7='Development of more efficient cropping equipment'
1067      Q10a8='Labor availability problems'
1068      Q10a9='Improving wildlife habitat'
1069      Q10a10='Changing weather /climate patterns';
1070  tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q23/chisq;
1071  format Q23 Sales. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1072  Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1073  run;
1074
1075
1076  proc format;
1077  value operation
1078      1='Have been a farm operator'
1079      2='less than 10 years as a farm operator'
1080      3='10 to 10 years as a farm operator'
1081      4='20 to 29 years as a farm operator'
1082      5='30 years or more as a farm operator'
1083      ;
1084  run;
1085
1086  proc freq data=sasintro.dakotal5clean;
1087  label Q1 ='Years as a farm opertor'
1088      Q10a1='Changing crop prices'
1089      Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1090      Q10a3='Availability of crop and revenue insurance policies'
1091      Q10a4='Availability of drought-tolerant seed'
1092      Q10a5='Developments in pest management practices, including pest management seed traits'
1093      Q10a6='Improved crop yields (other than seed related traits)'
1094      Q10a7='Development of more efficient cropping equipment'
1095      Q10a8='Labor availability problems'
1096      Q10a9='Improving wildlife habitat'
1097      Q10a10='Changing weather /climate patterns';
1098  tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q1/chisq;
1099  format Q1 Operation. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1100  Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1101  run;
1102
1103  proc format;
1104  value Farmland 10-259='1 to 259 acres'
1105      260-499='260 to 499 acres'
1106      500-999='500 to 999 acres'
1107      1000-1999='1000 to 1999 acres'
1108      2000-4999='2000 to 4999 acres'
1109      5000-high ='5000 acres and above';
1110  run;
1111
1112  proc freq data=sasintro.dakotal5clean;
1113  label Q3a ='Farmland Acres Operated in 2014'
1114      Q10a1='Changing crop prices'
1115      Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1116      Q10a3='Availability of crop and revenue insurance policies'
1117      Q10a4='Availability of drought-tolerant seed'
1118      Q10a5='Developments in pest management practices, including pest management seed traits'
1119      Q10a6='Improved crop yields (other than seed related traits)'
1120      Q10a7='Development of more efficient cropping equipment'
1121      Q10a8='Labor availability problems'
1122      Q10a9='Improving wildlife habitat'
1123      Q10a10='Changing weather /climate patterns';
1124  tables (Q10A1 Q10A2 Q10a3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q3a/chisq;
1125  format Q3a Farmland. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1126  Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1127  run;
1128
1129
1130  proc format;
1131  value Ownership
1132      1='Own all acres farmed'
1133      2='Own most acres farmed, rented the remainder'
1134      3='Own and rent roughly equal number of farmland acres'
1135      4='Rented most of the acres farmed,owned the remainder'
1136      5='Rented all acres farmland'
1137      6='Professional farm manager';
1138  run;
1139

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1140 proc freq data=sasintro.dakota15clean;
1141 label Q4 ='Best Ownersip Status in 2014'
1142       Q10a1='Changing crop prices'
1143       Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
1144       Q10a3='Availability of crop and revenue insurance policies'
1145       Q10a4='Availability of drought-tolerant seed'
1146       Q10a5='Developments in pest management practices, including pest management seed traits'
1147       Q10a6='Improved crop yields (other than seed related traits)'
1148       Q10a7='Development of more efficient cropping equipment'
1149       Q10a8='Labor availability problems'
1150       Q10a9='Improving wildlife habitat'
1151       Q10a10='Changing weather /climate patterns';
1152 tables (Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10)*Q4/chisq;
1153 format Q4 Ownership. Q10A1 Impact. Q10A2 Impact. Q10A3 Impact. Q10A4 Impact. Q10A5 Impact.
1154 Q10A6 Impact. Q10A7 Impact. Q10A8 Impact. Q10A9 Impact. Q10A10 Impact.;
1155 run;
1156
1157
1158 /*Qestion 3, More complete analysis of land use conversiob decisions (Q9 iteams)
1159 and land use conversion intentions (Q11 items) */
1160
1161 /*part one Q9 analysis with means*/
1162
1163
1164 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1165 class State;
1166 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN ;
1167 label
1168       Q9aYN='Conversion of native grass to cropland'
1169       Q9bYN='Conversion of tamend grassland to cropland'
1170       Q9cYN='Conversion of CRP land to cropland'
1171       Q9dYN='Conversion of CRP land to pasture/hay'
1172       Q9eYN='Enrollment of farmland acres to CRP'
1173       Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1174 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1175 Q9eYN Response. Q9fYN Response.;
1176 run;
1177
1178 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1179 class Region;
1180 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN ;
1181 label
1182       Q9aYN='Conversion of native grass to cropland'
1183       Q9bYN='Conversion of tamend grassland to cropland'
1184       Q9cYN='Conversion of CRP land to cropland'
1185       Q9dYN='Conversion of CRP land to pasture/hay'
1186       Q9eYN='Enrollment of farmland acres to CRP'
1187       Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1188 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1189 Q9eYN Response. Q9fYN Response.;
1190 run;
1191
1192
1193 /*part one Q9 analysis with frequency*/
1194
1195 proc format;
1196 value Response
1197     1='Yes'
1198     2='No';
1199 run;
1200 proc freq data=sasintro.dakota15clean;
1201 label
1202       Q9aYN='Conversion of native grass to cropland'
1203       Q9bYN='Conversion of tamend grassland to cropland'
1204       Q9cYN='Conversion of CRP land to cropland'
1205       Q9dYN='Conversion of CRP land to pasture/hay'
1206       Q9eYN='Enrollment of farmland acres to CRP'
1207       Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1208 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*State/norow;
1209 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1210 Q9eYN Response. Q9fYN Response.;
1211 run;
1212
1213
1214 proc format;
1215 value Response

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1216     1='Yes'
1217     2='No';
1218 run;
1219 proc freq data=sasintro.dakotal5clean;
1220 label
1221     Q9aYN='Conversion of native grass to cropland'
1222     Q9bYN='Conversion of tamend grassland to cropland'
1223     Q9cYN='Conversion of CRP land to cropland'
1224     Q9dYN='Conversion of CRP land to pasture/hay'
1225     Q9eYN='Enrollment of farmland acres to CRP'
1226     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1227 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)* Region/norow;
1228 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1229 Q9eYN Response. Q9fYN Response.;
1230 run;
1231
1232 /*part one Q9 analysis with frequency chisq */
1233
1234 proc format;
1235 value Response
1236     1='Yes'
1237     2='No';
1238 run;
1239 proc freq data=sasintro.dakotal5clean;
1240 label
1241     Q9aYN='Conversion of native grass to cropland'
1242     Q9bYN='Conversion of tamend grassland to cropland'
1243     Q9cYN='Conversion of CRP land to cropland'
1244     Q9dYN='Conversion of CRP land to pasture/hay'
1245     Q9eYN='Enrollment of farmland acres to CRP'
1246     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1247 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*state/chisq;
1248 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1249 Q9eYN Response. Q9fYN Response.;
1250 run;
1251
1252
1253 proc format;
1254 value Response
1255     1='Yes'
1256     2='No';
1257 run;
1258 proc freq data=sasintro.dakotal5clean;
1259 label
1260     Q9aYN='Conversion of native grass to cropland'
1261     Q9bYN='Conversion of tamend grassland to cropland'
1262     Q9cYN='Conversion of CRP land to cropland'
1263     Q9dYN='Conversion of CRP land to pasture/hay'
1264     Q9eYN='Enrollment of farmland acres to CRP'
1265     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1266 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)* Region/chisq;
1267 format Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1268 Q9eYN Response. Q9fYN Response.;
1269 run;
1270
1271 /*part one Q9 analysis with tabulate*/
1272
1273 proc tabulate data=sasintro.dakotal5clean format=6.;
1274 class state;
1275 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1276 label
1277     Q9aYN='Conversion of native grass to cropland'
1278     Q9bYN='Conversion of tamend grassland to cropland'
1279     Q9cYN='Conversion of CRP land to cropland'
1280     Q9dYN='Conversion of CRP land to pasture/hay'
1281     Q9eYN='Enrollment of farmland acres to CRP'
1282     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1283 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN), state;
1284 run;
1285
1286
1287 proc tabulate data=sasintro.dakotal5clean format=6.;
1288 class Region;
1289 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1290 label
1291     Q9aYN='Conversion of native grass to cropland'

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1292     Q9bYN='Conversion of tamend grassland to cropland'
1293     Q9cYN='Conversion of CRP land to cropland'
1294     Q9dYN='Conversion of CRP land to pasture/hay'
1295     Q9eYN='Enrollment of farmland acres to CRP'
1296     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1297 table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN), Region;
1298 run;
1299
1300
1301 /*part two Q9 state and region based analysis with means*/
1302
1303 proc format;
1304 value Farmacres 0 ='0 acres'
1305                1-99 = '1 to 99 acres'
1306                100-179 = '100 to 179 acres'
1307                180-259 = '180 to 259 acres'
1308                260-499 = '260 to 499 acres'
1309                500-high = '500 acrsa and above';
1310 run;
1311 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
1312 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC ;
1313 label
1314     Q9aAC='Conversion of native grass to cropland'
1315     Q9bAC='Conversion of tamend grassland to cropland'
1316     Q9cAC='Conversion of CRP land to cropland'
1317     Q9dAC='Conversion of CRP land to pasture/hay'
1318     Q9eAC='Enrollment of farmland acres to CRP'
1319     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1320 run;
1321
1322 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
1323 class Region;
1324 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC ;
1325 label
1326     Q9aAC='Conversion of native grass to cropland'
1327     Q9bAC='Conversion of tamend grassland to cropland'
1328     Q9cAC='Conversion of CRP land to cropland'
1329     Q9dAC='Conversion of CRP land to pasture/hay'
1330     Q9eAC='Enrollment of farmland acres to CRP'
1331     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1332 run;
1333
1334 /*part two, Q9 state and region based analysis with frequency*/
1335
1336 proc format;
1337 value Farmacres 0 ='0 acres'
1338                1-99 = '1 to 99 acres'
1339                100-179 = '100 to 179 acres'
1340                180-259 = '180 to 259 acres'
1341                260-499 = '260 to 499 acres'
1342                500-high = '500 acres and above';
1343 run;
1344 proc freq data=sasintro.dakota15;
1345 label
1346     Q9aAC='Conversion of native grass to cropland'
1347     Q9bAC='Conversion of tamend grassland to cropland'
1348     Q9cAC='Conversion of CRP land to cropland'
1349     Q9dAC='Conversion of CRP land to pasture/hay'
1350     Q9eAC='Enrollment of farmland acres to CRP'
1351     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1352 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*state/norow;
1353 format Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.
1354 Q9eAC Farmacres. Q9fAC Farmacres.;
1355 run;
1356
1357
1358 proc freq data=sasintro.dakota15;
1359 label
1360     Q9aAC='Conversion of native grass to cropland'
1361     Q9bAC='Conversion of tamend grassland to cropland'
1362     Q9cAC='Conversion of CRP land to cropland'
1363     Q9dAC='Conversion of CRP land to pasture/hay'
1364     Q9eAC='Enrollment of farmland acres to CRP'
1365     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1366 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*Region/norow;
1367 format Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.

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1368 Q9eAC Farmacres. Q9fAC Farmacres.;
1369 run;
1370
1371 /*part two, Q9 state and region based analysis with frequency with chisq*/
1372
1373 proc format;
1374 value Farmacres 0 ='0 acres'
1375                1-99 = '1 to 99 acres'
1376                100-179 = '100 to 179 acres'
1377                180-259 = '180 to 259 acres'
1378                260-499 = '260 to 499 acres'
1379                500-high = '500 acrsa and above';
1380 run;
1381 proc freq data=sasintro.dakota15;
1382 label
1383     Q9aAC='Conversion of native grass to cropland'
1384     Q9bAC='Conversion of tamend grassland to cropland'
1385     Q9cAC='Conversion of CRP land to cropland'
1386     Q9dAC='Conversion of CRP land to pasture/hay'
1387     Q9eAC='Enrollment of farmland acres to CRP'
1388     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1389 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*state/chisq;
1390 format Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.
1391 Q9eAC Farmacres. Q9fAC Farmacres.;
1392 run;
1393
1394
1395 proc freq data=sasintro.dakota15;
1396 label
1397     Q9aAC='Conversion of native grass to cropland'
1398     Q9bAC='Conversion of tamend grassland to cropland'
1399     Q9cAC='Conversion of CRP land to cropland'
1400     Q9dAC='Conversion of CRP land to pasture/hay'
1401     Q9eAC='Enrollment of farmland acres to CRP'
1402     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1403 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*Region/chisq;
1404 format Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.
1405 Q9eAC Farmacres. Q9fAC Farmacres.;
1406 run;
1407
1408
1409 /*part two, state and region Q9 analysis with tabulate*/
1410
1411 proc tabulate data=sasintro.dakota15 format=6.;
1412 class state;
1413 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC;
1414 label
1415     Q9aAC='Conversion of native grass to cropland'
1416     Q9bAC='Conversion of tamend grassland to cropland'
1417     Q9cAC='Conversion of CRP land to cropland'
1418     Q9dAC='Conversion of CRP land to pasture/hay'
1419     Q9eAC='Enrollment of farmland acres to CRP'
1420     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1421 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC),state;
1422 run;
1423
1424
1425 proc tabulate data=sasintro.dakota15 format=6.;
1426 class Region;
1427 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC;
1428 label
1429     Q9aAC='Conversion of native grass to cropland'
1430     Q9bAC='Conversion of tamend grassland to cropland'
1431     Q9cAC='Conversion of CRP land to cropland'
1432     Q9dAC='Conversion of CRP land to pasture/hay'
1433     Q9eAC='Enrollment of farmland acres to CRP'
1434     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
1435 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC), Region;
1436 run;
1437
1438
1439 /* Q9 part three state and region based analysis tabulate*/
1440
1441 proc format;
1442 value response
1443     0='No'

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1444     1='Yes';
1445 proc tabulate data=sasintro.dakota15;
1446 class state Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth;
1447 label
1448     Q9aCorn='Conversion of native grass to Corn land'
1449     Q9aSoy='Conversion of native grass to Soybean land'
1450     Q9aWht='Conversion of native grass to Wheat land'
1451     Q9aOth='Conversion of native grass to Other use'
1452     Q9bCorn='Conversion of tamend grassland to Corn land'
1453     Q9bSoy='Conversion of tamend grassland to Soy land'
1454     Q9bWht='Conversion of tamend grassland to Wheat land'
1455     Q9bOth='Conversion of tamend grassland to Other use'
1456     Q9cCorn='Conversion of CRP land to Corn land'
1457     Q9cSoy='Conversion of CRP land to Soy land'
1458     Q9cWht='Conversion of CRP land to Wheat land'
1459     Q9cOth='Conversion of CRP land to Other use' ;
1460 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth),state;
1461 format Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1462     Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1463     Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1464 run;
1465
1466 proc format;
1467 value response
1468     0='No'
1469     1='Yes';
1470 proc tabulate data=sasintro.dakota15;
1471 class Region Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth;
1472 label
1473     Q9aCorn='Conversion of native grass to Corn land'
1474     Q9aSoy='Conversion of native grass to Soybean land'
1475     Q9aWht='Conversion of native grass to Wheat land'
1476     Q9aOth='Conversion of native grass to Other use'
1477     Q9bCorn='Conversion of tamend grassland to Corn land'
1478     Q9bSoy='Conversion of tamend grassland to Soy land'
1479     Q9bWht='Conversion of tamend grassland to Wheat land'
1480     Q9bOth='Conversion of tamend grassland to Other use'
1481     Q9cCorn='Conversion of CRP land to Corn land'
1482     Q9cSoy='Conversion of CRP land to Soy land'
1483     Q9cWht='Conversion of CRP land to Wheat land'
1484     Q9cOth='Conversion of CRP land to Other use' ;
1485 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth),Region;
1486 format Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1487     Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1488     Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1489 run;
1490
1491 /* Q9 part three state and region based analysis frequency*/
1492
1493 proc format;
1494 value Response
1495     1='Yes'
1496     0='No';
1497 run;
1498 proc freq data=sasintro.dakota15;
1499 label
1500     Q9aCorn='Conversion of native grass to Corn land'
1501     Q9aSoy='Conversion of native grass to Soybean land'
1502     Q9aWht='Conversion of native grass to Wheat land'
1503     Q9aOth='Conversion of native grass to Other use'
1504     Q9bCorn='Conversion of tamend grassland to Corn land'
1505     Q9bSoy='Conversion of tamend grassland to Soy land'
1506     Q9bWht='Conversion of tamend grassland to Wheat land'
1507     Q9bOth='Conversion of tamend grassland to Other use'
1508     Q9cCorn='Conversion of CRP land to Corn land'
1509     Q9cSoy='Conversion of CRP land to Soy land'
1510     Q9cWht='Conversion of CRP land to Wheat land'
1511     Q9cOth='Conversion of CRP land to Other use' ;
1512 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*state/norow;
1513 format Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1514     Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1515     Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1516 run;
1517
1518 proc format;
1519 value Response

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1520     1='Yes'
1521     0 ='No';
1522 run;
1523 proc freq data=sasintro.dakota15;
1524 label
1525     Q9aCorn='Conversion of native grass to Corn land'
1526     Q9aSoy='Conversion of native grass to Soybean land'
1527     Q9aWht='Conversion of native grass to Wheat land'
1528     Q9aOth='Conversion of native grass to Other use'
1529     Q9bCorn='Conversion of tamend grassland to Corn land'
1530     Q9bSoy='Conversion of tamend grassland to Soy land'
1531     Q9bWht='Conversion of tamend grassland to Wheat land'
1532     Q9bOth='Conversion of tamend grassland to Other use'
1533     Q9cCorn='Conversion of CRP land to Corn land'
1534     Q9cSoy='Conversion of CRP land to Soy land'
1535     Q9cWht='Conversion of CRP land to Wheat land'
1536     Q9cOth='Conversion of CRP land to Other use' ;
1537 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*Region/norow;
1538 format   Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1539          Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1540          Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1541 run;
1542
1543
1544 /* Q9 part three state and region based analysis frequency with chisq*/
1545
1546 proc format;
1547 value Response
1548     1='Yes'
1549     0 ='No';
1550 run;
1551 proc freq data=sasintro.dakota15;
1552 label
1553     Q9aCorn='Conversion of native grass to Corn land'
1554     Q9aSoy='Conversion of native grass to Soybean land'
1555     Q9aWht='Conversion of native grass to Wheat land'
1556     Q9aOth='Conversion of native grass to Other use'
1557     Q9bCorn='Conversion of tamend grassland to Corn land'
1558     Q9bSoy='Conversion of tamend grassland to Soy land'
1559     Q9bWht='Conversion of tamend grassland to Wheat land'
1560     Q9bOth='Conversion of tamend grassland to Other use'
1561     Q9cCorn='Conversion of CRP land to Corn land'
1562     Q9cSoy='Conversion of CRP land to Soy land'
1563     Q9cWht='Conversion of CRP land to Wheat land'
1564     Q9cOth='Conversion of CRP land to Other use' ;
1565 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*state/chisq;
1566 format   Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1567          Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1568          Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1569 run;
1570
1571 proc format;
1572 value Response
1573     1='Yes'
1574     0 ='No';
1575 run;
1576 proc freq data=sasintro.dakota15;
1577 label
1578     Q9aCorn='Conversion of native grass to Corn land'
1579     Q9aSoy='Conversion of native grass to Soybean land'
1580     Q9aWht='Conversion of native grass to Wheat land'
1581     Q9aOth='Conversion of native grass to Other use'
1582     Q9bCorn='Conversion of tamend grassland to Corn land'
1583     Q9bSoy='Conversion of tamend grassland to Soy land'
1584     Q9bWht='Conversion of tamend grassland to Wheat land'
1585     Q9bOth='Conversion of tamend grassland to Other use'
1586     Q9cCorn='Conversion of CRP land to Corn land'
1587     Q9cSoy='Conversion of CRP land to Soy land'
1588     Q9cWht='Conversion of CRP land to Wheat land'
1589     Q9cOth='Conversion of CRP land to Other use' ;
1590 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*Region/chisq;
1591 format   Q9aCorn response. Q9aSoy response. Q9aWht response. Q9aOth response.
1592          Q9bCorn response. Q9bSoy response. Q9bWht response. Q9bOth response.
1593          Q9cCorn response. Q9cSoy response. Q9cWht response. Q9cOth response.;
1594 run;
1595

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1596
1597 /* Q9 part three state and region based analysis with means*/
1598
1599 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
1600 class State;
1601 var Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth ;
1602 label
1603     Q9aCorn='Conversion of native grass to Corn land'
1604     Q9aSoy='Conversion of native grass to Soybean land'
1605     Q9aWht='Conversion of native grass to Wheat land'
1606     Q9aOth='Conversion of native grass to Other use'
1607     Q9bCorn='Conversion of tamend grassland to Corn land'
1608     Q9bSoy='Conversion of tamend grassland to Soy land'
1609     Q9bWht='Conversion of tamend grassland to Wheat land'
1610     Q9bOth='Conversion of tamend grassland to Other use'
1611     Q9cCorn='Conversion of CRP land to Corn land'
1612     Q9cSoy='Conversion of CRP land to Soy land'
1613     Q9cWht='Conversion of CRP land to Wheat land'
1614     Q9cOth='Conversion of CRP land to Other use' ;
1615 run;
1616
1617 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=1;
1618 class Region;
1619 var Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth ;
1620 label
1621     Q9aCorn='Conversion of native grass to Corn land'
1622     Q9aSoy='Conversion of native grass to Soybean land'
1623     Q9aWht='Conversion of native grass to Wheat land'
1624     Q9aOth='Conversion of native grass to Other use'
1625     Q9bCorn='Conversion of tamend grassland to Corn land'
1626     Q9bSoy='Conversion of tamend grassland to Soy land'
1627     Q9bWht='Conversion of tamend grassland to Wheat land'
1628     Q9bOth='Conversion of tamend grassland to Other use'
1629     Q9cCorn='Conversion of CRP land to Corn land'
1630     Q9cSoy='Conversion of CRP land to Soy land'
1631     Q9cWht='Conversion of CRP land to Wheat land'
1632     Q9cOth='Conversion of CRP land to Other use' ;
1633 run;
1634
1635
1636 /* means by selected farm operator Q9 part one *19, 20,21, 22, 23 plus 1, 3a and 4 */
1637
1638 proc format;
1639 value Age
1640     1='19 to 34 years'
1641     2='35 to 49 years'
1642     3='50 to 59 years'
1643     4='60 to 69 years'
1644     5='70 years and over';
1645
1646 value Gender
1647     1='Male'
1648     2='Female';
1649
1650 value Education
1651     1='Less than high school'
1652     2='High school'
1653     3='Some college/technical school'
1654     4='4-year college degree'
1655     5='Advanced degree (Masters, etc.)';
1656
1657 value Occupation
1658     1='Farming or Ranching'
1659     2='Employment in off-farm job'
1660     3='Own/operate a non-farm business'
1661     4='Retired';
1662
1663 value Sales
1664
1665     12='Less than $99,999'
1666     3='From $100,000 up to $249,999'
1667     4='From $250,000 up to $499,999'
1668     5='From $500,000 up to $999,999'
1669     6='$1 million or more';
1670 run;
1671

```

```

1672
1673 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1674 class Q19;
1675 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1676 label Q19='Respondent Age'
1677     Q9aYN='Conversion of native grass to cropland'
1678     Q9bYN='Conversion of tamend grassland to cropland'
1679     Q9cYN='Conversion of CRP land to cropland'
1680     Q9dYN='Conversion of CRP land to pasture/hay'
1681     Q9eYN='Enrollment of farmland acres to CRP'
1682     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1683 format Q19 Age.;
1684 run;
1685
1686 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1687 class Q20;
1688 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1689 label Q20='Respondent Gender'
1690     Q9aYN='Conversion of native grass to cropland'
1691     Q9bYN='Conversion of tamend grassland to cropland'
1692     Q9cYN='Conversion of CRP land to cropland'
1693     Q9dYN='Conversion of CRP land to pasture/hay'
1694     Q9eYN='Enrollment of farmland acres to CRP'
1695     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1696 format Q20 Gender.;
1697 run;
1698
1699 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1700 class Q21;
1701 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1702 label Q21='Respondent Level of Education'
1703     Q9aYN='Conversion of native grass to cropland'
1704     Q9bYN='Conversion of tamend grassland to cropland'
1705     Q9cYN='Conversion of CRP land to cropland'
1706     Q9dYN='Conversion of CRP land to pasture/hay'
1707     Q9eYN='Enrollment of farmland acres to CRP'
1708     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1709 format Q21 Education.;
1710 run;
1711
1712 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1713 class Q22;
1714 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1715 label Q22='Principal Occupation'
1716     Q9aYN='Conversion of native grass to cropland'
1717     Q9bYN='Conversion of tamend grassland to cropland'
1718     Q9cYN='Conversion of CRP land to cropland'
1719     Q9dYN='Conversion of CRP land to pasture/hay'
1720     Q9eYN='Enrollment of farmland acres to CRP'
1721     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1722 format Q22 Occupation.;
1723 run;
1724
1725
1726 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1727 class Q23;
1728 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1729 label Q23='Gross farm/ranch sales'
1730     Q9aYN='Conversion of native grass to cropland'
1731     Q9bYN='Conversion of tamend grassland to cropland'
1732     Q9cYN='Conversion of CRP land to cropland'
1733     Q9dYN='Conversion of CRP land to pasture/hay'
1734     Q9eYN='Enrollment of farmland acres to CRP'
1735     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1736 format Q23 Sales.;
1737 run;
1738
1739 proc format;
1740 value operation
1741     1='Have been a farm operator'
1742     2='less than 10 years as a farm operator'
1743     3='10 to 10 years as a farm operator'
1744     4='20 to 29 years as a farm operator'
1745     5='30 years or more as a farm operator'
1746     ;
1747 run;

```



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1748
1749 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1750 class Q1;
1751 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1752 label Q1 = 'Years as a farm operator'
1753       Q23= 'Gross farm/ranch sales'
1754       Q9aYN= 'Conversion of native grass to cropland'
1755       Q9bYN= 'Conversion of tamend grassland to cropland'
1756       Q9cYN= 'Conversion of CRP land to cropland'
1757       Q9dYN= 'Conversion of CRP land to pasture/hay'
1758       Q9eYN= 'Enrollment of farmland acres to CRP'
1759       Q9fYN= 'Enrollment of land into WRP (wetland reserve) or grass easement program';
1760 format Q1 operation.;
1761 run;
1762
1763 proc format;
1764 value Farmland 10-259= '1 to 259 acres'
1765                260-499= '260 to 499 acres'
1766                500-999= '500 to 999 acres'
1767                1000-1999= '1000 to 1999 acres'
1768                2000-4999= '2000 to 4999 acres'
1769                5000-high = '5000 acres and above';
1770 run;
1771
1772 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1773 class Q3A;
1774 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1775 label Q3A = 'Farmland Acres Operated in 2014'
1776       Q9aYN= 'Conversion of native grass to cropland'
1777       Q9bYN= 'Conversion of tamend grassland to cropland'
1778       Q9cYN= 'Conversion of CRP land to cropland'
1779       Q9dYN= 'Conversion of CRP land to pasture/hay'
1780       Q9eYN= 'Enrollment of farmland acres to CRP'
1781       Q9fYN= 'Enrollment of land into WRP (wetland reserve) or grass easement program';
1782 format Q3A Farmland.;
1783 run;
1784
1785 proc format;
1786 value Ownership
1787       1= 'Own all acres farmed'
1788       2= 'Own most acres farmed, rented the remainder'
1789       3= 'Own and rent roughly equal number of farmland acres'
1790       4= 'Rented most of the acres farmed, owned the remainder'
1791       5= 'Rented all acres farmland'
1792       6= 'Professional farm manager';
1793 run;
1794
1795 proc means data=sasintro.dakota15clean n nmiss sum min max mean std maxdec=1;
1796 class Q4;
1797 var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1798 label Q4 = 'Best Ownership Status in 2014'
1799       Q9aYN= 'Conversion of native grass to cropland'
1800       Q9bYN= 'Conversion of tamend grassland to cropland'
1801       Q9cYN= 'Conversion of CRP land to cropland'
1802       Q9dYN= 'Conversion of CRP land to pasture/hay'
1803       Q9eYN= 'Enrollment of farmland acres to CRP'
1804       Q9fYN= 'Enrollment of land into WRP (wetland reserve) or grass easement program';
1805 format Q4 Ownership.;
1806 run;
1807
1808
1809 /* cross tab chi square test, Q9 part one region and state based, 19, 20, 21, 22, 23, */
1810 proc format;
1811 value Age
1812       1= '19 to 34 years'
1813       2= '35 to 49 years'
1814       3= '50 to 59 years'
1815       4= '60 to 69 years'
1816       5= '70 years and over';
1817
1818 value Gender
1819       1= 'Male'
1820       2= 'Female';
1821
1822 value Education
1823       1= 'Less than high school'

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1824     2='High school'
1825     3='Some college/technical school'
1826     4='4-year college degree'
1827     5='Advanced degree (Masters, etc.)';
1828
1829 value Occupation
1830     1='Farming or Ranching'
1831     2='Employment in off-farm job'
1832     3='Own/operate a non-farm business'
1833     4='Retired';
1834
1835 value Sales
1836
1837     12='Less than $99,999'
1838     3='From $100,000 up to $249,999'
1839     4='From $250,000 up to $499,999'
1840     5='From $500,000 up to $999,999'
1841     6='$1 million or more';
1842 run;
1843
1844 proc format;
1845 value Response
1846     1='Yes'
1847     2='No';
1848 run;
1849 proc freq data=sasintro.dakotal5clean;
1850 label Q19='Respondent Age'
1851     Q9aYN='Conversion of native grass to cropland'
1852     Q9bYN='Conversion of tamend grassland to cropland'
1853     Q9cYN='Conversion of CRP land to cropland'
1854     Q9dYN='Conversion of CRP land to pasture/hay'
1855     Q9eYN='Enrollment of farmland acres to CRP'
1856     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1857 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q19/chisq;
1858 format Q19 Age. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1859 Q9eYN Response. Q9fYN Response. ;
1860 run;
1861
1862 proc format;
1863 value Response
1864     1='Yes'
1865     2='No';
1866 run;
1867 proc freq data=sasintro.dakotal5clean;
1868 label Q20='Respondent Gender'
1869     Q9aYN='Conversion of native grass to cropland'
1870     Q9bYN='Conversion of tamend grassland to cropland'
1871     Q9cYN='Conversion of CRP land to cropland'
1872     Q9dYN='Conversion of CRP land to pasture/hay'
1873     Q9eYN='Enrollment of farmland acres to CRP'
1874     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1875 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q20/chisq;
1876 format Q20 Gender. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1877 Q9eYN Response. Q9fYN Response. ;
1878 run;
1879
1880 proc format;
1881 value Response
1882     1='Yes'
1883     2='No';
1884 run;
1885 proc freq data=sasintro.dakotal5clean;
1886 label Q21='Respondent Level of Education'
1887     Q9aYN='Conversion of native grass to cropland'
1888     Q9bYN='Conversion of tamend grassland to cropland'
1889     Q9cYN='Conversion of CRP land to cropland'
1890     Q9dYN='Conversion of CRP land to pasture/hay'
1891     Q9eYN='Enrollment of farmland acres to CRP'
1892     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1893 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q21/chisq;
1894 format Q21 Education. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1895 Q9eYN Response. Q9fYN Response. ;
1896 run;
1897
1898 proc format;
1899 value Response

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```

1900     1='Yes'
1901     2='No';
1902 run;
1903 proc freq data=sasintro.dakotal5clean;
1904 label Q22='Principal Occupation'
1905     Q9aYN='Conversion of native grass to cropland'
1906     Q9bYN='Conversion of tamend grassland to cropland'
1907     Q9cYN='Conversion of CRP land to cropland'
1908     Q9dYN='Conversion of CRP land to pasture/hay'
1909     Q9eYN='Enrollment of farmland acres to CRP'
1910     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1911 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q22/chisq;
1912 format Q22 Occupation. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1913 Q9eYN Response. Q9fYN Response. ;
1914 run;
1915
1916 proc format;
1917 value Response
1918     1='Yes'
1919     2='No';
1920 run;
1921 proc freq data=sasintro.dakotal5clean;
1922 label Q23= 'Gross farm/ranch sales'
1923     Q9aYN='Conversion of native grass to cropland'
1924     Q9bYN='Conversion of tamend grassland to cropland'
1925     Q9cYN='Conversion of CRP land to cropland'
1926     Q9dYN='Conversion of CRP land to pasture/hay'
1927     Q9eYN='Enrollment of farmland acres to CRP'
1928     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1929 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q23/chisq;
1930 format Q23 Sales. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1931 Q9eYN Response. Q9fYN Response. ;
1932 run;
1933
1934
1935 proc format;
1936 value Response
1937     1='Yes'
1938     2='No';
1939 run;
1940 proc format;
1941 value operation
1942     1='Have been a farm operator'
1943     2='less than 10 years as a farm operator'
1944     3='10 to 10 years as a farm operator'
1945     4='20 to 29 years as a farm operator'
1946     5='30 years or more as a farm operator'
1947     ;
1948 run;
1949
1950 proc freq data=sasintro.dakotal5clean;
1951 label Q1= 'Year As a Farm Operator'
1952     Q9aYN='Conversion of native grass to cropland'
1953     Q9bYN='Conversion of tamend grassland to cropland'
1954     Q9cYN='Conversion of CRP land to cropland'
1955     Q9dYN='Conversion of CRP land to pasture/hay'
1956     Q9eYN='Enrollment of farmland acres to CRP'
1957     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1958 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q1/chisq;
1959 format Q1 Operation. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1960 Q9eYN Response. Q9fYN Response. ;
1961 run;
1962
1963 proc format;
1964 value Response
1965     1='Yes'
1966     2='No';
1967 run;
1968 proc format;
1969 value Farmland 10-259='1 to 259 acres'
1970     260-499='260 to 499 acres'
1971     500-999='500 to 999 acres'
1972     1000-1999='1000 to 1999 acres'
1973     2000-4999='2000 to 4999 acres'
1974     5000-high ='5000 acres and above';
1975 run;

```

```

1976
1977 proc freq data=sasintro.dakotal5clean;
1978 label Q3A= 'Farmland Acres Operated in 2014'
1979       Q9aYN='Conversion of native grass to cropland'
1980       Q9bYN='Conversion of tame grassland to cropland'
1981       Q9cYN='Conversion of CRP land to cropland'
1982       Q9dYN='Conversion of CRP land to pasture/hay'
1983       Q9eYN='Enrollment of farmland acres to CRP'
1984       Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
1985 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q3A/chisq;
1986 format Q3A Farmland. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
1987 Q9eYN Response. Q9fYN Response. ;
1988 run;
1989
1990 proc format;
1991 value Ownership
1992     1='Own all acres farmed'
1993     2='Own most acres farmed, rented the remainder'
1994     3='Own and rent roughly equal number of farmland acres'
1995     4='Rented most of the acres farmed, owned the remainder'
1996     5='Rented all acres farmland'
1997     6='Professional farm manager';
1998
1999 run;
2000
2001 proc freq data=sasintro.dakotal5clean;
2002 label Q4= 'Best Ownership Status in 2014'
2003       Q9aYN='Conversion of native grass to cropland'
2004       Q9bYN='Conversion of tame grassland to cropland'
2005       Q9cYN='Conversion of CRP land to cropland'
2006       Q9dYN='Conversion of CRP land to pasture/hay'
2007       Q9eYN='Enrollment of farmland acres to CRP'
2008       Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
2009 tables (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*Q4/chisq;
2010 format Q4 Ownership. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
2011 Q9eYN Response. Q9fYN Response. ;
2012 run;
2013
2014
2015 /** question 11 frequency analysis State and Region Based**/
2016
2017 proc format;
2018 value Future
2019     1='Yes'
2020     2='No'
2021     3='Dont Know';
2022 run;
2023 proc freq data=sasintro.dakotal5;
2024 label
2025     Q11a='Plan to convert native grassland to cropland in next 10 years'
2026     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2027     Q11c='Plan to convert cropland to grassland in next 10 years';
2028 tables (Q11a Q11b Q11c)*state/norow;
2029 format Q11a Future. Q11b Future. Q11c Future.;
2030 run;
2031
2032 proc format;
2033 value Future
2034     1='Yes'
2035     2='No'
2036     3='Dont Know';
2037 run;
2038 proc freq data=sasintro.dakotal5;
2039 label
2040     Q11a='Plan to convert native grassland to cropland in next 10 years'
2041     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2042     Q11c='Plan to convert cropland to grassland in next 10 years';
2043 tables (Q11a Q11b Q11c)* Region/norow;
2044 format Q11a Future. Q11b Future. Q11c Future.;
2045 run;
2046
2047 /** question 11 frequency analysis State and Region Based with chisq **/
2048
2049 proc format;
2050 value Future
2051     1='Yes'

```

```

2052     2='No'
2053     3='Dont Know';
2054 run;
2055 proc freq data=sasintro.dakota15;
2056 label
2057     Q11a='Plan to convert native grassland to cropland in next 10 years'
2058     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2059     Q11c='Plan to convert cropland to grassland in next 10 years';
2060 tables (Q11a Q11b Q11c)*state/chisq;
2061 format Q11a Future. Q11b Future. Q11c Future.;
2062 run;
2063
2064 proc format;
2065 value Future
2066     1='Yes'
2067     2='No'
2068     3='Dont Know';
2069 run;
2070 proc freq data=sasintro.dakota15;
2071 label
2072     Q11a='Plan to convert native grassland to cropland in next 10 years'
2073     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2074     Q11c='Plan to convert cropland to grassland in next 10 years';
2075 tables (Q11a Q11b Q11c)* Region/chisq;
2076 format Q11a Future. Q11b Future. Q11c Future.;
2077 run;
2078
2079 /** question 11 Tabulate analysis State and Region Based**/
2080
2081
2082 proc tabulate data=sasintro.dakota15 format=10.;
2083 class State;
2084 var Q11a Q11b Q11c;
2085 label
2086     Q11a='Plan to convert native grassland to cropland in next 10 years'
2087     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2088     Q11c='Plan to convert cropland to grassland in next 10 years';
2089 table (state), (Q11a Q11b Q11c);
2090 format Q11a Future. Q11b Future. Q11c Future.;
2091 run;
2092
2093
2094 proc tabulate data=sasintro.dakota15 format=10.;
2095 class Region;
2096 var Q11a Q11b Q11c;
2097 label
2098     Q11a='Plan to convert native grassland to cropland in next 10 years'
2099     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2100     Q11c='Plan to convert cropland to grassland in next 10 years';
2101 table (Region), (Q11a Q11b Q11c);
2102 format Q11a Future. Q11b Future. Q11c Future.;
2103 run;
2104
2105 /** question 11 means analysis State and Region Based**/
2106
2107
2108 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=0;
2109 class State;
2110 var Q11a Q11b Q11c;
2111 label
2112     Q11a='Plan to convert native grassland to cropland in next 10 years'
2113     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2114     Q11c='Plan to convert cropland to grassland in next 10 years';
2115 format Q11a Future. Q11b Future. Q11c Future.;
2116 run;
2117
2118
2119 proc means data=sasintro.dakota15 n nmiss sum min max mean std maxdec=0;
2120 class Region;
2121 var Q11a Q11b Q11c;
2122 label
2123     Q11a='Plan to convert native grassland to cropland in next 10 years'
2124     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2125     Q11c='Plan to convert cropland to grassland in next 10 years';
2126 format Q11a Future. Q11b Future. Q11c Future.;
2127 run;

```

```

2128
2129 /* Q11 selected farm operator/business characteristics of responses plus 1, 3a and 4*/
2130
2131 proc format;
2132 value Age
2133     1='19 to 34 years'
2134     2='35 to 49 years'
2135     3='50 to 59 years'
2136     4='60 to 69 years'
2137     5='70 years and over'
2138
2139 value Gender
2140     1='Male'
2141     2='Female'
2142
2143 value Education
2144     1='Less than high school'
2145     2='High school'
2146     3='Some college/technical school'
2147     4='4-year college degree'
2148     5='Advanced degree (Masters, etc.)'
2149
2150 value Occupation
2151     1='Farming or Ranching'
2152     2='Employment in off-farm job'
2153     3='Own/operate a non-farm business'
2154     4='Retired'
2155
2156 value Sales
2157
2158     12='Less than $99,999'
2159     3='From $100,000 up to $249,999'
2160     4='From $250,000 up to $499,999'
2161     5='From $500,000 up to $999,999'
2162     6='$1 million or more';
2163
2164 run;
2165
2166 proc format;
2167 value Future
2168     1='Yes'
2169     2='No'
2170     3='Dont Know';
2171 run;
2172
2173 proc freq data=sasintro.dakotal5clean;
2174 label Q19='Respondent Age'
2175     Q11a='Plan to convert native grassland to cropland in next 10 years'
2176     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2177     Q11c='Plan to convert cropland to grassland in next 10 years';
2178 tables (Q11a Q11b Q11c)*Q19/chisq;
2179 format Q19 Age. Q11a Future. Q11b Future. Q11c Future.;
2180 run;
2181
2182 proc freq data=sasintro.dakotal5clean;
2183 label Q20='Respondent Gender'
2184     Q11a='Plan to convert native grassland to cropland in next 10 years'
2185     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2186     Q11c='Plan to convert cropland to grassland in next 10 years';
2187 tables (Q11a Q11b Q11c)*Q20/chisq;
2188 format Q20 Gender. Q11a Future. Q11b Future. Q11c Future.;
2189 run;
2190
2191 proc freq data=sasintro.dakotal5clean;
2192 label Q21='Respondent Level of Education'
2193     Q11a='Plan to convert native grassland to cropland in next 10 years'
2194     Q11b='Plan to convert tame grassland to cropland in next 10 years'
2195     Q11c='Plan to convert cropland to grassland in next 10 years';
2196 tables (Q11a Q11b Q11c)*Q21/chisq;
2197 format Q21 Education. Q11a Future. Q11b Future. Q11c Future.;
2198 run;
2199
2200 proc freq data=sasintro.dakotal5clean;
2201 label Q22='Principal Occupation'
2202     Q11a='Plan to convert native grassland to cropland in next 10 years'
2203     Q11b='Plan to convert tame grassland to cropland in next 10 years'

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2204         Q11c='Plan to convert cropland to grassland in next 10 years';
2205 tables (Q11a Q11b Q11c)*Q22/chisq;
2206 format Q22 Occupation. Q11a Future. Q11b Future. Q11c Future.;
2207 run;
2208
2209 proc freq data=sasintro.dakotal5clean;
2210 label Q23='Gross farm/ranch sales'
2211       Q11a='Plan to convert native grassland to cropland in next 10 years'
2212       Q11b='Plan to convert tame grassland to cropland in next 10 years'
2213       Q11c='Plan to convert cropland to grassland in next 10 years';
2214 tables (Q11a Q11b Q11c)*Q23/chisq;
2215 format Q23 Sales. Q11a Future. Q11b Future. Q11c Future.;
2216 run;
2217
2218 proc format;
2219 value operation
2220     1='Have been a farm operator'
2221     2='less than 10 years as a farm operator'
2222     3='10 to 10 years as a farm operator'
2223     4='20 to 29 years as a farm operator'
2224     5='30 years or more as a farm operator'
2225     ;
2226 run;
2227
2228 proc freq data=sasintro.dakotal5clean;
2229 label Q1='Years as a farm opertor'
2230       Q11a='Plan to convert native grassland to cropland in next 10 years'
2231       Q11b='Plan to convert tame grassland to cropland in next 10 years'
2232       Q11c='Plan to convert cropland to grassland in next 10 years';
2233 tables (Q11a Q11b Q11c)*Q1/chisq;
2234 format Q1 Operation. Q11a Future. Q11b Future. Q11c Future.;
2235 run;
2236
2237
2238 proc format;
2239 value Farmland 10-259='1 to 259 acres'
2240                260-499='260 to 499 acres'
2241                500-999='500 to 999 acres'
2242                1000-1999='1000 to 1999 acres'
2243                2000-4999='2000 to 4999 acres'
2244                5000-high ='5000 acres and above';
2245 run;
2246
2247 proc freq data=sasintro.dakotal5clean;
2248 label Q3A='Farmland Acres Operated in 2014'
2249       Q11a='Plan to convert native grassland to cropland in next 10 years'
2250       Q11b='Plan to convert tame grassland to cropland in next 10 years'
2251       Q11c='Plan to convert cropland to grassland in next 10 years';
2252 tables (Q11a Q11b Q11c)*Q3A/chisq;
2253 format Q3A Farmland. Q11a Future. Q11b Future. Q11c Future.;
2254 run;
2255
2256
2257 proc format;
2258 value Ownership
2259     1='Own all acres farmed'
2260     2='Own most acres farmed, rented the remainder'
2261     3='Own and rent roughly equal number of farmland acres'
2262     4='Rented most of the acres farmed,owned the remainder'
2263     5='Rented all acres farmland'
2264     6='Professional farm manager';
2265 run;
2266
2267 proc freq data=sasintro.dakotal5clean;
2268 label Q4='Ownership Status in 2014'
2269       Q11a='Plan to convert native grassland to cropland in next 10 years'
2270       Q11b='Plan to convert tame grassland to cropland in next 10 years'
2271       Q11c='Plan to convert cropland to grassland in next 10 years';
2272 tables (Q11a Q11b Q11c)*Q4/chisq;
2273 format Q4 Ownership. Q11a Future. Q11b Future. Q11c Future.;
2274 run;
2275
2276
2277
2278 *** Chi square analysis Q10a vs Q9 **/
2279 /** 9dYN,9eYN,9fYN versus 10a1**/

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2280 proc format;
2281 value Response
2282     1='Yes'
2283     2='No';
2284 run;
2285
2286 proc freq data=sasintro.dakota15;
2287 label
2288     Q9dYN='Conversion of CRP land to pasture/hay'
2289     Q10a1='Changing of crop prices';
2290 tables Q10a1* Q9dYN / chisq;
2291 format Q10a1 Impact. Q9dYN Response.;
2292 run;
2293
2294 proc freq data=sasintro.dakota15;
2295 label
2296     Q9eYN='Enrollment of farmland acres to CRP'
2297     Q10a1='Changing of crop prices';
2298 tables Q10a1*Q9eYN / chisq;
2299 format Q10a1 Impact. Q9eYN Response.;
2300 run;
2301
2302 proc freq data=sasintro.dakota15;
2303 label
2304     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2305     Q10a1='Changing of crop prices';
2306 tables Q10a1*Q9fYN / chisq;
2307 format Q10a1 Impact. Q9fYN Response.;
2308 run;
2309
2310 /** 9dYN,9eYN,9fYN versus 10a2**/
2311 proc format;
2312 value Response
2313     1='Yes'
2314     2='No';
2315 run;
2316
2317 proc freq data=sasintro.dakota15;
2318 label
2319     Q9dYN='Conversion of CRP land to pasture/hay'
2320     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)';
2321 tables Q10a2* Q9dYN / chisq;
2322 format Q10a2 Impact. Q9dYN Response.;
2323 run;
2324
2325 proc freq data=sasintro.dakota15;
2326 label
2327     Q9eYN='Enrollment of farmland acres to CRP'
2328     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)';
2329 tables Q10a2*Q9eYN / chisq;
2330 format Q10a2 Impact. Q9eYN Response.;
2331 run;
2332
2333 proc freq data=sasintro.dakota15;
2334 label
2335     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2336     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)';
2337 tables Q10a2*Q9fYN / chisq;
2338 format Q10a2 Impact. Q9fYN Response.;
2339 run;
2340
2341 /** 9dYN,9eYN,9fYN versus 10a3**/
2342 proc format;
2343 value Response
2344     1='Yes'
2345     2='No';
2346 run;
2347
2348 proc freq data=sasintro.dakota15;
2349 label
2350     Q9dYN='Conversion of CRP land to pasture/hay'
2351     Q10a3='Availability of crop and revenue insurance policies';
2352 tables Q10a3* Q9dYN / chisq;
2353 format Q10a3 Impact. Q9dYN Response.;
2354 run;
2355

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2356 proc freq data=sasintro.dakota15;
2357 label
2358     Q9eYN='Enrollment of farmland acres to CRP'
2359     Q10a3='Availability of crop and revenue insurance policies';
2360 tables Q10a3*Q9eYN / chisq;
2361 format Q10a3 Impact. Q9eYN Response.;
2362 run;
2363
2364 proc freq data=sasintro.dakota15;
2365 label
2366     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2367     Q10a3='Availability of crop and revenue insurance policies';
2368 tables Q10a3*Q9fYN / chisq;
2369 format Q10a3 Impact. Q9fYN Response.;
2370 run;
2371
2372
2373 /** 9dYN,9eYN,9fYN versus 10a4**/
2374 proc format;
2375 value Response
2376     1='Yes'
2377     2='No';
2378 run;
2379
2380 proc freq data=sasintro.dakota15;
2381 label
2382     Q9dYN='Conversion of CRP land to pasture/hay'
2383     Q10a4='Availability of drought-tolerant seed';
2384 tables Q10a4*Q9dYN / chisq;
2385 format Q10a4 Impact. Q9dYN Response.;
2386 run;
2387
2388 proc freq data=sasintro.dakota15;
2389 label
2390     Q9eYN='Enrollment of farmland acres to CRP'
2391     Q10a4='Availability of drought-tolerant seed';
2392 tables Q10a4*Q9eYN / chisq;
2393 format Q10a4 Impact. Q9eYN Response.;
2394 run;
2395
2396
2397 proc freq data=sasintro.dakota15;
2398 label
2399     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2400     Q10a4='Availability of drought-tolerant seed';
2401 tables Q10a4*Q9fYN / chisq;
2402 format Q10a4 Impact. Q9fYN Response.;
2403 run;
2404
2405 /** 9dYN,9eYN,9fYN versus 10a5**/
2406 proc format;
2407 value Response
2408     1='Yes'
2409     2='No';
2410 run;
2411
2412 proc freq data=sasintro.dakota15;
2413 label
2414     Q9dYN='Conversion of CRP land to pasture/hay'
2415     Q10a5='Developments in pest management practices, including pest management seed traits';
2416 tables Q10a5*Q9dYN / chisq;
2417 format Q10a5 Impact. Q9dYN Response.;
2418 run;
2419
2420 proc freq data=sasintro.dakota15;
2421 label
2422     Q9eYN='Enrollment of farmland acres to CRP'
2423     Q10a5='Developments in pest management practices, including pest management seed traits';
2424 tables Q10a5*Q9eYN / chisq;
2425 format Q10a5 Impact. Q9eYN Response.;
2426 run;
2427 proc freq data=sasintro.dakota15;
2428 label
2429     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2430     Q10a5='Developments in pest management practices, including pest management seed traits';
2431 tables Q10a5*Q9fYN / chisq;

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2432 format Q10a5 Impact. Q9fYN Response.;
2433 run;
2434
2435 /** 9dYN,9eYN,9fYN versus 10a6**/
2436 proc format;
2437 value Response
2438     1='Yes'
2439     2='No';
2440 run;
2441
2442 proc freq data=sasintro.dakota15;
2443 label
2444     Q9dYN='Conversion of CRP land to pasture/hay'
2445     Q10a6='Improved crop yields (other than seed related traits)';
2446 tables Q10a6* Q9dYN / chisq;
2447 format Q10a6 Impact. Q9dYN Response.;
2448 run;
2449
2450 proc freq data=sasintro.dakota15;
2451 label
2452     Q9eYN='Enrollment of farmland acres to CRP'
2453     Q10a6='Improved crop yields (other than seed related traits)';
2454 tables Q10a6*Q9eYN / chisq;
2455 format Q10a6 Impact. Q9eYN Response.;
2456 run;
2457
2458
2459 proc freq data=sasintro.dakota15;
2460 label
2461     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2462     Q10a6='Improved crop yields (other than seed related traits)';
2463 tables Q10a6*Q9fYN / chisq;
2464 format Q10a6 Impact. Q9fYN Response.;
2465 run;
2466
2467 /** 9dYN,9eYN,9fYN versus 10a7**/
2468 proc format;
2469 value Response
2470     1='Yes'
2471     2='No';
2472 run;
2473
2474 proc freq data=sasintro.dakota15;
2475 label
2476     Q9dYN='Conversion of CRP land to pasture/hay'
2477     Q10a7='Development of more efficient cropping equipment';
2478 tables Q10a7* Q9dYN / chisq;
2479 format Q10a7 Impact. Q9dYN Response.;
2480 run;
2481
2482 proc freq data=sasintro.dakota15;
2483 label
2484     Q9eYN='Enrollment of farmland acres to CRP'
2485     Q10a7='Development of more efficient cropping equipment';
2486 tables Q10a7*Q9eYN / chisq;
2487 format Q10a7 Impact. Q9eYN Response.;
2488 run;
2489
2490
2491 proc freq data=sasintro.dakota15;
2492 label
2493     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2494     Q10a7='Development of more efficient cropping equipment';
2495 tables Q10a7*Q9fYN / chisq;
2496 format Q10a7 Impact. Q9fYN Response.;
2497 run;
2498
2499
2500
2501 /** 9dYN,9eYN,9fYN versus 10a8**/
2502 proc format;
2503 value Response
2504     1='Yes'
2505     2='No';
2506 run;
2507

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2508 proc freq data=sasintro.dakota15;
2509 label
2510     Q9dYN='Conversion of CRP land to pasture/hay'
2511     Q10a8='Labor availability problems';
2512 tables Q10a8* Q9dYN / chisq;
2513 format Q10a8 Impact. Q9dYN Response.;
2514 run;
2515
2516 proc freq data=sasintro.dakota15;
2517 label
2518     Q9eYN='Enrollment of farmland acres to CRP'
2519     Q10a8='Labor availability problems';
2520 tables Q10a8*Q9eYN / chisq;
2521 format Q10a8 Impact. Q9eYN Response.;
2522 run;
2523
2524 proc freq data=sasintro.dakota15;
2525 label
2526     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2527     Q10a8='Labor availability problems';
2528 tables Q10a8*Q9fYN / chisq;
2529 format Q10a8 Impact. Q9fYN Response.;
2530 run;
2531
2532
2533 /** 9aYN,9bYN,9cYN versus 10a9**/
2534 proc format;
2535 value Response
2536     1='Yes'
2537     2='No';
2538 run;
2539
2540 proc freq data=sasintro.dakota15;
2541 label
2542     Q9dYN='Conversion of CRP land to pasture/hay'
2543     Q10a9='Improving wildlife habitat';
2544 tables Q10a9* Q9dYN / chisq;
2545 format Q10a9 Impact. Q9dYN Response.;
2546 run;
2547
2548 proc freq data=sasintro.dakota15;
2549 label
2550     Q9eYN='Enrollment of farmland acres to CRP'
2551     Q10a9='Improving wildlife habitat';
2552 tables Q10a9*Q9eYN / chisq;
2553 format Q10a9 Impact. Q9eYN Response.;
2554 run;
2555
2556 proc freq data=sasintro.dakota15;
2557 label
2558     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2559     Q10a9='Improving wildlife habitat';
2560 tables Q10a9*Q9fYN / chisq;
2561 format Q10a9 Impact. Q9fYN Response.;
2562 run;
2563
2564 /** 9aYN,9bYN,9cYN versus 10a10**/
2565 proc format;
2566 value Response
2567     1='Yes'
2568     2='No';
2569 run;
2570
2571 proc freq data=sasintro.dakota15;
2572 label
2573     Q9dYN='Conversion of CRP land to pasture/hay'
2574     Q10a10='Changing weather /climate patterns';
2575 tables Q10a10* Q9dYN / chisq;
2576 format Q10a10 Impact. Q9dYN Response.;
2577 run;
2578
2579 proc freq data=sasintro.dakota15;
2580 label
2581     Q9eYN='Enrollment of farmland acres into CRP'
2582     Q10a10='Changing weather /climate patterns';
2583 tables Q10a10*Q9eYN / chisq;

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2584 format Q10a10 Impact. Q9eYN Response.;
2585 run;
2586
2587 proc freq data=sasintro.dakotal5;
2588 label
2589     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program'
2590     Q10a10='Changing weather /climate patterns';
2591 tables Q10a10*Q9fYN / chisq;
2592 format Q10a10 Impact. Q9fYN Response.;
2593 run;
2594
2595 /**logistic regression**/
2596 data sasintro.dakotal5reg;
2597     set sasintro.dakotal5clean;
2598     if (Q9aYN=1) then NQ9aYN=0;
2599     if (Q9aYN=2) then NQ9aYN=1;
2600
2601     if (Q9bYN=1) then NQ9bYN=0;
2602     if (Q9bYN=2) then NQ9bYN=1;
2603
2604     if (Q9cYN=1) then NQ9cYN=0;
2605     if (Q9cYN=2) then NQ9cYN=1;
2606
2607     if (Q9dYN=1) then NQ9dYN=0;
2608     if (Q9dYN=2) then NQ9dYN=1;
2609
2610     if (Q9eYN=1) then NQ9eYN=0;
2611     if (Q9eYN=2) then NQ9eYN=1;
2612
2613     if (Q9fYN=1) then NQ9fYN=0;
2614     if (Q9fYN=2) then NQ9fYN=1;
2615 run;
2616 proc print data=sasintro.dakotal5reg;
2617 run;
2618
2619
2620 proc format;
2621 value Age
2622     1='19 to 34 years'
2623     2='35 to 49 years'
2624     3='50 to 59 years'
2625     4='60 to 69 years'
2626     5='70 years and over';
2627
2628 value Gender
2629     1='Male'
2630     2='Female';
2631
2632 value Education
2633     1='Less than high school'
2634     2='High school'
2635     3='Some college/technical school'
2636     4='4-year college degree'
2637     5='Advanced degree (Masters, etc.)';
2638
2639 value Occupation
2640     1='Farming or Ranching'
2641     2='Employment in off-farm job'
2642     3='Own/operate a non-farm business'
2643     4='Retired';
2644
2645 value Sales
2646
2647     12='Less than $99,999'
2648     3='From $100,000 up to $249,999'
2649     4='From $250,000 up to $499,999'
2650     5='From $500,000 up to $999,999'
2651     6='$1 million or more';
2652 run;
2653
2654 proc format;
2655 value operation
2656     1='Have been a farm operator'
2657     2='less than 10 years as a farm operator'
2658     3='10 to 10 years as a farm operator'
2659     4='20 to 29 years as a farm operator'

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2660         5='30 years or more as a farm operator'
2661     ;
2662 run;
2663
2664
2665 proc format;
2666 value Farmland 10-259='1 to 259 acres'
2667                 260-499='260 to 499 acres'
2668                 500-999='500 to 999 acres'
2669                 1000-1999='1000 to 1999 acres'
2670                 2000-4999='2000 to 4999 acres'
2671                 5000-high ='5000 acres and above';
2672 run;
2673
2674 proc format;
2675 value Ownership
2676     1='Own all acres farmed'
2677     2='Own most acres farmed, rented the remainder'
2678     3='Own and rent roughly equal number of farmland acres'
2679     4='Rented most of the acres farmed, owned the remainder'
2680     5='Rented all acres farmland'
2681     6='Professional farm manager';
2682 run;
2683
2684
2685 proc format;
2686 value Regroup
2687     0='Yes'
2688     1='No';
2689 run;
2690 proc logistic data=sasintro.dakota15reg;
2691 label
2692     Q19='Respondent Age'
2693     Q20='Respondent Gender'
2694     Q21='Respondent Level of Education'
2695     Q22='Principal Occupation'
2696     Q23='Gross farm/ranch sales'
2697     Q1=' Years as a farm operator'
2698     Q3A='Farmland acres operated in 2014'
2699     Q4='Ownership Status in 2014'
2700     NQ9aYN='Conversion of native grass to cropland';
2701 class NQ9aYN state/ param=ref;
2702 model NQ9aYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state /rsquare;
2703 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2704         Q3A Farmland. Q4 Ownership. NQ9aYN Regroup. ;
2705 run;
2706
2707
2708 proc format;
2709 value Regroup
2710     0='Yes'
2711     1='No';
2712 run;
2713 proc logistic data=sasintro.dakota15reg;
2714 label
2715     Q19='Respondent Age'
2716     Q20='Respondent Gender'
2717     Q21='Respondent Level of Education'
2718     Q22='Principal Occupation'
2719     Q23='Gross farm/ranch sales'
2720     Q1=' Years as a farm operator'
2721     Q3A='Farmland acres operated in 2014'
2722     Q4='Ownership Status in 2014'
2723     NQ9bYN='Conversion of tame grassland to cropland';
2724 class NQ9bYN state / param=ref;
2725 model NQ9bYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state/rsquare;
2726 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2727         Q3A Farmland. Q4 Ownership. NQ9bYN Regroup.;
2728 run;
2729
2730 proc format;
2731 value Regroup
2732     0='Yes'
2733     1='No';
2734 run;
2735 proc logistic data=sasintro.dakota15reg;

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2736 label
2737     Q19='Respondent Age'
2738     Q20='Respondent Gender'
2739     Q21='Respondent Level of Education'
2740     Q22='Principal Occupation'
2741     Q23='Gross farm/ranch sales'
2742     Q1=' Years as a farm operator'
2743     Q3A='Farmland acres operated in 2014'
2744     Q4='Ownership Status in 2014'
2745     NQ9cYN='Conversion of CRP land to cropland';
2746 class NQ9cYN state / param=ref;
2747 model NQ9cYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state /rsquare;
2748 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2749         Q3A Farmland. Q4 Ownership. NQ9cYN Regroup.;
2750 run;
2751
2752 proc format;
2753 value Regroup
2754     0='Yes'
2755     1='No';
2756 run;
2757 proc logistic data=sasintro.dakota15reg;
2758 label
2759     Q19='Respondent Age'
2760     Q20='Respondent Gender'
2761     Q21='Respondent Level of Education'
2762     Q22='Principal Occupation'
2763     Q23='Gross farm/ranch sales'
2764     Q1=' Years as a farm operator'
2765     Q3A='Farmland acres operated in 2014'
2766     Q4='Ownership Status in 2014'
2767     NQ9dYN='Conversion of CRP land to pasture/hay';
2768 class NQ9dYN state / param=ref;
2769 model NQ9dYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state /rsquare;
2770 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2771         Q3A Farmland. Q4 Ownership. NQ9dYN Regroup.;
2772 run;
2773
2774 proc format;
2775 value Regroup
2776     0='Yes'
2777     1='No';
2778 run;
2779 proc logistic data=sasintro.dakota15reg;
2780 label
2781     Q19='Respondent Age'
2782     Q20='Respondent Gender'
2783     Q21='Respondent Level of Education'
2784     Q22='Principal Occupation'
2785     Q23='Gross farm/ranch sales'
2786     Q1=' Years as a farm operator'
2787     Q3A='Farmland acres operated in 2014'
2788     Q4='Ownership Status in 2014'
2789     NQ9eYN='Enrollment of farmland acres into CRP';
2790 class NQ9eYN state / param=ref;
2791 model NQ9eYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state /rsquare;
2792 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2793         Q3A Farmland. Q4 Ownership. NQ9eYN Regroup.;
2794 run;
2795
2796 proc format;
2797 value Regroup
2798     0='Yes'
2799     1='No';
2800 run;
2801 proc logistic data=sasintro.dakota15reg;
2802 label
2803     Q19='Respondent Age'
2804     Q20='Respondent Gender'
2805     Q21='Respondent Level of Education'
2806     Q22='Principal Occupation'
2807     Q23='Gross farm/ranch sales'
2808     Q1=' Years as a farm operator'
2809     Q3A='Farmland acres operated in 2014'
2810     Q4='Ownership Status in 2014'
2811     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';

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2812 class NQ9fYN state / param=ref;
2813 model NQ9fYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 state/rsquare;
2814 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2815          Q3A Farmland. Q4 Ownership. NQ9fYN Regroup.;
2816 run;
2817
2818
2819 /*Region based Regression*/
2820
2821 proc format;
2822 value Age
2823     1='19 to 34 years'
2824     2='35 to 49 years'
2825     3='50 to 59 years'
2826     4='60 to 69 years'
2827     5='70 years and over';
2828
2829 value Gender
2830     1='Male'
2831     2='Female';
2832
2833 value Education
2834     1='Less than high school'
2835     2='High school'
2836     3='Some college/technical school'
2837     4='4-year college degree'
2838     5='Advanced degree (Masters, etc.)';
2839
2840 value Occupation
2841     1='Farming or Ranching'
2842     2='Employment in off-farm job'
2843     3='Own/operate a non-farm business'
2844     4='Retired';
2845
2846 value Sales
2847
2848     12='Less than $99,999'
2849     3='From $100,000 up to $249,999'
2850     4='From $250,000 up to $499,999'
2851     5='From $500,000 up to $999,999'
2852     6='$1 million or more';
2853 run;
2854
2855 proc format;
2856 value operation
2857     1='Have been a farm operator'
2858     2='less than 10 years as a farm operator'
2859     3='10 to 10 years as a farm operator'
2860     4='20 to 29 years as a farm operator'
2861     5='30 years or more as a farm operator'
2862     ;
2863 run;
2864
2865
2866 proc format;
2867 value Farmland 10-259='1 to 259 acres'
2868                260-499='260 to 499 acres'
2869                500-999='500 to 999 acres'
2870                1000-1999='1000 to 1999 acres'
2871                2000-4999='2000 to 4999 acres'
2872                5000-high ='5000 acres and above';
2873 run;
2874
2875 proc format;
2876 value Ownership
2877     1='Own all acres farmed'
2878     2='Own most acres farmed, rented the remainder'
2879     3='Own and rent roughly equal number of farmland acres'
2880     4='Rented most of the acres farmed,owned the remainder'
2881     5='Rented all acres farmland'
2882     6='Professional farm manager';
2883 run;
2884
2885
2886 proc format;
2887 value Regroup

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2888      0='Yes'
2889      1='No';
2890 run;
2891 proc logistic data=sasintro.dakota15reg;
2892 label
2893     Q19='Respondent Age'
2894     Q20='Respondent Gender'
2895     Q21='Respondent Level of Education'
2896     Q22='Principal Occupation'
2897     Q23='Gross farm/ranch sales'
2898     Q1=' Years as a farm operator'
2899     Q3A='Farmland acres operated in 2014'
2900     Q4='Ownership Status in 2014'
2901     NQ9aYN='Conversion of native grass to cropland';
2902 class NQ9aYN Region / param=ref;
2903 model NQ9aYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
2904 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2905         Q3A Farmland. Q4 Ownership. NQ9aYN Regroup.;
2906 run;
2907
2908
2909 proc format;
2910 value Regroup
2911     0='Yes'
2912     1='No';
2913 run;
2914 proc logistic data=sasintro.dakota15reg;
2915 label
2916     Q19='Respondent Age'
2917     Q20='Respondent Gender'
2918     Q21='Respondent Level of Education'
2919     Q22='Principal Occupation'
2920     Q23='Gross farm/ranch sales'
2921     Q1=' Years as a farm operator'
2922     Q3A='Farmland acres operated in 2014'
2923     Q4='Ownership Status in 2014'
2924     NQ9bYN='Conversion of tame grassland to cropland';
2925 class NQ9bYN Region/ param=ref;
2926 model NQ9bYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
2927 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2928         Q3A Farmland. Q4 Ownership. NQ9bYN Regroup.;
2929 run;
2930
2931 proc format;
2932 value Regroup
2933     0='Yes'
2934     1='No';
2935 run;
2936 proc logistic data=sasintro.dakota15reg;
2937 label
2938     Q19='Respondent Age'
2939     Q20='Respondent Gender'
2940     Q21='Respondent Level of Education'
2941     Q22='Principal Occupation'
2942     Q23='Gross farm/ranch sales'
2943     Q1=' Years as a farm operator'
2944     Q3A='Farmland acres operated in 2014'
2945     Q4='Ownership Status in 2014'
2946     NQ9cYN='Conversion of CRP land to cropland';
2947 class NQ9cYN Region/ param=ref;
2948 model NQ9cYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
2949 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2950         Q3A Farmland. Q4 Ownership. NQ9cYN Regroup.;
2951 run;
2952
2953 proc format;
2954 value Regroup
2955     0='Yes'
2956     1='No';
2957 run;
2958 proc logistic data=sasintro.dakota15reg;
2959 label
2960     Q19='Respondent Age'
2961     Q20='Respondent Gender'
2962     Q21='Respondent Level of Education'
2963     Q22='Principal Occupation'

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2964      Q23='Gross farm/ranch sales'
2965      Q1='Years as a farm operator'
2966      Q3A='Farmland acres operated in 2014'
2967      Q4='Ownership Status in 2014'
2968      NQ9dYN='Conversion of CRP land to pasture/hay';
2969      class NQ9dYN Region / param=ref;
2970      model NQ9dYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
2971      format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2972      Q3A Farmland. Q4 Ownership. NQ9dYN Regroup.;
2973      run;
2974
2975      proc format;
2976      value Regroup
2977      0='Yes'
2978      1='No';
2979      run;
2980      proc logistic data=sasintro.dakota15reg;
2981      label
2982      Q19='Respondent Age'
2983      Q20='Respondent Gender'
2984      Q21='Respondent Level of Education'
2985      Q22='Principal Occupation'
2986      Q23='Gross farm/ranch sales'
2987      Q1=' Years as a farm operator'
2988      Q3A='Farmland acres operated in 2014'
2989      Q4='Ownership Status in 2014'
2990      NQ9eYN='Enrollment of farmland acres into CRP';
2991      class NQ9eYN Region / param=ref;
2992      model NQ9eYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
2993      format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
2994      Q3A Farmland. Q4 Ownership. NQ9eYN Regroup.;
2995      run;
2996
2997      proc format;
2998      value Regroup
2999      0='Yes'
3000      1='No';
3001      run;
3002      proc logistic data=sasintro.dakota15reg;
3003      label
3004      Q19='Respondent Age'
3005      Q20='Respondent Gender'
3006      Q21='Respondent Level of Education'
3007      Q22='Principal Occupation'
3008      Q23='Gross farm/ranch sales'
3009      Q1=' Years as a farm operator'
3010      Q3A='Farmland acres operated in 2014'
3011      Q4='Ownership Status in 2014'
3012      NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3013      class NQ9fYN Region / param=ref;
3014      model NQ9fYN = Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4 Region /rsquare;
3015      format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
3016      Q3A Farmland. Q4 Ownership. NQ9fYN Regroup.;
3017      run;
3018
3019
3020      /*extra analysis start*/
3021
3022      proc format;
3023      value Regroup
3024      0='Yes'
3025      1='No';
3026      run;
3027      proc logistic data=sasintro.dakota15reg;
3028      label CaseID='State'
3029      Q19='Respondent Age'
3030      NQ9aYN='Conversion of native grass to cropland'
3031      NQ9bYN='Conversion of tamend grassland to cropland'
3032      NQ9cYN='Conversion of CRP land to cropland'
3033      NQ9dYN='Conversion of CRP land to pasture/hay'
3034      NQ9eYN='Enrollment of farmland acres to CRP'
3035      NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3036      class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3037      model Q19 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3038      format Q19 Age. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup. Ca
3039      run;

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3040
3041
3042 proc logistic data=sasintro.dakota15reg;
3043 label
3044     Q19='Respondent Age'
3045     NQ9aYN='Conversion of native grass to cropland'
3046     NQ9bYN='Conversion of tamend grassland to cropland'
3047     NQ9cYN='Conversion of CRP land to cropland'
3048     NQ9dYN='Conversion of CRP land to pasture/hay'
3049     NQ9eYN='Enrollment of farmland acres to CRP'
3050     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3051 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3052 model Q19 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3053 format Q19 Age. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3054 run;
3055
3056 proc logistic data=sasintro.dakota15reg;
3057 label CaseID='State'
3058     Q20='Respondent Gender'
3059     NQ9aYN='Conversion of native grass to cropland'
3060     NQ9bYN='Conversion of tamend grassland to cropland'
3061     NQ9cYN='Conversion of CRP land to cropland'
3062     NQ9dYN='Conversion of CRP land to pasture/hay'
3063     NQ9eYN='Enrollment of farmland acres to CRP'
3064     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3065 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3066 model Q20 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3067 format Q20 Gender. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3068 run;
3069
3070
3071 proc logistic data=sasintro.dakota15reg;
3072 label
3073     Q20='Respondent Gender'
3074     NQ9aYN='Conversion of native grass to cropland'
3075     NQ9bYN='Conversion of tamend grassland to cropland'
3076     NQ9cYN='Conversion of CRP land to cropland'
3077     NQ9dYN='Conversion of CRP land to pasture/hay'
3078     NQ9eYN='Enrollment of farmland acres to CRP'
3079     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3080 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3081 model Q20 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3082 format Q20 Gender. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3083 run;
3084
3085
3086 proc logistic data=sasintro.dakota15reg;
3087 label CaseID='State'
3088     Q21='Respondent Level of Education'
3089     NQ9aYN='Conversion of native grass to cropland'
3090     NQ9bYN='Conversion of tamend grassland to cropland'
3091     NQ9cYN='Conversion of CRP land to cropland'
3092     NQ9dYN='Conversion of CRP land to pasture/hay'
3093     NQ9eYN='Enrollment of farmland acres to CRP'
3094     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3095 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3096 model Q21 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3097 format Q21 Education. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3098 run;
3099
3100
3101 proc logistic data=sasintro.dakota15reg;
3102 label
3103     Q21='Respondent Level of Education'
3104     NQ9aYN='Conversion of native grass to cropland'
3105     NQ9bYN='Conversion of tamend grassland to cropland'
3106     NQ9cYN='Conversion of CRP land to cropland'
3107     NQ9dYN='Conversion of CRP land to pasture/hay'
3108     NQ9eYN='Enrollment of farmland acres to CRP'
3109     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3110 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3111 model Q21 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3112 format Q21 Education. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3113 run;
3114
3115

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3116 proc logistic data=sasintro.dakota15reg;
3117 label CaseID='State'
3118       Q22='Principal Occupation'
3119       NQ9aYN='Conversion of native grass to cropland'
3120       NQ9bYN='Conversion of tamend grassland to cropland'
3121       NQ9cYN='Conversion of CRP land to cropland'
3122       NQ9dYN='Conversion of CRP land to pasture/hay'
3123       NQ9eYN='Enrollment of farmland acres to CRP'
3124       NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3125 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3126 model Q22 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3127 format Q22 Occupation. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regr
3128 run;
3129
3130
3131 proc logistic data=sasintro.dakota15reg;
3132 label
3133       Q22='Principal Occupation'
3134       NQ9aYN='Conversion of native grass to cropland'
3135       NQ9bYN='Conversion of tamend grassland to cropland'
3136       NQ9cYN='Conversion of CRP land to cropland'
3137       NQ9dYN='Conversion of CRP land to pasture/hay'
3138       NQ9eYN='Enrollment of farmland acres to CRP'
3139       NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3140 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3141 model Q22 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3142 format Q22 Occupation. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regr
3143 run;
3144
3145 proc logistic data=sasintro.dakota15reg;
3146 label CaseID='State'
3147       Q23='Gross farm/ranch sales'
3148       NQ9aYN='Conversion of native grass to cropland'
3149       NQ9bYN='Conversion of tamend grassland to cropland'
3150       NQ9cYN='Conversion of CRP land to cropland'
3151       NQ9dYN='Conversion of CRP land to pasture/hay'
3152       NQ9eYN='Enrollment of farmland acres to CRP'
3153       NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3154 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3155 model Q23 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3156 format Q23 Sales. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.
3157 run;
3158
3159
3160 proc logistic data=sasintro.dakota15reg;
3161 label
3162       Q23='Gross farm/ranch sales'
3163       NQ9aYN='Conversion of native grass to cropland'
3164       NQ9bYN='Conversion of tamend grassland to cropland'
3165       NQ9cYN='Conversion of CRP land to cropland'
3166       NQ9dYN='Conversion of CRP land to pasture/hay'
3167       NQ9eYN='Enrollment of farmland acres to CRP'
3168       NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3169 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3170 model Q23 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3171 format Q23 Sales. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.;
3172 run;
3173
3174 proc logistic data=sasintro.dakota15reg;
3175 label CaseID='State'
3176       Q1='Years as a farm opertor'
3177       NQ9aYN='Conversion of native grass to cropland'
3178       NQ9bYN='Conversion of tamend grassland to cropland'
3179       NQ9cYN='Conversion of CRP land to cropland'
3180       NQ9dYN='Conversion of CRP land to pasture/hay'
3181       NQ9eYN='Enrollment of farmland acres to CRP'
3182       NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3183 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3184 model Q1 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3185 format Q1 Operation. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regrou
3186 run;
3187
3188
3189 proc logistic data=sasintro.dakota15reg;
3190 label
3191       Q1='Years as a farm opertor'

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3192     NQ9aYN='Conversion of native grass to cropland'
3193     NQ9bYN='Conversion of tamend grassland to cropland'
3194     NQ9cYN='Conversion of CRP land to cropland'
3195     NQ9dYN='Conversion of CRP land to pasture/hay'
3196     NQ9eYN='Enrollment of farmland acres to CRP'
3197     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3198 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3199 model Q1 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3200 format Q1 Operation. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.
3201 run;
3202
3203
3204 proc format;
3205 value Farmland 10-259='1 to 259 acres'
3206                260-499='260 to 499 acres'
3207                500-999='500 to 999 acres'
3208                1000-1999='1000 to 1999 acres'
3209                2000-4999='2000 to 4999 acres'
3210                5000-high='5000 acres and above';
3211 run;
3212
3213 proc logistic data=sasintro.dakota15reg;
3214 label CaseID='State'
3215        Q3a='Farmland acres operated in 2014'
3216        NQ9aYN='Conversion of native grass to cropland'
3217        NQ9bYN='Conversion of tamend grassland to cropland'
3218        NQ9cYN='Conversion of CRP land to cropland'
3219        NQ9dYN='Conversion of CRP land to pasture/hay'
3220        NQ9eYN='Enrollment of farmland acres to CRP'
3221        NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3222 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3223 model Q3a = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3224 format Q3a Farmland. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.
3225 run;
3226
3227
3228 proc logistic data=sasintro.dakota15reg;
3229 label
3230        Q3a='Farmland acres operated in 2014'
3231        NQ9aYN='Conversion of native grass to cropland'
3232        NQ9bYN='Conversion of tamend grassland to cropland'
3233        NQ9cYN='Conversion of CRP land to cropland'
3234        NQ9dYN='Conversion of CRP land to pasture/hay'
3235        NQ9eYN='Enrollment of farmland acres to CRP'
3236        NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3237 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3238 model Q3a = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3239 format Q3a Farmland. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.
3240 run;
3241
3242
3243 proc format;
3244 value Ownership
3245        1='Own all acres farmed'
3246        2='Own most acres farmed, rented the remainder'
3247        3='Own and rent roughly equal number of farmland acres'
3248        4='Rented most of the acres farmed,owned the remainder'
3249        5='Rented all acres farmland'
3250        6='Professional farm manager';
3251 run;
3252
3253 proc logistic data=sasintro.dakota15reg;
3254 label CaseID='State'
3255        Q4='Ownership Status in 2014'
3256        NQ9aYN='Conversion of native grass to cropland'
3257        NQ9bYN='Conversion of tamend grassland to cropland'
3258        NQ9cYN='Conversion of CRP land to cropland'
3259        NQ9dYN='Conversion of CRP land to pasture/hay'
3260        NQ9eYN='Enrollment of farmland acres to CRP'
3261        NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3262 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID / param=ref;
3263 model Q4 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN CaseID /rsquare;
3264 format Q4 Ownership. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup.
3265 run;
3266
3267

```

```

3268 proc logistic data=sasintro.dakotal5reg;
3269 label
3270     Q4='Ownership Status in 2014'
3271     NQ9aYN='Conversion of native grass to cropland'
3272     NQ9bYN='Conversion of tamend grassland to cropland'
3273     NQ9cYN='Conversion of CRP land to cropland'
3274     NQ9dYN='Conversion of CRP land to pasture/hay'
3275     NQ9eYN='Enrollment of farmland acres to CRP'
3276     NQ9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
3277 class NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region / param=ref;
3278 model Q4 = NQ9aYN NQ9bYN NQ9cYN NQ9dYN NQ9eYN NQ9fYN Region /rsquare;
3279 format Q4 Ownership. NQ9aYN regroup. NQ9bYN regroup. NQ9cYN regroup. NQ9dYN regroup. NQ9eYN regroup. NQ9fYN regroup;
3280 run;
3281
3282 /*extra analysis end */
3283
3284
3285 /* Q10 related regression analysis start */
3286
3287 data sasintro.dakotal5regQ10a;
3288 set sasintro.dakotal5clean;
3289 if (Q10a1=1) then NQ10a1=0;
3290 if (Q10a1=2) or (Q10a1=3) then NQ10a1=1;
3291 if (Q10a1=4) or (Q10a1=5) then NQ10a1=2;
3292
3293 if (Q10a2=1) then NQ10a2=0;
3294 if (Q10a2=2) or (Q10a2=3) then NQ10a2=1;
3295 if (Q10a2=4) or (Q10a2=5) then NQ10a2=2;
3296
3297 if (Q10a10=1) then NQ10a10=0;
3298 if (Q10a10=2) or (Q10a10=3) then NQ10a10=1;
3299 if (Q10a10=4) or (Q10a10=5) then NQ10a10=2;
3300
3301 if (Q10a7=1) then NQ10a7=0;
3302 if (Q10a7=2) or (Q10a7=3) then NQ10a7=1;
3303 if (Q10a7=4) or (Q10a7=5) then NQ10a7=2;
3304
3305 if (Q10a6=1) then NQ10a6=0;
3306 if (Q10a6=2) or (Q10a6=3) then NQ10a6=1;
3307 if (Q10a6=4) or (Q10a6=5) then NQ10a6=2;
3308
3309 if (Q10a3=1) then NQ10a3=0;
3310 if (Q10a3=2) or (Q10a3=3) then NQ10a3=1;
3311 if (Q10a3=4) or (Q10a3=5) then NQ10a3=2;
3312
3313 if (Q10a5=1) then NQ10a5=0;
3314 if (Q10a5=2) or (Q10a5=3) then NQ10a5=1;
3315 if (Q10a5=4) or (Q10a5=5) then NQ10a5=2;
3316
3317 if (Q10a8=1) then NQ10a8=0;
3318 if (Q10a8=2) or (Q10a8=3) then NQ10a8=1;
3319 if (Q10a8=4) or (Q10a8=5) then NQ10a8=2;
3320
3321 if (Q10a9=1) then NQ10a9=0;
3322 if (Q10a9=2) or (Q10a9=3) then NQ10a9=1;
3323 if (Q10a9=4) or (Q10a9=5) then NQ10a9=2;
3324
3325 if (Q10a4=1) then NQ10a4=0;
3326 if (Q10a4=2) or (Q10a4=3) then NQ10a4=1;
3327 if (Q10a4=4) or (Q10a4=5) then NQ10a4=2;
3328 run;
3329 proc print data=sasintro.dakotal5regQ10a;
3330 run;
3331
3332 proc format;
3333 value Reformat
3334     0='No Impact'
3335     1='Some Impact'
3336     2='Great Impact';
3337 run;
3338
3339 proc GLM data=sasintro.dakotal5regQ10a;
3340 class NQ10a1 region;
3341 level NQ10a1='Changing crop prices';
3342 model NQ10a1=region;
3343 format NQ10a1 reformat.;

```

```
3344 run;
3345
3346 proc GLM data=sasintro.dakota15regQ10a;
3347 class NQ10a2 region;
3348 Level Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)';
3349 model NQ10a2=region;
3350 format NQ10a2 reformat.;
3351 run;
3352
3353 proc GLM data=sasintro.dakota15regQ10a;
3354 class NQ10a3 region;
3355 Level Q10a3='Availability of crop and revenue insurance policies';
3356 model NQ10a3=region;
3357 format NQ10a3 reformat.;
3358 run;
3359
3360 proc GLM data=sasintro.dakota15regQ10a;
3361 class NQ10a4 region;
3362 Level NQ10a4='Availability of drought-tolerant seed';
3363 model NQ10a4=region;
3364 format NQ10a4 reformat.;
3365 run;
3366
3367 proc GLM data=sasintro.dakota15regQ10a;
3368 class NQ10a5 region;
3369 Level NQ10a5='Developments in pest management practices, including pest management seed traits';
3370 model NQ10a5=region;
3371 format NQ10a5 reformat.;
3372 run;
3373
3374 proc GLM data=sasintro.dakota15regQ10a;
3375 class NQ10a6 region;
3376 Level NQ10a6='Improved crop yields (other than seed related traits)';
3377 model NQ10a6=region;
3378 format NQ10a6 reformat.;
3379 run;
3380
3381 proc GLM data=sasintro.dakota15regQ10a;
3382 class NQ10a7 region;
3383 Level NQ10a7='Development of more efficient cropping equipment';
3384 model NQ10a7=region;
3385 format NQ10a7 reformat.;
3386 run;
3387
3388 proc GLM data=sasintro.dakota15regQ10a;
3389 class NQ10a7 region;
3390 Level NQ10a7='Development of more efficient cropping equipment';
3391 model NQ10a7=region;
3392 format NQ10a7 reformat.;
3393 run;
3394
3395 proc GLM data=sasintro.dakota15regQ10a;
3396 class NQ10a8 region;
3397 Level NQ10a8='Labor availability problems';
3398 model NQ10a8=region;
3399 format NQ10a8 reformat.;
3400 run;
3401
3402 proc GLM data=sasintro.dakota15regQ10a;
3403 class NQ10a9 region;
3404 Level NQ10a9='Improving wildlife habitat';
3405 model NQ10a9=region;
3406 format NQ10a9 reformat.;
3407 run;
3408
3409 proc GLM data=sasintro.dakota15regQ10a;
3410 class NQ10a10 region;
3411 Level NQ10a10='Changing weather /climate patterns';
3412 model NQ10a10=region;
3413 format NQ10a10 reformat.;
3414 run;
3415
3416 /* Q10a related latest regression */
3417
3418 proc format;
3419 value Impact
```

```
3420     1='No Impact'
3421     2='Slight Impact'
3422     3='Some Impact'
3423     4='Quite a bit of Impact'
3424     5='Great Impact';
3425 run;
3426
3427 proc GLM data=sasintro.dakota15clean;
3428 class Q10a1 region;
3429 level Q10a1='Changing crop prices';
3430 model Q10a1=region;
3431 format Q10a1 impact.;
3432 run;
3433
3434 proc GLM data=sasintro.dakota15clean;
3435 class Q10a2 region;
3436 level Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)';
3437 model Q10a2=region;
3438 format Q10a2 impact.;
3439 run;
3440
3441 proc GLM data=sasintro.dakota15clean;
3442 class Q10a3 region;
3443 level Q10a3='Availability of crop and revenue insurance policies';
3444 model Q10a3=region;
3445 format Q10a3 impact.;
3446 run;
3447
3448 proc GLM data=sasintro.dakota15clean;
3449 class NQ10a4 region;
3450 level Q10a4='Availability of drought-tolerant seed';
3451 model Q10a4=region;
3452 format Q10a4 impact.;
3453 run;
3454
3455 proc GLM data=sasintro.dakota15clean;
3456 class Q10a5 region;
3457 level Q10a5='Developments in pest management practices, including pest management seed traits';
3458 model Q10a5=region;
3459 format Q10a5 impact.;
3460 run;
3461
3462 proc GLM data=sasintro.dakota15clean;
3463 class Q10a6 region;
3464 level Q10a6='Improved crop yields (other than seed related traits)';
3465 model Q10a6=region;
3466 format Q10a6 impact.;
3467 run;
3468
3469 proc GLM data=sasintro.dakota15clean;
3470 class Q10a7 region;
3471 level Q10a7='Development of more efficient cropping equipment';
3472 model Q10a7=region;
3473 format Q10a7 impact.;
3474 run;
3475
3476 proc GLM data=sasintro.dakota15clean;
3477 class Q10a7 region;
3478 level Q10a7='Development of more efficient cropping equipment';
3479 model Q10a7=region;
3480 format Q10a7 impact.;
3481 run;
3482
3483 proc GLM data=sasintro.dakota15clean;
3484 class Q10a8 region;
3485 level Q10a8='Labor availability problems';
3486 model Q10a8=region;
3487 format Q10a8 impact.;
3488 run;
3489
3490 proc GLM data=sasintro.dakota15clean;
3491 class Q10a9 region;
3492 level Q10a9='Improving wildlife habitat';
3493 model Q10a9=region;
3494 format Q10a9 impact.;
3495 run;
```

```

3496
3497 proc GLM data=sasintro.dakota15clean;
3498 class Q10a10 region;
3499 Level Q10a10='Changing weather /climate patterns';
3500 model Q10a10=region;
3501 format Q10a10 impact.;
3502 run;
3503
3504
3505
3506 /* Q10a related regression analysis extra not related */
3507
3508 /*creating region numeric*/
3509
3510 data sasintro.dakota15num;
3511 set sasintro.dakota15;
3512 if Region='East North Dakota' then Region=1;
3513 if Region='Central North Dakota' then Region=2;
3514 if Region='North Central South Dakota' then Region=3;
3515 if Region='Central South Dakota' then Region=4;
3516 if Region='East Central South Dakota' then Region=5;
3517 if Region='North East South Dakota' then Region=6;
3518
3519 if (Q10a1=1) then NQ10a1=0;
3520 if (Q10a1=2) or (Q10a1=3) then NQ10a1=1;
3521 if (Q10a1=4) or (Q10a1=5) then NQ10a1=2;
3522
3523 if (Q10a2=1) then NQ10a2=0;
3524 if (Q10a2=2) or (Q10a2=3) then NQ10a2=1;
3525 if (Q10a2=4) or (Q10a2=5) then NQ10a2=2;
3526
3527 if (Q10a10=1) then NQ10a10=0;
3528 if (Q10a10=2) or (Q10a10=3) then NQ10a10=1;
3529 if (Q10a10=4) or (Q10a10=5) then NQ10a10=2;
3530
3531 if (Q10a7=1) then NQ10a7=0;
3532 if (Q10a7=2) or (Q10a7=3) then NQ10a7=1;
3533 if (Q10a7=4) or (Q10a7=5) then NQ10a7=2;
3534
3535 if (Q10a6=1) then NQ10a6=0;
3536 if (Q10a6=2) or (Q10a6=3) then NQ10a6=1;
3537 if (Q10a6=4) or (Q10a6=5) then NQ10a6=2;
3538
3539 if (Q10a3=1) then NQ10a3=0;
3540 if (Q10a3=2) or (Q10a3=3) then NQ10a3=1;
3541 if (Q10a3=4) or (Q10a3=5) then NQ10a3=2;
3542
3543 if (Q10a5=1) then NQ10a5=0;
3544 if (Q10a5=2) or (Q10a5=3) then NQ10a5=1;
3545 if (Q10a5=4) or (Q10a5=5) then NQ10a5=2;
3546
3547 if (Q10a8=1) then NQ10a8=0;
3548 if (Q10a8=2) or (Q10a8=3) then NQ10a8=1;
3549 if (Q10a8=4) or (Q10a8=5) then NQ10a8=2;
3550
3551 if (Q10a9=1) then NQ10a9=0;
3552 if (Q10a9=2) or (Q10a9=3) then NQ10a9=1;
3553 if (Q10a9=4) or (Q10a9=5) then NQ10a9=2;
3554
3555 if (Q10a4=1) then NQ10a4=0;
3556 if (Q10a4=2) or (Q10a4=3) then NQ10a4=1;
3557 if (Q10a4=4) or (Q10a4=5) then NQ10a4=2;
3558 run;
3559
3560 proc print data=sasintro.dakota15num;
3561 run;
3562
3563 proc format;
3564 value regroup
3565     0='No Impact'
3566     1='Some Impact'
3567     2='Great Impact';
3568 run;
3569 /*proc format;
3570 value geografic
3571     1 ='East North Dakota'

```

```

3572     2='Central North Dakota'
3573     3='North Central South Dakota'
3574     4='Central South Dakota'
3575     5='East Central South Dakota'
3576     6='North East South Dakota';
3577 run; */
3578
3579 proc logistic data=sasintro.dakota15num;
3580 label
3581     Q10a1='Changing crop prices'
3582     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
3583     Q10a3='Availability of crop and revenue insurance policies'
3584     Q10a4='Availability of drought-tolerant seed'
3585     Q10a5='Developments in pest management practices, including pest management seed traits'
3586     Q10a6='Improved crop yields (other than seed related traits)'
3587     Q10a7='Development of more efficient cropping equipment'
3588     Q10a8='Labor availability problems'
3589     Q10a9='Improving wildlife habitat'
3590     Q10a10='Changing weather /climate patterns';
3591 class NQ10a1 NQ10a2 NQ10a3 NQ10a4 NQ10a5 NQ10a6 NQ10a7 NQ10a8 NQ10a9 NQ10a10 region / param=ref;
3592 model Region = NQ10a1 NQ10a2 NQ10a3 NQ10a4 NQ10a5 NQ10a6 NQ10a7 NQ10a8 NQ10a9 NQ10a10 /rsquare;
3593 format NQ10a1 regroup. NQ10a2 regroup. NQ10a3 regroup. NQ10a4 regroup. NQ10a5 regroup. NQ10a6 regroup.
3594         NQ10a7 regroup. NQ10a8 regroup. NQ10a9 regroup. NQ10a10 regroup.;
3595 run;
3596
3597
3598 proc logistic data=sasintro.dakota15num;
3599 label CaseID='State'
3600     Q10a1='Changing crop prices'
3601     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
3602     Q10a3='Availability of crop and revenue insurance policies'
3603     Q10a4='Availability of drought-tolerant seed'
3604     Q10a5='Developments in pest management practices, including pest management seed traits'
3605     Q10a6='Improved crop yields (other than seed related traits)'
3606     Q10a7='Development of more efficient cropping equipment'
3607     Q10a8='Labor availability problems'
3608     Q10a9='Improving wildlife habitat'
3609     Q10a10='Changing weather /climate patterns';
3610 class NQ10a1 NQ10a2 NQ10a3 NQ10a4 NQ10a5 NQ10a6 NQ10a7 NQ10a8 NQ10a9 NQ10a10 CaseID / param=ref;
3611 model CaseID = NQ10a1 NQ10a2 NQ10a3 NQ10a4 NQ10a5 NQ10a6 NQ10a7 NQ10a8 NQ10a9 NQ10a10 /rsquare;
3612 format NQ10a1 regroup. NQ10a2 regroup. NQ10a3 regroup. NQ10a4 regroup. NQ10a5 regroup. NQ10a6 regroup.
3613         NQ10a7 regroup. NQ10a8 regroup. NQ10a9 regroup. NQ10a10 regroup. CaseID State.;
3614 run;
3615
3616
3617
3618 /* Are there land use changes reported by farmers during the past 10 year
3619 in the context of farmers expanding, contracting, or remaining the same size
3620 (in terms of acres operated) during the past 10 yeras?*/
3621
3622 /** question 5a**/
3623
3624 proc format;
3625 value Currentacres
3626     1 = 'Fewer acres than 10 years ago (by over 10%)'
3627     2 = 'No change or a minor change'
3628     3 = 'More acres than 10 years ago (by over 10%)';
3629 proc freq data=sasintro.dakota15;
3630 label CaseID='State'
3631     Q5a ='Cropland acres operated';
3632 tables Q5a*CaseID / norow nocum;
3633 format Q5a Currentacres. CaseID State.;
3634 run;
3635
3636 /** question 5b**/
3637 proc format;
3638 value Currentacres
3639     1 = 'Fewer acres than 10 years ago (by over 10%)'
3640     2 = 'No change or a minor change'
3641     3 = 'More acres than 10 years ago (by over 10%)';
3642 proc freq data=sasintro.dakota15;
3643 label CaseID='State'
3644     Q5b ='Pasture/rangeland acres operated';
3645 tables Q5b*CaseID / norow nocum;
3646 format Q5b Currentacres. CaseID State.;
3647 run;

```



```

3648
3649
3650 /* develop a composite variable GRASCROP to include any respondent that
3651 made a grass/CRP conversion to cropland decison:
3652 yes respondent answered yes or code=1 to convert native grassland to cropland */
3653
3654 data sasintro.dakotal5reg1;
3655     set sasintro.dakotal5clean;
3656
3657 GRASCROP=0;
3658     if (Q9aYN=1) or (Q9bYN=1) or (Q9cYN=1) then GRASCROP=1;
3659     if (Q9aYN=.) or (Q9bYN=.) or (Q9cYN=.) then GRASCROP=.;
3660
3661 CRPUSE=0;
3662     if (Q9cYN=1) or (Q9dYN=1) or (Q9eYN=1) then CRPUSE=1;
3663     if (Q9cYN=.) or (Q9dYN=.) or (Q9eYN=.) then CRPUSE=.;
3664
3665 RUN;
3666
3667 proc print data=sasintro.dakotal5reg1;run;
3668
3669 /*data sasintro.dakotal5reg2;
3670     set sasintro.dakotal5reg1;
3671 GCROP=.;
3672 GCROP= (Q9AYN*100)+(Q9BYN*10)+Q9CYN;
3673 RUN;
3674 proc print data=sasintro.dakotal5reg2;run;
3675
3676 data sasintro.dakotal5reg3;
3677     set sasintro.dakotal5reg2;
3678
3679 GRASCROP=.;
3680     if GCROP=1 then GRASCROP=1;
3681 proc print data=sasintro.dakotal5reg3;run;*/
3682
3683
3684 /*data sasintro.dakotal5reg1;
3685     set sasintro.dakotal5clean;
3686     if (Q9aYN=1) or (Q9bYN=1) or (Q9cYN=1) then GRASCROP=0;
3687     if (Q9aYN=2) or (Q9bYN=2) or (Q9cYN=2) then GRASCROP=1;
3688
3689     if (Q9cYN=1) or (Q9dYN=1) or (Q9eYN=1) then CRPUSE=0;
3690     if (Q9cYN=2) or (Q9dYN=2) or (Q9eYN=2) then CRPUSE=1;
3691
3692 RUN;
3693 proc print data=sasintro.dakotal5reg1;run; */
3694
3695
3696
3697 /* cross tab chi square test, Q9 part one GRASCROP region and state based, 19, 20, 21, 22, 23, */
3698
3699 proc format;
3700 value Response
3701     1='Yes'
3702     2='No';
3703 run;
3704
3705 proc freq data=sasintro.dakotal5reg1;
3706 label Q9AYN='Conversion of native grassland to cropland'
3707       Q9BYN='Conversion of tame grassland to cropland'
3708       Q9CYN='Conversion of CRP land to cropland'
3709       GRASCROP='grass/CRP conversion to cropland decison: ';
3710
3711 tables (Q9AYN Q9BYN Q9CYN)* GRASCROP/chisq;
3712 format Q9aYN Response. Q9bYN Response. Q9cYN Response. ;
3713 run;
3714
3715 proc freq data=sasintro.dakotal5reg1;
3716 label Q9CYN='Conversion of CRP land to cropland'
3717       Q9DYN='Conversion of CRP land to pasture/hay'
3718       Q9EYN='Enrollment of farm acres into CRP'
3719       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3720
3721 tables (Q9CYN Q9DYN Q9EYN)* CRPUSE/chisq;
3722 format Q9CYN Response. Q9DYN Response. Q9EYN Response. ;
3723 run;

```

```

3724 |
3725 |
3726 | proc format;
3727 | value Age
3728 |     1='19 to 34 years'
3729 |     2='35 to 49 years'
3730 |     3='50 to 59 years'
3731 |     4='60 to 69 years'
3732 |     5='70 years and over';
3733 |
3734 | value Gender
3735 |     1='Male'
3736 |     2='Female';
3737 |
3738 | value Education
3739 |     1='Less than high school'
3740 |     2='High school'
3741 |     3='Some college/technical school'
3742 |     4='4-year college degree'
3743 |     5='Advanced degree (Masters, etc.)';
3744 |
3745 | value Occupation
3746 |     1='Farming or Ranching'
3747 |     2='Employment in off-farm job'
3748 |     3='Own/operate a non-farm business'
3749 |     4='Retired';
3750 |
3751 | value Sales
3752 |
3753 |     12='Less than $99,999'
3754 |     3='From $100,000 up to $249,999'
3755 |     4='From $250,000 up to $499,999'
3756 |     5='From $500,000 up to $999,999'
3757 |     6='$1 million or more';
3758 | run;
3759 |
3760 |
3761 | proc freq data=sasintro.dakotal5reg1;
3762 | label Q19='Respondent Age'
3763 |       GRASCROP='grass/CRP conversion to cropland decison: ';
3764 | tables GRASCROP*Q19/chisq;
3765 | format Q19 Age. ;
3766 | run;
3767 |
3768 |
3769 | proc freq data=sasintro.dakotal5reg1;
3770 | label Q20='Respondent Gender'
3771 |       GRASCROP='grass/CRP conversion to cropland decison: ';
3772 | tables GRASCROP*Q20/chisq;
3773 | format Q20 Gender. ;
3774 | run;
3775 |
3776 |
3777 | proc freq data=sasintro.dakotal5reg1;
3778 | label Q21='Respondent Level of Education'
3779 |       GRASCROP='grass/CRP conversion to cropland decison: ';
3780 | tables GRASCROP*Q21/chisq;
3781 | format Q21 Education. ;
3782 | run;
3783 |
3784 |
3785 | proc freq data=sasintro.dakotal5reg1;
3786 | label Q22='Principal Occupation'
3787 |       GRASCROP='grass/CRP conversion to cropland decison: ';
3788 | tables GRASCROP*Q22/chisq;
3789 | format Q22 Occupation. ;
3790 | run;
3791 |
3792 |
3793 | proc freq data=sasintro.dakotal5reg1;
3794 | label Q23='Gross farm/ranch sales'
3795 |       GRASCROP='grass/CRP conversion to cropland decison: ';
3796 | tables GRASCROP*Q23/chisq;
3797 | format Q23 Sales. ;
3798 | run;
3799 |

```

```

3800
3801
3802 proc format;
3803 value operation
3804     1='Have been a farm operator'
3805     2='less than 10 years as a farm operator'
3806     3='10 to 10 years as a farm operator'
3807     4='20 to 29 years as a farm operator'
3808     5='30 years or more as a farm operator';
3809
3810 run;
3811
3812 proc freq data=sasintro.dakotal5reg1;
3813 label Q1= 'Year As a Farm Operator'
3814     GRASCROP='grass/CRP conversion to cropland decison: ';
3815 tables GRASCROP*Q1/chisq;
3816 format Q1 Operation. ;
3817 run;
3818
3819
3820 proc format;
3821 value Farmland 10-259='10 to 259 acres'
3822     260-499='260 to 499 acres'
3823     500-999='500 to 999 acres'
3824     1000-1999='1000 to 1999 acres'
3825     2000-4999='2000 to 4999 acres'
3826     5000-high ='5000 acres and above';
3827
3828 run;
3829
3830 proc freq data=sasintro.dakotal5reg1;
3831 label Q3A= 'Farmland Acres Operated in 2014'
3832     GRASCROP='grass/CRP conversion to cropland decison: ';
3833 tables GRASCROP*Q3A/chisq;
3834 format Q3A Farmland.;
3835 run;
3836
3837 proc format;
3838 value Ownership
3839     1='Own all acres farmed'
3840     2='Own most acres farmed, rented the remainder'
3841     3='Own and rent roughly equal number of farmland acres'
3842     4='Rented most of the acres farmed,owned the remainder'
3843     5='Rented all acres farmland'
3844     6='Professional farm manager';
3845
3846 run;
3847
3848 proc freq data=sasintro.dakotal5reg1;
3849 label Q4= 'Best Ownership Status in 2014'
3850     GRASCROP='grass/CRP conversion to cropland decison: ';
3851 tables GRASCROP*Q4/chisq;
3852 format Q4 Ownership. GRASCROP Reresponse.;
3853 run;
3854
3855 proc freq data=sasintro.dakotal5reg1;
3856 label
3857     GRASCROP='grass/CRP conversion to cropland decison: ';
3858 table GRASCROP*State/chisq;
3859 run;
3860
3861 proc freq data=sasintro.dakotal5reg1;
3862 label GRASCROP='grass/CRP conversion to cropland decison: ';
3863 table GRASCROP*Region/chisq;
3864 run;
3865
3866 /*cross tab chi square test, Q9 part one CRPUSE
3867 AND region and state based, 19, 20, 21, 22, 23, */
3868
3869 proc format;
3870 value Age
3871     1='19 to 34 years'
3872     2='35 to 49 years'
3873     3='50 to 59 years'
3874     4='60 to 69 years'
3875     5='70 years and over';

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3876 value Gender
3877     1='Male'
3878     2='Female';
3879
3880 value Education
3881     1='Less than high school'
3882     2='High school'
3883     3='Some college/technical school'
3884     4='4-year college degree'
3885     5='Advanced degree (Masters, etc.)';
3886
3887 value Occupation
3888     1='Farming or Ranching'
3889     2='Employment in off-farm job'
3890     3='Own/operate a non-farm business'
3891     4='Retired';
3892
3893 value Sales
3894
3895     12='Less than $99,999'
3896     3='From $100,000 up to $249,999'
3897     4='From $250,000 up to $499,999'
3898     5='From $500,000 up to $999,999'
3899     6='$1 million or more';
3900 run;
3901
3902 proc freq data=sasintro.dakotal5reg1;
3903 label Q19='Respondent Age'
3904       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3905 tables CRPUSE*Q19/chisq;
3906 format Q19 Age. ;
3907 run;
3908
3909
3910 proc freq data=sasintro.dakotal5reg1;
3911 label Q20='Respondent Gender'
3912       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3913 tables CRPUSE*Q20/chisq;
3914 format Q20 Gender. ;
3915 run;
3916
3917
3918 proc freq data=sasintro.dakotal5reg1;
3919 label Q21='Respondent Level of Education'
3920       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3921 tables CRPUSE*Q21/chisq;
3922 format Q21 Education. ;
3923 run;
3924
3925
3926 proc freq data=sasintro.dakotal5reg1;
3927 label Q22='Principal Occupation'
3928       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3929 tables CRPUSE*Q22/chisq;
3930 format Q22 Occupation. ;
3931 run;
3932
3933
3934 proc freq data=sasintro.dakotal5reg1;
3935 label Q23= 'Gross farm/ranch sales'
3936       CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3937 tables CRPUSE*Q23/chisq;
3938 format Q23 Sales. ;
3939 run;
3940
3941
3942
3943 proc format;
3944 value operation
3945     1='Have been a farm operator'
3946     2='less than 10 years as a farm operator'
3947     3='10 to 10 years as a farm operator'
3948     4='20 to 29 years as a farm operator'
3949     5='30 years or more as a farm operator';
3950
3951 run;

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3952
3953 proc freq data=sasintro.dakotal5reg1;
3954 label Q1= 'Year As a Farm Operator'
3955         CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3956 tables CRPUSE*Q1/chisq;
3957 format Q1 Operation.;
3958 run;
3959
3960
3961 proc format;
3962 value Farmland 10-259='10 to 259 acres'
3963                260-499='260 to 499 acres'
3964                500-999='500 to 999 acres'
3965                1000-1999='1000 to 1999 acres'
3966                2000-4999='2000 to 4999 acres'
3967                5000-high ='5000 acres and above';
3968 run;
3969
3970 proc freq data=sasintro.dakotal5reg1;
3971 label Q3A= 'Farmland Acres Operated in 2014'
3972         CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3973 tables CRPUSE*Q3A/chisq;
3974 format Q3A Farmland. ;
3975 run;
3976
3977 proc format;
3978 value Ownership
3979     1='Own all acres farmed'
3980     2='Own most acres farmed, rented the remainder'
3981     3='Own and rent roughly equal number of farmland acres'
3982     4='Rented most of the acres farmed,owned the remainder'
3983     5='Rented all acres farmland'
3984     6='Professional farm manager';
3985 run;
3986
3987 proc freq data=sasintro.dakotal5reg1;
3988 label Q4= 'Best Ownership Status in 2014'
3989         CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3990 tables CRPUSE*Q4/chisq;
3991 format Q4 Ownership.;
3992 run;
3993
3994 proc freq data=sasintro.dakotal5reg1;
3995 label
3996     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
3997 table CRPUSE*State/chisq;
3998 run;
3999
4000
4001 proc freq data=sasintro.dakotal5reg1;
4002 label CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
4003 table CRPUSE*Region/chisq;
4004 run;
4005
4006 proc format;
4007 value CRPLand 0 ='0 acres'
4008              1-9 = '1 to 9 acres'
4009              10-49 ='10 to 49 acres'
4010              50-69 ='50 to 69 acres'
4011              70-99 ='70 to 99 acres'
4012              100-139 ='100 to 139 acres'
4013              140-179 ='140 to 179 acres'
4014              180-219 ='180 to 219 acres'
4015              220-259 ='220 to 259 acres'
4016              260-499 ='260 to 499 acres'
4017              500-999 ='500 to 999 acres'
4018              1000-1999 ='1,000 to 1,999 acres'
4019              2000-4999 ='2,000 to 4,999 acres'
4020              5000-high ='5000 acres and above';
4021 run;
4022
4023 proc freq data=sasintro.dakotal5reg1;
4024 label Q3C= 'CRP acres in 2014'
4025         CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
4026 tables CRPUSE*Q3C/chisq;
4027 format Q3C CRPLand.;

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4028 run;
4029
4030
4031 /* depending on your findings related to (2) on farm-related issues affecting
4032 their own decisions, we may further investigating the farm related issues
4033 (Q15a and 15b) that impact changes in their local area. */
4034
4035 /** question 15a **/
4036
4037 proc format;
4038 value Areaimpact
4039     0='Not applicable (No change)'
4040     1='No Impact'
4041     2='Slight Impact'
4042     3='Some Impact'
4043     4='Quite a bit of Impact'
4044     5='Great Impact';
4045
4046 run;
4047 proc freq data=sasintro.dakotal5reg1;
4048 label
4049     Q15a1='Changing crop prices'
4050     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4051     Q15a3='Availability of crop and revenue insurance policies'
4052     Q15a4='Availability of drought-tolerant seed'
4053     Q15a5='Developments in pest management practices, including pest management seed traits'
4054     Q15a6='Improved crop yields (other than seed related traits)'
4055     Q15a7='Development of more efficient cropping equipment'
4056     Q15a8='Labor availability problems'
4057     Q15a9='Improving wildlife habitat'
4058     Q15a10='Changing weather /climate patterns';
4059 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*State/chisq;
4060 format Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact. Q15a4 Areaimpact. Q15a5 Areaimpact.
4061 Q15a6 Areaimpact. Q15a7 Areaimpact. Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4062 run;
4063
4064 proc format;
4065 value Areaimpact
4066     0='Not applicable (No change)'
4067     1='No Impact'
4068     2='Slight Impact'
4069     3='Some Impact'
4070     4='Quite a bit of Impact'
4071     5='Great Impact';
4072
4073 run;
4074 proc freq data=sasintro.dakotal5reg1;
4075 label
4076     Q15a1='Changing crop prices'
4077     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4078     Q15a3='Availability of crop and revenue insurance policies'
4079     Q15a4='Availability of drought-tolerant seed'
4080     Q15a5='Developments in pest management practices, including pest management seed traits'
4081     Q15a6='Improved crop yields (other than seed related traits)'
4082     Q15a7='Development of more efficient cropping equipment'
4083     Q15a8='Labor availability problems'
4084     Q15a9='Improving wildlife habitat'
4085     Q15a10='Changing weather /climate patterns';
4086 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Region/chisq;
4087 format Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact. Q15a4 Areaimpact. Q15a5 Areaimpact.
4088 Q15a6 Areaimpact. Q15a7 Areaimpact. Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4089 run;
4090
4091
4092
4093 *question 15b;
4094
4095 proc format;
4096 value State
4097     1001-2182,9002='North Dakota'
4098     2183-4000,9001='South Dakota';
4099 value biggestimpact
4100     0 = 'No applicable (No change)'
4101     01 = 'Changing crop prices'
4102     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
4103     03 = 'Availability of crop and revenue insurance policies'

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4104      04= 'Availability of drought-tolerant seed'
4105      05= 'Developments in pest management practices, including pest management seed traits'
4106      06= 'Improved crop yields (other than seed related traits) '
4107      07 = 'Development of more efficient cropping equipment'
4108      08 = 'Labor availability problems'
4109      09 = 'Improving wildlife habitat'
4110      10 = 'Changing weather /climate patterns';
4111 run;
4112 proc freq data=sasintro.dakotal5reg1;
4113 label
4114     Q15b='Which one issue had the greatest impact on changes in land use in your local area?';
4115 tables Q15b*State/Chisq;
4116 format Q15b biggestimpact.;
4117 run;
4118
4119
4120 proc format;
4121 value State
4122     1001-2182,9002='North Dakota'
4123     2183-4000,9001='South Dakota';
4124 value biggestimpact
4125     0 = 'No applicable (No change)'
4126     01 = 'Changing crop prices'
4127     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
4128     03 = 'Availability of crop and revenue insurance policies'
4129     04= 'Availability of drought-tolerant seed'
4130     05= 'Developments in pest management practices, including pest management seed traits'
4131     06= 'Improved crop yields (other than seed related traits) '
4132     07 = 'Development of more efficient cropping equipment'
4133     08 = 'Labor availability problems'
4134     09 = 'Improving wildlife habitat'
4135     10 = 'Changing weather /climate patterns';
4136
4137 run;
4138 proc freq data=sasintro.dakotal5reg1;
4139 label
4140     Q15b='Which one issue had the greatest impact on changes in land use in your local area?';
4141 tables Q15b*Region/Chisq;
4142 format Q15b biggestimpact.;
4143 run;
4144
4145 /* 15a item and operators characteristics */
4146
4147 proc format;
4148 value Age
4149     1='19 to 34 years'
4150     2='35 to 49 years'
4151     3='50 to 59 years'
4152     4='60 to 69 years'
4153     5='70 years and over'
4154
4155 value Gender
4156     1='Male'
4157     2='Female'
4158
4159 value Education
4160     1='Less than high school'
4161     2='High school'
4162     3='Some college/technical school'
4163     4='4-year college degree'
4164     5='Advanced degree (Masters, etc.)'
4165
4166 value Occupation
4167     1='Farming or Ranching'
4168     2='Employment in off-farm job'
4169     3='Own/operate a non-farm business'
4170     4='Retired'
4171
4172 value Sales
4173
4174     12='Less than $99,999'
4175     3='From $100,000 up to $249,999'
4176     4='From $250,000 up to $499,999'
4177     5='From $500,000 up to $999,999'
4178     6='$1 million or more';
4179

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4180 run;
4181
4182 proc format;
4183 value Areaimpact
4184     0='Not applicable (No change)'
4185     1='No Impact'
4186     2='Slight Impact'
4187     3='Some Impact'
4188     4='Quite a bit of Impact'
4189     5='Great Impact';
4190
4191 run;
4192
4193 proc freq data=sasintro.dakotal5reg1;
4194 label Q19='Respondent Age'
4195     Q15a1='Changing crop prices'
4196     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4197     Q15a3='Availability of crop and revenue insurance policies'
4198     Q15a4='Availability of drought-tolerant seed'
4199     Q15a5='Developments in pest management practices, including pest management seed traits'
4200     Q15a6='Improved crop yields (other than seed related traits)'
4201     Q15a7='Development of more efficient cropping equipment'
4202     Q15a8='Labor availability problems'
4203     Q15a9='Improving wildlife habitat'
4204     Q15a10='Changing weather /climate patterns';
4205 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q19/chisq;
4206 format Q19 Age. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact. Q15a4 Areaimpact. Q15a5 Areaimpact.
4207 Q15a6 Areaimpact. Q15a7 Areaimpact. Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;;
4208 run;
4209
4210 proc freq data=sasintro.dakotal5reg1;
4211 label Q20='Respondent Gender'
4212     Q15a1='Changing crop prices'
4213     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4214     Q15a3='Availability of crop and revenue insurance policies'
4215     Q15a4='Availability of drought-tolerant seed'
4216     Q15a5='Developments in pest management practices, including pest management seed traits'
4217     Q15a6='Improved crop yields (other than seed related traits)'
4218     Q15a7='Development of more efficient cropping equipment'
4219     Q15a8='Labor availability problems'
4220     Q15a9='Improving wildlife habitat'
4221     Q15a10='Changing weather /climate patterns';
4222 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q20/chisq;
4223 format Q20 Gender. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4224 Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4225 Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4226 run;
4227
4228 proc freq data=sasintro.dakotal5reg1;
4229 label Q21='Respondent Level of Education'
4230     Q15a1='Changing crop prices'
4231     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4232     Q15a3='Availability of crop and revenue insurance policies'
4233     Q15a4='Availability of drought-tolerant seed'
4234     Q15a5='Developments in pest management practices, including pest management seed traits'
4235     Q15a6='Improved crop yields (other than seed related traits)'
4236     Q15a7='Development of more efficient cropping equipment'
4237     Q15a8='Labor availability problems'
4238     Q15a9='Improving wildlife habitat'
4239     Q15a10='Changing weather /climate patterns';
4240 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q21/chisq;
4241 format Q21 Education. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4242 Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4243 Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4244 run;
4245
4246 proc freq data=sasintro.dakotal5reg1;
4247 label Q22='Principal Occupation'
4248     Q15a1='Changing crop prices'
4249     Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4250     Q15a3='Availability of crop and revenue insurance policies'
4251     Q15a4='Availability of drought-tolerant seed'
4252     Q15a5='Developments in pest management practices, including pest management seed traits'
4253     Q15a6='Improved crop yields (other than seed related traits)'
4254     Q15a7='Development of more efficient cropping equipment'
4255     Q15a8='Labor availability problems'

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4256     Q15a9='Improving wildlife habitat'
4257     Q15a10='Changing weather /climate patterns';
4258 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q22/chisq;
4259 format Q22 Occupation. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4260         Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4261         Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4262 run;
4263
4264 proc freq data=sasintro.dakotal5reg1;
4265 label Q23='Gross farm/ranch sales'
4266       Q15a1='Changing crop prices'
4267       Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4268       Q15a3='Availability of crop and revenue insurance policies'
4269       Q15a4='Availability of drought-tolerant seed'
4270       Q15a5='Developments in pest management practices, including pest management seed traits'
4271       Q15a6='Improved crop yields (other than seed related traits)'
4272       Q15a7='Development of more efficient cropping equipment'
4273       Q15a8='Labor availability problems'
4274       Q15a9='Improving wildlife habitat'
4275       Q15a10='Changing weather /climate patterns';
4276 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q23/chisq;
4277 format Q23 Sales. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4278         Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4279         Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4280 run;
4281
4282 proc format;
4283 value operation
4284     1='Have been a farm operator'
4285     2='less than 10 years as a farm operator'
4286     3='10 to 10 years as a farm operator'
4287     4='20 to 29 years as a farm operator'
4288     5='30 years or more as a farm operator'
4289     ;
4290 run;
4291
4292 proc freq data=sasintro.dakotal5reg1;
4293 label Q1='Years as a farm operator'
4294       Q15a1='Changing crop prices'
4295       Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4296       Q15a3='Availability of crop and revenue insurance policies'
4297       Q15a4='Availability of drought-tolerant seed'
4298       Q15a5='Developments in pest management practices, including pest management seed traits'
4299       Q15a6='Improved crop yields (other than seed related traits)'
4300       Q15a7='Development of more efficient cropping equipment'
4301       Q15a8='Labor availability problems'
4302       Q15a9='Improving wildlife habitat'
4303       Q15a10='Changing weather /climate patterns';
4304 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q1/chisq;
4305 format Q1 Operation. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4306         Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4307         Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4308 run;
4309
4310 proc format;
4311 value Farmland 10-259='1 to 259 acres'
4312               260-499='260 to 499 acres'
4313               500-999='500 to 999 acres'
4314               1000-1999='1000 to 1999 acres'
4315               2000-4999='2000 to 4999 acres'
4316               5000-high ='5000 acres and above';
4317 run;
4318
4319 proc freq data=sasintro.dakotal5reg1;
4320 label Q3A='Farmland Acres Operated in 2014'
4321       Q15a1='Changing crop prices'
4322       Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4323       Q15a3='Availability of crop and revenue insurance policies'
4324       Q15a4='Availability of drought-tolerant seed'
4325       Q15a5='Developments in pest management practices, including pest management seed traits'
4326       Q15a6='Improved crop yields (other than seed related traits)'
4327       Q15a7='Development of more efficient cropping equipment'
4328       Q15a8='Labor availability problems'
4329       Q15a9='Improving wildlife habitat'
4330       Q15a10='Changing weather /climate patterns';
4331 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q3A/chisq;

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4332 format Q3A Farmland. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4333       Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4334       Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4335 run;
4336
4337
4338 proc format;
4339 value Ownership
4340     1='Own all acres farmed'
4341     2='Own most acres farmed, rented the remainder'
4342     3='Own and rent roughly equal number of farmland acres'
4343     4='Rented most of the acres farmed,owned the remainder'
4344     5='Rented all acres farmland'
4345     6='Professional farm manager';
4346 run;
4347
4348 proc freq data=sasintro.dakotal5reg1;
4349 label Q4='Ownership Status in 2014'
4350       Q15a1='Changing crop prices'
4351       Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4352       Q15a3='Availability of crop and revenue insurance policies'
4353       Q15a4='Availability of drought-tolerant seed'
4354       Q15a5='Developments in pest management practices, including pest management seed traits'
4355       Q15a6='Improved crop yields (other than seed related traits)'
4356       Q15a7='Development of more efficient cropping equipment'
4357       Q15a8='Labor availability problems'
4358       Q15a9='Improving wildlife habitat'
4359       Q15a10='Changing weather /climate patterns';
4360 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q4/chisq;
4361 format Q4 Ownership. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4362       Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4363       Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4364 run;
4365
4366 proc format;
4367 value CRPLand 0 ='0 acres'
4368               1-9 = '1 to 9 acres'
4369               10-49 = '10 to 49 acres'
4370               50-69 = '50 to 69 acres'
4371               70-99 = '70 to 99 acres'
4372               100-139 = '100 to 139 acres'
4373               140-179 = '140 to 179 acres'
4374               180-219 = '180 to 219 acres'
4375               220-259 = '220 to 259 acres'
4376               260-499 = '260 to 499 acres'
4377               500-999 = '500 to 999 acres'
4378               1000-1999 = '1,000 to 1,999 acres'
4379               2000-4999 = '2,000 to 4,999 acres'
4380               5000-high = '5000 acres and above';
4381 run;
4382
4383 proc freq data=sasintro.dakotal5reg1;
4384 label Q3C='CRP acres in 2014'
4385       Q15a1='Changing crop prices'
4386       Q15a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
4387       Q15a3='Availability of crop and revenue insurance policies'
4388       Q15a4='Availability of drought-tolerant seed'
4389       Q15a5='Developments in pest management practices, including pest management seed traits'
4390       Q15a6='Improved crop yields (other than seed related traits)'
4391       Q15a7='Development of more efficient cropping equipment'
4392       Q15a8='Labor availability problems'
4393       Q15a9='Improving wildlife habitat'
4394       Q15a10='Changing weather /climate patterns';
4395 tables (Q15a1 Q15a2 Q15a3 Q15a4 Q15a5 Q15a6 Q15a7 Q15a8 Q15a9 Q15a10)*Q3c/chisq;
4396 format Q3c CRPLand. Q15a1 Areaimpact. Q15a2 Areaimpact. Q15a3 Areaimpact.
4397       Q15a4 Areaimpact. Q15a5 Areaimpact. Q15a6 Areaimpact. Q15a7 Areaimpact.
4398       Q15a8 Areaimpact. Q15a9 Areaimpact. Q15a10 Areaimpact.;
4399 run;
4400
4401 /* 15A CHEC, STATE VS REGION and operator characteristics*/
4402
4403 Proc format;
4404 value Chec
4405     0='no changes in Ag-land use in my area over the past 10 years'
4406     1='there have been changes in Ag-land use in my area over the past 10 years';
4407

```

```

4408 run;
4409 proc freq data=sasintro.dakotal5reg1;
4410 label
4411     Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4412 tables (Q15aChec)*STATE/chisq;
4413 format Q15aChec Chec.;
4414 run;
4415
4416 Proc format;
4417 value Chec
4418     0='no changes in Ag-land use in my area over the past 10 years'
4419     1='there have been changes in Ag-land use in my area over the past 10 years';
4420
4421 run;
4422 proc freq data=sasintro.dakotal5reg1;
4423 label
4424     Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4425 tables (Q15aChec)*Region/chisq;
4426 format Q15aChec Chec.;
4427 run;
4428
4429
4430 proc format;
4431 value Age
4432     1='19 to 34 years'
4433     2='35 to 49 years'
4434     3='50 to 59 years'
4435     4='60 to 69 years'
4436     5='70 years and over'
4437
4438 value Gender
4439     1='Male'
4440     2='Female'
4441
4442 value Education
4443     1='Less than high school'
4444     2='High school'
4445     3='Some college/technical school'
4446     4='4-year college degree'
4447     5='Advanced degree (Masters, etc.)'
4448
4449 value Occupation
4450     1='Farming or Ranching'
4451     2='Employment in off-farm job'
4452     3='Own/operate a non-farm business'
4453     4='Retired'
4454
4455 value Sales
4456
4457     12='Less than $99,999'
4458     3='From $100,000 up to $249,999'
4459     4='From $250,000 up to $499,999'
4460     5='From $500,000 up to $999,999'
4461     6='$1 million or more';
4462
4463 run;
4464
4465 proc freq data=sasintro.dakotal5reg1;
4466 label Q19='Respondent Age'
4467     Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4468 tables Q15ACHEC*Q19/chisq;
4469 format Q19 Age. Q15achec chec.;
4470 run;
4471
4472 proc freq data=sasintro.dakotal5reg1;
4473 label Q20='Respondent Genger'
4474     Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4475 tables Q15ACHEC*Q20/chisq;
4476 format Q20 Gender. Q15achec chec.;
4477 run;
4478
4479 proc freq data=sasintro.dakotal5reg1;
4480 label Q21='Respondent Level of Education'
4481     Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4482 tables Q15ACHEC*Q21/chisq;
4483 format Q21 Education. Q15achec chec.;

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4484 run;
4485
4486 proc freq data=sasintro.dakotal5reg1;
4487 label Q22='Principal Occupation'
4488       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4489 tables Q15ACHEC*Q22/chisq;
4490 format Q22 Occupation. Q15achec chec.;
4491 run;
4492
4493 proc freq data=sasintro.dakotal5reg1;
4494 label Q23='Gross farm/ranch Sales'
4495       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4496 tables Q15ACHEC*Q23/chisq;
4497 format Q23 Sales. Q15achec chec.;
4498 run;
4499
4500 proc format;
4501 value operation
4502     1='Have been a farm operator'
4503     2='less than 10 years as a farm operator'
4504     3='10 to 10 years as a farm operator'
4505     4='20 to 29 years as a farm operator'
4506     5='30 years or more as a farm operator';
4507 run;
4508
4509 proc freq data=sasintro.dakotal5reg1;
4510 label Q1='Principal Occupation'
4511       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4512 tables Q15ACHEC*Q1/chisq;
4513 format Q1 Operation. Q15achec chec.;
4514 run;
4515
4516 proc format;
4517 value Farmland 10-259='1 to 259 acres'
4518                260-499='260 to 499 acres'
4519                500-999='500 to 999 acres'
4520                1000-1999='1000 to 1999 acres'
4521                2000-4999='2000 to 4999 acres'
4522                5000-high='5000 acres and above';
4523 run;
4524
4525 proc freq data=sasintro.dakotal5reg1;
4526 label Q3a='Farmland acres operated in 2014'
4527       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4528 tables Q15ACHEC*Q3a/chisq;
4529 format Q3a Farmland. Q15achec chec.;
4530 run;
4531
4532 proc format;
4533 value CRPLand 0='0 acres'
4534              1-9='1 to 9 acres'
4535              10-49='10 to 49 acres'
4536              50-69='50 to 69 acres'
4537              70-99='70 to 99 acres'
4538              100-139='100 to 139 acres'
4539              140-179='140 to 179 acres'
4540              180-219='180 to 219 acres'
4541              220-259='220 to 259 acres'
4542              260-499='260 to 499 acres'
4543              500-999='500 to 999 acres'
4544              1000-1999='1,000 to 1,999 acres'
4545              2000-4999='2,000 to 4,999 acres'
4546              5000-high='5000 acres and above';
4547 run;
4548
4549 proc freq data=sasintro.dakotal5reg1;
4550 label Q3c='CRP acres in 2014'
4551       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4552 tables Q15ACHEC*Q3c/chisq;
4553 format Q3c CRPLand. Q15achec chec.;
4554 run;
4555
4556 proc format;
4557 value Ownership
4558     1='Own all acres farmed'
4559     2='Own most acres farmed, rented the remainder'

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4560      3='Own and rent roughly equal number of farmland acres'
4561      4='Rented most of the acres farmed,owned the remainder'
4562      5='Rented all acres farmland'
4563      6='Professional farm manager';
4564 run;
4565
4566 proc freq data=sasintro.dakotal5reg1;
4567 label Q4='Ownership Status in 2014'
4568       Q15aChec='Check the box if there have been no changes in agricultural land use in your area during the past
4569 tables Q15ACHEC*Q4/chisq;
4570 format Q4 Ownership. Q15achec chec.;
4571 run;
4572
4573 /
4574 /*I want to sum of acres converted to cropland for any reason, create new variable*/
4575
4576 data sasintro.dakotal5reg1;
4577 set sasintro.dakotal5reg1;
4578
4579 CONVERT=.;
4580 CONVERT=(Q9AAC+Q9BAC+Q9CAC);
4581
4582 RUN;
4583
4584 proc print data=sasintro.dakotal5reg1;run;
4585
4586 /*I want to sum of acres converted to cropland for any reason, create new variable end*/
4587
4588
4589 proc means data=sasintro.dakotal5reg1 n nmiss sum min max mean CV std STDERR maxdec=2;
4590 class state;
4591 var CONVERT;
4592 label CONVERT='Sum of Acres Converted';
4593 run;
4594
4595
4596
4597 proc means data=sasintro.dakotal5reg1 n nmiss sum min max mean CV std STDERR maxdec=2;
4598 class Region;
4599 var CONVERT;
4600 label CONVERT='Sum of Acres Converted';
4601 run;
4602
4603 proc means data=sasintro.dakotal5reg1 n nmiss sum min max mean CV std STDERR maxdec=2;
4604 class GRASCROP;
4605 var CONVERT;
4606 label CONVERT='Sum of Acres Converted';
4607 run;
4608
4609 proc format;
4610 value Farmland 10-259='1 to 259 acres'
4611               260-499='260 to 499 acres'
4612               500-999='500 to 999 acres'
4613               1000-1999='1000 to 1999 acres'
4614               2000-4999='2000 to 4999 acres'
4615               5000-high ='5000 acres and above';
4616 run;
4617
4618 proc means data=sasintro.dakotal5reg1 n nmiss sum min max mean CV std STDERR maxdec=2;
4619 class Q3A;
4620 var CONVERT;
4621 label CONVERT='Sum of Acres Converted'
4622       Q3A ='Farmland acres operated in 2014';
4623 format Q3A Farmland.;
4624 run;
4625
4626 proc format;
4627 value Cropland 0 ='0 acres'
4628               1-9 = '1 to 9 acres'
4629               10-49 ='10 to 49 acres'
4630               50-69 ='50 to 69 acres'
4631               70-99 ='70 to 99 acres'
4632               100-139 ='100 to 139 acres'
4633               140-179 ='140 to 179 acres'
4634               180-219 ='180 to 219 acres'
4635               220-259 ='220 to 259 acres'

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4636 |           260-499 ='260 to 499 acres'
4637 |           500-999 ='500 to 999 acres'
4638 |           1000-1999 ='1,000 to 1,999 acres'
4639 |           2000-4999 ='2,000 to 4,999 acres'
4640 |           5000-high ='5000 acres and above';
4641 | run;
4642 |
4643 | proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4644 | class Q3B;
4645 | var CONVERT;
4646 | label CONVERT='Sum of Acres Converted'
4647 |       Q3B ='Cropland acres operated in 2014';
4648 | format Q3B Cropland.;
4649 | run;
4650 |
4651 | proc format;
4652 | value CRPLand 0 ='0 acres'
4653 |       1-9 = '1 to 9 acres'
4654 |       10-49 = '10 to 49 acres'
4655 |       50-69 = '50 to 69 acres'
4656 |       70-99 = '70 to 99 acres'
4657 |       100-139 = '100 to 139 acres'
4658 |       140-179 = '140 to 179 acres'
4659 |       180-219 = '180 to 219 acres'
4660 |       220-259 = '220 to 259 acres'
4661 |       260-499 = '260 to 499 acres'
4662 |       500-999 = '500 to 999 acres'
4663 |       1000-1999 = '1,000 to 1,999 acres'
4664 |       2000-4999 = '2,000 to 4,999 acres'
4665 |       5000-high = '5000 acres and above';
4666 | run;
4667 |
4668 | proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4669 | class Q3C;
4670 | var CONVERT;
4671 | label CONVERT='Sum of Acres Converted'
4672 |       Q3C ='CRP acres in 2014';
4673 | format Q3C CRPLand.;
4674 | run;
4675 |
4676 | proc format;
4677 | value Cornacresnew 0='0 acres'
4678 |       1-99 = '1 to 99 acres'
4679 |       100-139 = '100 to 139 acres'
4680 |       140-179 = '140 to 179 acres'
4681 |       180-219 = '180 to 219 acres'
4682 |       220-499 = '220 to 499 acres'
4683 |       500-high = '500 acres and above';
4684 | run;
4685 |
4686 | proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4687 | class Q6CornA;
4688 | var CONVERT;
4689 | label CONVERT='Sum of Acres Converted'
4690 |       Q6CornA ='Corn acres harvested on non irrigated land';
4691 | format Q6CornA Cornacresnew.;
4692 | run;
4693 |
4694 | proc format;
4695 | value Soyacres 0='0 acres'
4696 |       1-99 = '1 to 99 acres'
4697 |       100-139 = '100 to 139 acres'
4698 |       140-179 = '140 to 179 acres'
4699 |       180-219 = '180 to 219 acres'
4700 |       220-499 = '220 to 499 acres'
4701 |       500-high = '500 acres and above';
4702 | run;
4703 |
4704 | proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4705 | class Q6SoyA;
4706 | var CONVERT;
4707 | label CONVERT='Sum of Acres Converted'
4708 |       Q6SoyA ='Soybeans acres harvested on non irrigated land';
4709 | format Q6SoyA Soyacres.;
4710 | run;
4711 |

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4712
4713 proc format;
4714 value Wheatacres 0='0 acres'
4715             1-99 = '1 to 99 acres'
4716             100-139 = '100 to 139 acres'
4717             140-179 = '140 to 179 acres'
4718             180-219 = '180 to 219 acres'
4719             220-499 = '220 to 499 acres'
4720             500-high = '500 acres and above';
4721 run;
4722
4723 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4724 class Q6WhA;
4725 var CONVERT;
4726 label CONVERT='Sum of Acres Converted'
4727       Q6WhA ='Wheat acres harvested on non irrigated land';
4728 format Q6WhA Wheatacres.;
4729 run;
4730
4731 proc format;
4732 value Alfalfaacres 0='0 acres'
4733             1-99 = '1 to 99 acres'
4734             100-139 = '100 to 139 acres'
4735             140-179 = '140 to 179 acres'
4736             180-219 = '180 to 219 acres'
4737             220-499 = '220 to 499 acres'
4738             500-high = '500 acres and above';
4739 run;
4740
4741 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4742 class Q6Alfa;
4743 var CONVERT;
4744 label CONVERT='Sum of Acres Converted'
4745       Q6Alfa ='Alfalfa acres harvested on non irrigated land';
4746 format Q6Alfa Alfalfaacres.;
4747 run;
4748
4749 proc format;
4750 value Wheatacresnew 0='0 acres'
4751             1-9 = '1 to 9 acres'
4752             10-49 = '10 to 49 acres'
4753             50-69 = '50 to 69 acres'
4754             70-99 = '70 to 99 acres'
4755             100-139 = '100 to 139 acres'
4756             140-179 = '140 to 179 acres'
4757             180-219 = '180 to 219 acres'
4758             220-259 = '220 to 259 acres'
4759             260-499 = '260 to 499 acres'
4760             500-999 = '500 to 999 acres'
4761             1000-1999 = '1,000 to 1,999 acres'
4762             2000-4999 = '2,000 to 4,999 acres'
4763             5000-high = '5000 acres and above';
4764 run;
4765
4766 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4767 class WHTACRE;
4768 var CONVERT;
4769 label CONVERT='Sum of Acres Converted'
4770       WHTACRE ='Wheat acres';
4771 format WHTACRE Wheatacresnew.;
4772 run;
4773
4774 proc format;
4775 value Cornacreslatest 0='0 acres'
4776             1-9 = '1 to 9 acres'
4777             10-49 = '10 to 49 acres'
4778             50-69 = '50 to 69 acres'
4779             70-99 = '70 to 99 acres'
4780             100-139 = '100 to 139 acres'
4781             140-179 = '140 to 179 acres'
4782             180-219 = '180 to 219 acres'
4783             220-259 = '220 to 259 acres'
4784             260-499 = '260 to 499 acres'
4785             500-999 = '500 to 999 acres'
4786             1000-1999 = '1,000 to 1,999 acres'
4787             2000-4999 = '2,000 to 4,999 acres'

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4788             5000-high = '5000 acres and above';
4789 run;
4790
4791 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4792 class CORNACRE;
4793 var CONVERT;
4794 label CONVERT='Sum of Acres Converted'
4795         CORNACRE = 'CORN acres';
4796 format CORNACRE Cornacreslatest.;
4797 run;
4798
4799
4800 proc format;
4801 value Soybacresnew 0 = '0 acres'
4802                 1-9 = '1 to 9 acres'
4803                 10-49 = '10 to 49 acres'
4804                 50-69 = '50 to 69 acres'
4805                 70-99 = '70 to 99 acres'
4806                 100-139 = '100 to 139 acres'
4807                 140-179 = '140 to 179 acres'
4808                 180-219 = '180 to 219 acres'
4809                 220-259 = '220 to 259 acres'
4810                 260-499 = '260 to 499 acres'
4811                 500-999 = '500 to 999 acres'
4812                 1000-1999 = '1,000 to 1,999 acres'
4813                 2000-4999 = '2,000 to 4,999 acres'
4814                 5000-high = '5000 acres and above';
4815 run;
4816
4817 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4818 class SOYBACRE;
4819 var CONVERT;
4820 label CONVERT='Sum of Acres Converted'
4821         SOYBACRE = 'SOYBEAN acres';
4822 format SOYBACRE Soybacresnew.;
4823 run;
4824
4825 proc format;
4826 value Hayacresnew 0 = '0 acres'
4827                 1-9 = '1 to 9 acres'
4828                 10-49 = '10 to 49 acres'
4829                 50-69 = '50 to 69 acres'
4830                 70-99 = '70 to 99 acres'
4831                 100-139 = '100 to 139 acres'
4832                 140-179 = '140 to 179 acres'
4833                 180-219 = '180 to 219 acres'
4834                 220-259 = '220 to 259 acres'
4835                 260-499 = '260 to 499 acres'
4836                 500-999 = '500 to 999 acres'
4837                 1000-1999 = '1,000 to 1,999 acres'
4838                 2000-4999 = '2,000 to 4,999 acres'
4839                 5000-high = '5000 acres and above';
4840 run;
4841
4842 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4843 class HAYACRE;
4844 var CONVERT;
4845 label CONVERT='Sum of Acres Converted'
4846         HAYACRE = 'HAY acres';
4847 format HAYACRE Hayacresnew.;
4848 run;
4849
4850 proc format;
4851 value Plntacresnew 0 = '0 acres'
4852                 1-9 = '1 to 9 acres'
4853                 10-49 = '10 to 49 acres'
4854                 50-69 = '50 to 69 acres'
4855                 70-99 = '70 to 99 acres'
4856                 100-139 = '100 to 139 acres'
4857                 140-179 = '140 to 179 acres'
4858                 180-219 = '180 to 219 acres'
4859                 220-259 = '220 to 259 acres'
4860                 260-499 = '260 to 499 acres'
4861                 500-999 = '500 to 999 acres'
4862                 1000-1999 = '1,000 to 1,999 acres'
4863                 2000-4999 = '2,000 to 4,999 acres'

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4864             5000-high ='5000 acres and above';
4865 run;
4866
4867 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4868 class PLNTACRE;
4869 var CONVERT;
4870 label CONVERT='Sum of Acres Converted'
4871       PLNTACRE ='PLANTED acres';
4872 format PLNTACRE Plntacresnew.;
4873 run;
4874
4875 proc format;
4876 value Beefherdnew 0 ='0 acres'
4877                  1-9 = '1 to 9 acres'
4878                  10-49 ='10 to 49 acres'
4879                  50-69 ='50 to 69 acres'
4880                  70-99 ='70 to 99 acres'
4881                  100-139 ='100 to 139 acres'
4882                  140-179 ='140 to 179 acres'
4883                  180-219 ='180 to 219 acres'
4884                  220-259 ='220 to 259 acres'
4885                  260-499 ='260 to 499 acres'
4886                  500-999 ='500 to 999 acres'
4887                  1000-1999 ='1,000 to 1,999 acres'
4888                  2000-4999 ='2,000 to 4,999 acres'
4889                  5000-high ='5000 acres and above';
4890 run;
4891
4892 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4893 class BEEFHERD;
4894 var CONVERT;
4895 label CONVERT='Sum of Acres Converted'
4896       BEEFHERD ='BEEF HERD';
4897 format BEEFHERD Beefherdnew.;
4898 run;
4899
4900
4901
4902 /* summary statistis question 9 part 2 related*/
4903
4904
4905 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4906 class State;
4907 var CONVERT Q9AAC Q9BAC Q9CAC;
4908 label CONVERT='Sum of Acres Converted'
4909       Q9aAC='Conversion of native grass to cropland'
4910       Q9bAC='Conversion of tamend grassland to cropland'
4911       Q9cAC='Conversion of CRP land to cropland';
4912 run;
4913
4914 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4915 class REGION;
4916 var CONVERT Q9AAC Q9BAC Q9CAC;
4917 label CONVERT='Sum of Acres Converted'
4918       Q9aAC='Conversion of native grass to cropland'
4919       Q9bAC='Conversion of tamend grassland to cropland'
4920       Q9cAC='Conversion of CRP land to cropland';
4921 run;
4922
4923 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4924 class GRASCROP;
4925 var CONVERT Q9AAC Q9BAC Q9CAC;
4926 label CONVERT='Sum of Acres Converted'
4927       Q9aAC='Conversion of native grass to cropland'
4928       Q9bAC='Conversion of tamend grassland to cropland'
4929       Q9cAC='Conversion of CRP land to cropland';
4930 run;
4931
4932
4933 /* sumamry statistics QUESTION 3 REALTED ANALYSIS*/
4934
4935
4936 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4937 class state;
4938 var Q3a Q3b Q3c Q3d;
4939 label

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4940     Q3a ='Total Farmland acres operated in 2014'
4941     Q3b ='Cropland (excluding CRP) acres'
4942     Q3c ='CRP acres in 2014'
4943     Q3d ='Pasture/Rangeland acres';
4944 run;
4945
4946 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4947 class Region;
4948 var Q3a Q3b Q3c Q3d;
4949 label
4950     Q3a ='Total Farmland acres operated in 2014'
4951     Q3b ='Cropland (excluding CRP) acres'
4952     Q3c ='CRP acres in 2014'
4953     Q3d ='Pasture/Rangeland acres';
4954 run;
4955
4956 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4957 class GRASCROP;
4958 var Q3a Q3b Q3c Q3d;
4959 label
4960     Q3a ='Total Farmland acres operated in 2014'
4961     Q3b ='Cropland (excluding CRP) acres'
4962     Q3c ='CRP acres in 2014'
4963     Q3d ='Pasture/Rangeland acres';
4964 run;
4965
4966 /*summary Statistics Question 6 related */
4967
4968 proc means data=sasintro.dakota15reg11 nn nmiss sum min max mean CV std STDERR maxdec=2;
4969 class State;
4970 var Q6cornA Q6soyA Q6WhA Q6AlfA;
4971 label
4972     Q6cornA='Corn Acres'
4973     Q6soyA='Soybean Acres'
4974     Q6WhA='Wheat Acres'
4975     Q6AlfA='Alfalfa Acres';
4976 run;
4977
4978 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4979 class Region;
4980 var Q6cornA Q6soyA Q6WhA Q6AlfA;
4981 label
4982     Q6cornA='Corn Acres'
4983     Q6soyA='Soybean Acres'
4984     Q6WhA='Wheat Acres'
4985     Q6AlfA='Alfalfa Acres';
4986 run;
4987
4988 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4989 class GRASCROP;
4990 var Q6cornA Q6soyA Q6WhA Q6AlfA;
4991 label
4992     Q6cornA='Corn Acres'
4993     Q6soyA='Soybean Acres'
4994     Q6WhA='Wheat Acres'
4995     Q6AlfA='Alfalfa Acres';
4996 run;
4997
4998
4999 /* summary statistics related to different acres*/
5000
5001 proc means data=sasintro.dakota15reg11 nn nmiss sum min max mean CV std STDERR maxdec=2;
5002 class State;
5003 var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;
5004 label
5005     WHTACRE='WHEAT Acres'
5006     CORNACRE='CORN Acres'
5007     SOYBACRE='SOYBEAN Acres'
5008     HAYACRE='HAY Acres'
5009     PLNTACRE='PLANTED ACRES'
5010     BEEFHERD='BEEF HERD';
5011 run;
5012
5013 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5014 class Region;
5015 var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;

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5016 label
5017     WHTACRE='WHEAT Acres'
5018     CORNACRE='CORN Acres'
5019     SOYBACRE='SOYBEAN Acres'
5020     HAYACRE='HAY Acres'
5021     PLNTACRE='PLANTED ACRES'
5022     BEEFHERD='BEEF HERD';
5023 run;
5024
5025 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5026 class GRASCROP;
5027 var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;
5028 label
5029     WHTACRE='WHEAT Acres'
5030     CORNACRE='CORN Acres'
5031     SOYBACRE='SOYBEAN Acres'
5032     HAYACRE='HAY Acres'
5033     PLNTACRE='PLANTED ACRES'
5034     BEEFHERD='BEEF HERD';
5035 run;
5036
5037 /* Q14a realated analysis based on state operator characteristics by chisq*/
5038
5039 Proc format;
5040 value Pastchange
5041     1='Decreased Markedly (over 10%)'
5042     2='Decreased Somewhat (5-10%)'
5043     3='Stayed about the same (less than 5%)'
5044     4='Increased Somewhat (5-10%)'
5045     5='Increased Markedly (over 10%)';
5046
5047 run;
5048 proc freq data=sasintro.dakotal5reg11;
5049 label
5050     Q14a1='Grassland acres, any type'
5051     Q14a2='Native Grassland acres only'
5052     Q14a3='Soybean or Corn acres';
5053 tables (Q14a1 Q14a2 Q14a3)*State/chisq;
5054 format Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5055 run;
5056
5057 proc freq data=sasintro.dakotal5reg11;
5058 label
5059     Q14a1='Grassland acres, any type'
5060     Q14a2='Native Grassland acres only'
5061     Q14a3='Soybean or Corn acres';
5062 tables (Q14a1 Q14a2 Q14a3)*Region/chisq;
5063 format Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5064 run;
5065
5066 proc format;
5067 value Age
5068     1='19 to 34 years'
5069     2='35 to 49 years'
5070     3='50 to 59 years'
5071     4='60 to 69 years'
5072     5='70 years and over';
5073
5074 value Gender
5075     1='Male'
5076     2='Female';
5077
5078 value Education
5079     1='Less than high school'
5080     2='High school'
5081     3='Some college/technical school'
5082     4='4-year college degree'
5083     5='Advanced degree (Masters, etc.)';
5084
5085 value Occupation
5086     1='Farming or Ranching'
5087     2='Employment in off-farm job'
5088     3='Own/operate a non-farm business'
5089     4='Retired';
5090
5091 value Sales

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5092 |
5093 |     12='Less than $99,999'
5094 |     3='From $100,000 up to $249,999'
5095 |     4='From $250,000 up to $499,999'
5096 |     5='From $500,000 up to $999,999'
5097 |     6='$1 million or more';
5098 |
5099 | run;
5100 |
5101 | proc freq data=sasintro.dakotal5reg11;
5102 | label Q19='Respondent Age'
5103 |       Q14a1='Grassland acres, any type'
5104 |       Q14a2='Native Grassland acres only'
5105 |       Q14a3='Soybean or Corn acres';
5106 | tables (Q14a1 Q14a2 Q14a3)*Q19/chisq;
5107 | format Q19 Age. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5108 | run;
5109 |
5110 | proc freq data=sasintro.dakotal5reg11;
5111 | label Q20='Respondent Gender'
5112 |       Q14a1='Grassland acres, any type'
5113 |       Q14a2='Native Grassland acres only'
5114 |       Q14a3='Soybean or Corn acres';
5115 | tables (Q14a1 Q14a2 Q14a3)*Q20/chisq;
5116 | format Q20 Gender. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5117 | run;
5118 |
5119 | proc freq data=sasintro.dakotal5reg11;
5120 | label Q21='Respondent Level of Education'
5121 |       Q14a1='Grassland acres, any type'
5122 |       Q14a2='Native Grassland acres only'
5123 |       Q14a3='Soybean or Corn acres';
5124 | tables (Q14a1 Q14a2 Q14a3)*Q21/chisq;
5125 | format Q21 Education. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5126 | run;
5127 |
5128 | proc freq data=sasintro.dakotal5reg11;
5129 | label Q22='Principal Occupation'
5130 |       Q14a1='Grassland acres, any type'
5131 |       Q14a2='Native Grassland acres only'
5132 |       Q14a3='Soybean or Corn acres';
5133 | tables (Q14a1 Q14a2 Q14a3)*Q22/chisq;
5134 | format Q22 Occupation. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5135 | run;
5136 |
5137 | proc freq data=sasintro.dakotal5reg11;
5138 | label Q23='Gross farm/ranch Sales'
5139 |       Q14a1='Grassland acres, any type'
5140 |       Q14a2='Native Grassland acres only'
5141 |       Q14a3='Soybean or Corn acres';
5142 | tables (Q14a1 Q14a2 Q14a3)*Q23/chisq;
5143 | format Q23 Sales. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5144 | run;
5145 |
5146 | proc format;
5147 | value operation
5148 |     1='Have been a farm operator'
5149 |     2='less than 10 years as a farm operator'
5150 |     3='10 to 10 years as a farm operator'
5151 |     4='20 to 29 years as a farm operator'
5152 |     5='30 years or more as a farm operator';
5153 | run;
5154 |
5155 | proc freq data=sasintro.dakotal5reg11;
5156 | label Q1='Principal Occupation'
5157 |       Q14a1='Grassland acres, any type'
5158 |       Q14a2='Native Grassland acres only'
5159 |       Q14a3='Soybean or Corn acres';
5160 | tables (Q14a1 Q14a2 Q14a3)*Q1/chisq;
5161 | format Q1 Operation. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5162 | run;
5163 |
5164 | proc format;
5165 | value Farmland 10-259='1 to 259 acres'
5166 |               260-499='260 to 499 acres'
5167 |               500-999='500 to 999 acres'

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5168             1000-1999='1000 to 1999 acres'
5169             2000-4999='2000 to 4999 acres'
5170             5000-high ='5000 acres and above';
5171 run;
5172
5173 proc freq data=sasintro.dakotal5regl1;
5174 label Q3a='Farmland acres operated in 2014'
5175       Q14a1='Grassland acres, any type'
5176       Q14a2='Native Grassland acres only'
5177       Q14a3='Soybean or Corn acres';
5178 tables (Q14a1 Q14a2 Q14a3)*Q3a/chisq;
5179 format Q3a Farmland. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5180 run;
5181
5182 proc format;
5183 value CRPLand 0 ='0 acres'
5184              1-9 = '1 to 9 acres'
5185              10-49 ='10 to 49 acres'
5186              50-69 ='50 to 69 acres'
5187              70-99 ='70 to 99 acres'
5188              100-139 ='100 to 139 acres'
5189              140-179 ='140 to 179 acres'
5190              180-219 ='180 to 219 acres'
5191              220-259 ='220 to 259 acres'
5192              260-499 ='260 to 499 acres'
5193              500-999 ='500 to 999 acres'
5194              1000-1999 ='1,000 to 1,999 acres'
5195              2000-4999 ='2,000 to 4,999 acres'
5196              5000-high ='5000 acres and above';
5197 run;
5198
5199 proc freq data=sasintro.dakotal5regl1;
5200 label Q3c='CRP acres in 2014'
5201       Q14a1='Grassland acres, any type'
5202       Q14a2='Native Grassland acres only'
5203       Q14a3='Soybean or Corn acres';
5204 tables (Q14a1 Q14a2 Q14a3)*Q3c/chisq;
5205 format Q3c CRPLand. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5206 run;
5207
5208 proc format;
5209 value Ownership
5210      1='Own all acres farmed'
5211      2='Own most acres farmed, rented the remainder'
5212      3='Own and rent roughly equal number of farmland acres'
5213      4='Rented most of the acres farmed,owned the remainder'
5214      5='Rented all acres farmland'
5215      6='Professional farm manager';
5216 run;
5217
5218 proc freq data=sasintro.dakotal5regl1;
5219 label Q4='Ownership Status in 2014'
5220       Q14a1='Grassland acres, any type'
5221       Q14a2='Native Grassland acres only'
5222       Q14a3='Soybean or Corn acres';
5223 tables (Q14a1 Q14a2 Q14a3)*Q4/chisq;
5224 format Q4 Ownership. Q14a1 Pastchange. Q14a2 Pastchange. Q14a3 Pastchange.;
5225 run;
5226
5227
5228 /* Q14b realated analysis based on state operator characteristics by chisq*/
5229
5230 Proc format;
5231 value Futurechange
5232      1='Decrease Markedly (over 10%)'
5233      2='Decrease Somewhat (5-10%)'
5234      3='Stayed about the same (less than 5%)'
5235      4='Increase Somewhat (5-10%)'
5236      5='Increase Markedly (over 10%)';
5237 run;
5238
5239 proc freq data=sasintro.dakotal5regl1;
5240 label
5241      Q14b1='Grassland acres, any type'
5242      Q14b2='Native Grassland acres only'
5243      Q14b3='Soybean or Corn acres';

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5244 tables (Q14b1 Q14b2 Q14b3)*State/chisq;
5245 format Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5246 run;
5247
5248 proc freq data=sasintro.dakotal5reg11;
5249 label
5250     Q14b1='Grassland acres, any type'
5251     Q14b2='Native Grassland acres only'
5252     Q14b3='Soybean or Corn acres';
5253 tables (Q14b1 Q14b2 Q14b3)*Region/chisq;
5254 format Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5255 run;
5256
5257 proc format;
5258 value Age
5259     1='19 to 34 years'
5260     2='35 to 49 years'
5261     3='50 to 59 years'
5262     4='60 to 69 years'
5263     5='70 years and over';
5264
5265 value Gender
5266     1='Male'
5267     2='Female';
5268
5269 value Education
5270     1='Less than high school'
5271     2='High school'
5272     3='Some college/technical school'
5273     4='4-year college degree'
5274     5='Advanced degree (Masters, etc.)';
5275
5276 value Occupation
5277     1='Farming or Ranching'
5278     2='Employment in off-farm job'
5279     3='Own/operate a non-farm business'
5280     4='Retired'
5281
5282 value Sales
5283
5284     12='Less than $99,999'
5285     3='From $100,000 up to $249,999'
5286     4='From $250,000 up to $499,999'
5287     5='From $500,000 up to $999,999'
5288     6='$1 million or more';
5289
5290 run;
5291
5292 proc freq data=sasintro.dakotal5reg11;
5293 label Q19='Respondent Age'
5294     Q14b1='Grassland acres, any type'
5295     Q14b2='Native Grassland acres only'
5296     Q14b3='Soybean or Corn acres';
5297 tables (Q14b1 Q14b2 Q14b3)*Q19/chisq;
5298 format Q19 Age. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5299 run;
5300
5301 proc freq data=sasintro.dakotal5reg11;
5302 label Q20='Respondent Gender'
5303     Q14b1='Grassland acres, any type'
5304     Q14b2='Native Grassland acres only'
5305     Q14b3='Soybean or Corn acres';
5306 tables (Q14b1 Q14b2 Q14b3)*Q20/chisq;
5307 format Q20 Gender. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5308 run;
5309
5310 proc freq data=sasintro.dakotal5reg11;
5311 label Q21='Respondent Level of Education'
5312     Q14b1='Grassland acres, any type'
5313     Q14b2='Native Grassland acres only'
5314     Q14b3='Soybean or Corn acres';
5315 tables (Q14b1 Q14b2 Q14b3)*Q21/chisq;
5316 format Q21 Education. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5317 run;
5318
5319 proc freq data=sasintro.dakotal5reg11;

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5320 label Q22='Principal Occupation'
5321       Q14b1='Grassland acres, any type'
5322       Q14b2='Native Grassland acres only'
5323       Q14b3='Soybean or Corn acres';
5324 tables (Q14b1 Q14b2 Q14b3)*Q22/chisq;
5325 format Q22 Occupation. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5326 run;
5327
5328 proc freq data=sasintro.dakotal5reg11;
5329 label Q23='Gross farm/ranch Sales'
5330       Q14b1='Grassland acres, any type'
5331       Q14b2='Native Grassland acres only'
5332       Q14b3='Soybean or Corn acres';
5333 tables (Q14b1 Q14b2 Q14b3)*Q23/chisq;
5334 format Q23 Sales. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5335 run;
5336
5337 proc format;
5338 value operation
5339     1='Have been a farm operator'
5340     2='less than 10 years as a farm operator'
5341     3='10 to 10 years as a farm operator'
5342     4='20 to 29 years as a farm operator'
5343     5='30 years or more as a farm operator';
5344 run;
5345
5346 proc freq data=sasintro.dakotal5reg11;
5347 label Q1='Principal Occupation'
5348       Q14b1='Grassland acres, any type'
5349       Q14b2='Native Grassland acres only'
5350       Q14b3='Soybean or Corn acres';
5351 tables (Q14b1 Q14b2 Q14b3)*Q1/chisq;
5352 format Q1 Operation. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5353 run;
5354
5355 proc format;
5356 value Farmland 10-259='1 to 259 acres'
5357                260-499='260 to 499 acres'
5358                500-999='500 to 999 acres'
5359                1000-1999='1000 to 1999 acres'
5360                2000-4999='2000 to 4999 acres'
5361                5000-high='5000 acres and above';
5362 run;
5363
5364 proc freq data=sasintro.dakotal5reg11;
5365 label Q3a='Farmland acres operated in 2014'
5366       Q14b1='Grassland acres, any type'
5367       Q14b2='Native Grassland acres only'
5368       Q14b3='Soybean or Corn acres';
5369 tables (Q14b1 Q14b2 Q14b3)*Q3a/chisq;
5370 format Q3a farmland. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5371 run;
5372
5373 proc format;
5374 value CRPLand 0='0 acres'
5375               1-9='1 to 9 acres'
5376               10-49='10 to 49 acres'
5377               50-69='50 to 69 acres'
5378               70-99='70 to 99 acres'
5379               100-139='100 to 139 acres'
5380               140-179='140 to 179 acres'
5381               180-219='180 to 219 acres'
5382               220-259='220 to 259 acres'
5383               260-499='260 to 499 acres'
5384               500-999='500 to 999 acres'
5385               1000-1999='1,000 to 1,999 acres'
5386               2000-4999='2,000 to 4,999 acres'
5387               5000-high='5000 acres and above';
5388 run;
5389
5390 proc freq data=sasintro.dakotal5reg11;
5391 label Q3c='CRP acres in 2014'
5392       Q14b1='Grassland acres, any type'
5393       Q14b2='Native Grassland acres only'
5394       Q14b3='Soybean or Corn acres';
5395 tables (Q14b1 Q14b2 Q14b3)*Q3c/chisq;

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5396 format Q3c CRPLand. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5397 run;
5398
5399 proc format;
5400 value Ownership
5401     1='Own all acres farmed'
5402     2='Own most acres farmed, rented the remainder'
5403     3='Own and rent roughly equal number of farmland acres'
5404     4='Rented most of the acres farmed,owned the remainder'
5405     5='Rented all acres farmland'
5406     6='Professional farm manager';
5407 run;
5408
5409 proc freq data=sasintro.dakotal5reg11;
5410 label Q4='Ownership Status in 2014'
5411     Q14b1='Grassland acres, any type'
5412     Q14b2='Native Grassland acres only'
5413     Q14b3='Soybean or Corn acres';
5414 tables (Q14b1 Q14b2 Q14b3)*Q4/chisq;
5415 format Q4 Ownership. Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5416 run;
5417
5418 /* friday august 18 , 2015 CRP Use related analysis and also for CRPUSE */
5419
5420
5421 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5422 class CRPUSE;
5423 var CONVERT;
5424 label CONVERT='Sum of Acres Converted';
5425 run;
5426
5427
5428
5429
5430 /* summary statistis question 9 part 2 related*/
5431
5432
5433
5434
5435 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5436 class CRPUSE;
5437 var CONVERT Q9AAC Q9BAC Q9CAC;
5438 label CONVERT='Sum of Acres Converted'
5439     Q9AAC='Conversion of native grass to cropland'
5440     Q9BAC='Conversion of tamend grassland to cropland'
5441     Q9CAC='Conversion of CRP land to cropland';
5442 run;
5443
5444
5445 /* sumamry statistics QUESTION 3 REALTED ANALYSIS*/
5446
5447
5448
5449 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5450 class CRPUSE;
5451 var Q3a Q3b Q3c Q3d;
5452 label
5453     Q3a ='Total Farmland acres operated in 2014'
5454     Q3b ='Cropland (excluding CRP) acres'
5455     Q3c ='CRP acres in 2014'
5456     Q3d ='Pasture/Rangeland acres';
5457 run;
5458
5459 /*summary Statistics Question 6 related */
5460
5461
5462 proc means data=sasintro.dakotal5reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5463 class CRPUSE;
5464 var Q6cornA Q6soyA Q6WhA Q6AlfA;
5465 label
5466     Q6cornA='Corn Acres'
5467     Q6soyA='Soybean Acres'
5468     Q6WhA='Wheat Acres'
5469     Q6AlfA='Alfalfa Acres';
5470 run;
5471

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5472
5473 /* summary statistics related to different acres*/
5474
5475
5476 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5477 class CRPUSE;
5478 var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;
5479 label
5480     WHTACRE='WHEAT Acres'
5481     CORNACRE='CORN Acres'
5482     SOYBACRE='SOYBEAN Acres'
5483     HAYACRE='HAY Acres'
5484     PLNTACRE='PLANTED ACRES'
5485     BEEFHERD='BEEF HERD';
5486 run;
5487
5488 /*Friday, 18th GRASCRP=1; , related analysis, add new variable*/
5489
5490 data sasintro.dakota15reg11;
5491     set sasintro.dakota15reg11;
5492
5493 GRASCROPNEW=1;
5494     if (Q9aYN=1) or (Q9bYN=1) or (Q9cYN=1) then GRASCROPNEW=1;
5495     if (Q9aYN=.) or (Q9bYN=.) or (Q9cYN=.) then GRASCROPNEW=.;
5496
5497 CRPUSENEW=1;
5498     if (Q9cYN=1) or (Q9dYN=1) or (Q9eYN=1) then CRPUSENEW=1;
5499     if (Q9cYN=.) or (Q9dYN=.) or (Q9eYN=.) then CRPUSENEW=.;
5500
5501 RUN;
5502
5503 proc print data=sasintro.dakota15reg11;run;
5504
5505
5506 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5507 class GRASCROPNEW;
5508 var CONVERT;
5509 label CONVERT='Sum of Acres Converted';
5510 run;
5511
5512 /* summary statistis question 9 part 2 related*/
5513
5514 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5515 class GRASCROPNEW;
5516 var CONVERT Q9AAC Q9BAC Q9CAC;
5517 label CONVERT='Sum of Acres Converted'
5518     Q9AAC='Conversion of native grass to cropland'
5519     Q9BAC='Conversion of tamend grassland to cropland'
5520     Q9CAC='Conversion of CRP land to cropland';
5521 run;
5522
5523
5524 /* sumamry statistics QUESTION 3 REALTED ANALYSIS*/
5525
5526 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5527 class GRASCROPNEW;
5528 var Q3a Q3b Q3c Q3d;
5529 label
5530     Q3a ='Total Farmland acres operated in 2014'
5531     Q3b ='Cropland (excluding CRP) acres'
5532     Q3c ='CRP acres in 2014'
5533     Q3d ='Pasture/Rangeland acres';
5534 run;
5535
5536 /*summary Statistics Question 6 related */
5537
5538
5539 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
5540 class GRASCROPNEW;
5541 var Q6cornA Q6soyA Q6WhA Q6AlfA;
5542 label
5543     Q6cornA='Corn Acres'
5544     Q6soyA='Soybean Acres'
5545     Q6WhA='Wheat Acres'
5546     Q6AlfA='Alfalfa Acres';
5547 run;

```

```

5548 |
5549 |
5550 | /* summary statistics related to different acres*/
5551 |
5552 |
5553 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5554 | class GRASCROPNEW;
5555 | var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;
5556 | label
5557 |     WHTACRE='WHEAT Acres'
5558 |     CORNACRE='CORN Acres'
5559 |     SOYBACRE='SOYBEAN Acres'
5560 |     HAYACRE='HAY Acres'
5561 |     PLNTACRE='PLANTED ACRES'
5562 |     BEEFHERD='BEEF HERD';
5563 | run;
5564 |
5565 |
5566 | /*CRPUSENEW RELATED ANALYSIS*/
5567 |
5568 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5569 | class CRPUSENEW;
5570 | var CONVERT;
5571 | label CONVERT='Sum of Acres Converted';
5572 | run;
5573 |
5574 |
5575 |
5576 | /* summary statistis question 9 part 2 related*/
5577 |
5578 |
5579 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5580 | class CRPUSENEW;
5581 | var CONVERT Q9AAC Q9BAC Q9CAC;
5582 | label CONVERT='Sum of Acres Converted'
5583 |     Q9aAC='Conversion of native grass to cropland'
5584 |     Q9bAC='Conversion of tamend grassland to cropland'
5585 |     Q9cAC='Conversion of CRP land to cropland';
5586 | run;
5587 |
5588 |
5589 | /* sumamry statistics QUESTION 3 REALTED ANALYSIS*/
5590 |
5591 |
5592 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5593 | class CRPUSENEW;
5594 | var Q3a Q3b Q3c Q3d;
5595 | label
5596 |     Q3a ='Total Farmland acres operated in 2014'
5597 |     Q3b ='Cropland (excluding CRP) acres'
5598 |     Q3c ='CRP acres in 2014'
5599 |     Q3d ='Pasture/Rangeland acres';
5600 | run;
5601 |
5602 | /*summary Statistics Question 6 related */
5603 |
5604 |
5605 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5606 | class CRPUSENEW;
5607 | var Q6cornA Q6soyA Q6WhA Q6AlfA;
5608 | label
5609 |     Q6cornA='Corn Acres'
5610 |     Q6soyA='Soybean Acres'
5611 |     Q6WhA='Wheat Acres'
5612 |     Q6AlfA='Alfalfa Acres';
5613 | run;
5614 |
5615 |
5616 | /* summary statistics related to different acres*/
5617 |
5618 |
5619 | proc means data=sasintro.dakota15regl11 n nmiss sum min max mean CV std STDERR maxdec=2;
5620 | class CRPUSENEW;
5621 | var WHTACRE CORNACRE SOYBACRE HAYACRE PLNTACRE BEEFHERD ;
5622 | label
5623 |     WHTACRE='WHEAT Acres'

```

```

5624     CORNACRE='CORN Acres'
5625     SOYBACRE='SOYBEAN Acres'
5626     HAYACRE='HAY Acres'
5627     PLNTACRE='PLANTED ACRES'
5628     BEEFHERD='BEEF HERD';
5629 run;
5630
5631
5632
5633 /*6 Moses did not examine anything about Question 18 on cropland Characteristics */
5634
5635 proc format;
5636 value Percentage 0 = '0 percent'
5637                 1-25 = '1 to 25 percent'
5638                 26-49 = '26 to 49 percent'
5639                 50-75 = '50 to 75 percent'
5640                 76-100 = '70 to 99 acres';
5641 run;
5642
5643 proc freq data=sasintro.dakotal5reg1;
5644 label
5645     Q18A ='Highly erodable land'
5646     Q18B='Heavy Soil'
5647     Q18C='Slow draining soil(Perdominantly clay'
5648     Q18D='Sandy Soil';
5649 tables (Q18A Q18B Q18C Q18D)*Region/chisq;
5650 format Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5651 run;
5652
5653
5654 proc freq data=sasintro.dakotal5reg1;
5655 label
5656     Q18A ='Highly erodable land'
5657     Q18B='Heavy Soil'
5658     Q18C='Slow draining soil(Perdominantly clay'
5659     Q18D='Sandy Soil';
5660 tables (Q18A Q18B Q18C Q18D)*State/chisq;
5661 format Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5662 run;
5663
5664
5665 proc format;
5666 value Ownership
5667     1='Own all acres farmed'
5668     2='Own most acres farmed, rented the remainder'
5669     3='Own and rent roughly equal number of farmland acres'
5670     4='Rented most of the acres farmed,owned the remainder'
5671     5='Rented all acres farmland'
5672     6='Professional farm manager';
5673 run;
5674
5675 proc freq data=sasintro.dakotal5reg1;
5676 label Q4= 'Ownership Status in 2014'
5677     Q18A ='Highly erodable land'
5678     Q18B='Heavy Soil'
5679     Q18C='Slow draining soil(Perdominantly clay'
5680     Q18D='Sandy Soil';
5681 tables (Q18A Q18B Q18C Q18D)*Q4/chisq;
5682 format Q4 Ownership. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5683 run;
5684
5685
5686 proc format;
5687 value Age
5688     1='19 to 34 years'
5689     2='35 to 49 years'
5690     3='50 to 59 years'
5691     4='60 to 69 years'
5692     5='70 years and over';
5693
5694 value Gender
5695     1='Male'
5696     2='Female';
5697
5698 value Education
5699     1='Less than high school'

```

```

5700     2='High school'
5701     3='Some college/technical school'
5702     4='4-year college degree'
5703     5='Advanced degree (Masters, etc.)';
5704
5705 value Occupation
5706     1='Farming or Ranching'
5707     2='Employment in off-farm job'
5708     3='Own/operate a non-farm business'
5709     4='Retired'
5710
5711 value Sales
5712
5713     12='Less than $99,999'
5714     3='From $100,000 up to $249,999'
5715     4='From $250,000 up to $499,999'
5716     5='From $500,000 up to $999,999'
5717     6='$1 million or more';
5718
5719 run;
5720
5721 proc freq data=sasintro.dakotal5reg11;
5722 label Q19='Respondent Age'
5723     Q18A ='Highly erodable land'
5724     Q18B='Heavy Soil'
5725     Q18C='Slow draining soil(Perdominantly clay'
5726     Q18D='Sandy Soil';
5727 tables (Q18A Q18B Q18C Q18D)*Q19/chisq;
5728 format Q19 Age. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5729 run;
5730
5731
5732 proc freq data=sasintro.dakotal5reg11;
5733 label Q20='Respondent Genger'
5734     Q18A ='Highly erodable land'
5735     Q18B='Heavy Soil'
5736     Q18C='Slow draining soil(Perdominantly clay'
5737     Q18D='Sandy Soil';
5738 tables (Q18A Q18B Q18C Q18D)*Q20/chisq;
5739 format Q20 Gender. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5740 run;
5741
5742
5743 proc freq data=sasintro.dakotal5reg11;
5744 label Q21='Respondent Level of Education'
5745     Q18A ='Highly erodable land'
5746     Q18B='Heavy Soil'
5747     Q18C='Slow draining soil(Perdominantly clay'
5748     Q18D='Sandy Soil';
5749 tables (Q18A Q18B Q18C Q18D)*Q21/chisq;
5750 format Q21 Education. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5751 run;
5752
5753
5754 proc freq data=sasintro.dakotal5reg11;
5755 label Q22='Principal Occupation'
5756     Q18A ='Highly erodable land'
5757     Q18B='Heavy Soil'
5758     Q18C='Slow draining soil(Perdominantly clay'
5759     Q18D='Sandy Soil';
5760 tables (Q18A Q18B Q18C Q18D)*Q22/chisq;
5761 format Q22 Occupation. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5762 run;
5763
5764
5765 proc freq data=sasintro.dakotal5reg11;
5766 label Q23='Gross farm/ranch Sales'
5767     Q18A ='Highly erodable land'
5768     Q18B='Heavy Soil'
5769     Q18C='Slow draining soil(Perdominantly clay'
5770     Q18D='Sandy Soil';
5771 tables (Q18A Q18B Q18C Q18D)*Q23/chisq;
5772 format Q23 Sales. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5773 run;
5774
5775

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```

5776 proc format;
5777 value operation
5778     1='Have been a farm operator'
5779     2='less than 10 years as a farm operator'
5780     3='10 to 10 years as a farm operator'
5781     4='20 to 29 years as a farm operator'
5782     5='30 years or more as a farm operator';
5783 run;
5784
5785 proc freq data=sasintro.dakotal5regl1;
5786 label Q1='farm operator'
5787     Q18A ='Highly erodable land'
5788     Q18B='Heavy Soil'
5789     Q18C='Slow draining soil(Perdominantly clay'
5790     Q18D='Sandy Soil';
5791 tables (Q18A Q18B Q18C Q18D)*Q1/chisq;
5792 format Q1 Operation. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5793 run;
5794
5795
5796 proc format;
5797 value Farmland 10-259='1 to 259 acres'
5798     260-499='260 to 499 acres'
5799     500-999='500 to 999 acres'
5800     1000-1999='1000 to 1999 acres'
5801     2000-4999='2000 to 4999 acres'
5802     5000-high ='5000 acres and above';
5803 run;
5804
5805 proc freq data=sasintro.dakotal5regl1;
5806 label Q3a='Farmland acres operated in 2014'
5807     Q18A ='Highly erodable land'
5808     Q18B='Heavy Soil'
5809     Q18C='Slow draining soil(Perdominantly clay'
5810     Q18D='Sandy Soil';
5811 tables (Q18A Q18B Q18C Q18D)*Q3a/chisq;
5812 format Q3a Farmland. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5813 run;
5814
5815 proc format;
5816 value Cropland 0 ='0 acres'
5817     1-9 = '1 to 9 acres'
5818     10-49 ='10 to 49 acres'
5819     50-69 ='50 to 69 acres'
5820     70-99 ='70 to 99 acres'
5821     100-139 ='100 to 139 acres'
5822     140-179 ='140 to 179 acres'
5823     180-219 ='180 to 219 acres'
5824     220-259 ='220 to 259 acres'
5825     260-499 ='260 to 499 acres'
5826     500-999 ='500 to 999 acres'
5827     1000-1999 ='1,000 to 1,999 acres'
5828     2000-4999 ='2,000 to 4,999 acres'
5829     5000-high ='5000 acres and above';
5830
5831 run;
5832
5833 proc freq data=sasintro.dakotal5regl1;
5834 tables Q3B*Region/chisq;
5835 format Q3B Cropland. ;
5836 run;
5837
5838 proc format;
5839 value CRPLand 0 ='0 acres'
5840     1-9 = '1 to 9 acres'
5841     10-49 ='10 to 49 acres'
5842     50-69 ='50 to 69 acres'
5843     70-99 ='70 to 99 acres'
5844     100-139 ='100 to 139 acres'
5845     140-179 ='140 to 179 acres'
5846     180-219 ='180 to 219 acres'
5847     220-259 ='220 to 259 acres'
5848     260-499 ='260 to 499 acres'
5849     500-999 ='500 to 999 acres'
5850     1000-1999 ='1,000 to 1,999 acres'
5851     2000-4999 ='2,000 to 4,999 acres'

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5852             5000-high = '5000 acres and above';
5853 run;
5854
5855 proc freq data=sasintro.dakotal5regl1;
5856 label Q3c='CRP acres in 2014'
5857       Q18A='Highly erodable land'
5858       Q18B='Heavy Soil'
5859       Q18C='Slow draining soil(Perdominantly clay'
5860       Q18D='Sandy Soil';
5861 tables (Q18A Q18B Q18C Q18D)*Q3c/chisq;
5862 format Q3c CRPLand. Q18A Percentage. Q18B Percentage. Q18C Percentage. Q18D Percentage. ;
5863 run;
5864
5865
5866 /*6 Moses did not examine anything about Question 18 on cropland Characteristics,
5867 at a minimum we could examine the distribution of 2014 cropland acres by region
5868 that exhibit each characteristics (number of total cropland acres in Q4 multified
5869 by percent of 2014 crop land with selected charcteristics and sum by region. the
5870 orginal intent of this question was to connect it to various land use change and
5871 use conversion decisions (Q9 and Q8) */
5872
5873
5874
5875 data sasintro.dakotal5regl111;
5876 set sasintro.dakotal5regl11;
5877
5878 Q18A1=Q18A/100*Q3B;
5879 Q18B1=Q18B/100*Q3B;
5880 Q18C1=Q18C/100*Q3B;
5881 Q18D1=Q18D/100*Q3B;
5882
5883 RUN;
5884
5885 proc print data=sasintro.dakotal5regl111;run;
5886
5887 proc format;
5888 value Percentagere 0 = '0 acres'
5889                  1-25.00 = '1 to 25.00 acres'
5890                  25.01-49.99 = '25.01 to 49.99 acres'
5891                  50-74.99 = '50 to 74.99 acres'
5892                  75.00-99.99 = '75.00 to 99 acres'
5893                  100-149.99 = '100 to 149.99 acres'
5894                  150-199.99 = '150 to 199.99 acres'
5895                  200-249.99 = '200 to 249.99 acres'
5896                  250.00-299.99 = '250 to 299.99 acres'
5897                  300-499.99 = '260 to 499.99 acres'
5898                  500-high = '500 acres and above';
5899 run;
5900
5901 proc freq data=sasintro.dakotal5regl111;
5902 label
5903       Q18A1='Highly erodable land'
5904       Q18B1='Heavy Soil'
5905       Q18C1='Slow draining soil(Perdominantly clay'
5906       Q18D1='Sandy Soil';
5907 tables (Q18A1 Q18B1 Q18C1 Q18D1)*Region/chisq;
5908 format Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5909 run;
5910
5911
5912 proc freq data=sasintro.dakotal5regl111;
5913 label
5914       Q18A1='Highly erodable land'
5915       Q18B1='Heavy Soil'
5916       Q18C1='Slow draining soil(Perdominantly clay'
5917       Q18D1='Sandy Soil';
5918 tables (Q18A1 Q18B1 Q18C1 Q18D1)*State/chisq;
5919 format Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5920 run;
5921
5922
5923 proc format;
5924 value Age
5925       1='19 to 34 years'
5926       2='35 to 49 years'
5927       3='50 to 59 years'

```

```

5928         4='60 to 69 years'
5929         5='70 years and over';
5930
5931 value Gender
5932     1='Male'
5933     2='Female';
5934
5935 value Education
5936     1='Less than high school'
5937     2='High school'
5938     3='Some college/technical school'
5939     4='4-year college degree'
5940     5='Advanced degree (Masters, etc.)';
5941
5942 value Occupation
5943     1='Farming or Ranching'
5944     2='Employment in off-farm job'
5945     3='Own/operate a non-farm business'
5946     4='Retired'
5947
5948 value Sales
5949
5950     12='Less than $99,999'
5951     3='From $100,000 up to $249,999'
5952     4='From $250,000 up to $499,999'
5953     5='From $500,000 up to $999,999'
5954     6='$1 million or more';
5955
5956 run;
5957
5958 proc freq data=sasintro.dakotal5regl111;
5959 label Q19='Respondent Age'
5960       Q18A1='Highly erodable land'
5961       Q18B1='Heavy Soil'
5962       Q18C1='Slow draining soil(Perdominantly clay'
5963       Q18D1='Sandy Soil';
5964 tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q19/chisq;
5965 format Q19 Age. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5966 run;
5967
5968
5969 proc freq data=sasintro.dakotal5regl111;
5970 label Q20='Respondent Genger'
5971       Q18A1='Highly erodable land'
5972       Q18B1='Heavy Soil'
5973       Q18C1='Slow draining soil(Perdominantly clay'
5974       Q18D1='Sandy Soil';
5975 tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q20/chisq;
5976 format Q20 Gender. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5977 run;
5978
5979
5980 proc freq data=sasintro.dakotal5regl111;
5981 label Q21='Respondent Level of Education'
5982       Q18A1='Highly erodable land'
5983       Q18B1='Heavy Soil'
5984       Q18C1='Slow draining soil(Perdominantly clay'
5985       Q18D1='Sandy Soil';
5986 tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q21/chisq;
5987 format Q21 Education. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5988 run;
5989
5990
5991 proc freq data=sasintro.dakotal5regl111;
5992 label Q22='Principal Occupation'
5993       Q18A1='Highly erodable land'
5994       Q18B1='Heavy Soil'
5995       Q18C1='Slow draining soil(Perdominantly clay'
5996       Q18D1='Sandy Soil';
5997 tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q22/chisq;
5998 format Q22 Occupation. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
5999 run;
6000
6001
6002 proc freq data=sasintro.dakotal5regl111;
6003 label Q23='Gross farm/ranch Sales'

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6004      Q18A1 ='Highly erodable land'
6005      Q18B1='Heavy Soil'
6006      Q18C1='Slow draining soil(Perdominantly clay'
6007      Q18D1='Sandy Soil';
6008  tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q23/chisq;
6009  format Q23 Sales. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
6010  run;
6011
6012
6013  proc format;
6014  value operation
6015      1='Have been a farm operator'
6016      2='less than 10 years as a farm operator'
6017      3='10 to 10 years as a farm operator'
6018      4='20 to 29 years as a farm operator'
6019      5='30 years or more as a farm operator';
6020  run;
6021
6022  proc freq data=sasintro.dakotal5regl111;
6023  label Q1='farm operator'
6024      Q18A1 ='Highly erodable land'
6025      Q18B1='Heavy Soil'
6026      Q18C1='Slow draining soil(Perdominantly clay'
6027      Q18D1='Sandy Soil';
6028  tables (Q18A1 Q18B1 Q18C1 Q18D1)*Q1/chisq;
6029  format Q1 Operation. Q18A1 Percentagere. Q18B1 Percentagere. Q18C1 Percentagere. Q18D1 Percentagere. ;
6030  run;
6031
6032
6033  proc means data=sasintro.dakotal5regl111 n nmiss sum min max mean CV std STDERR maxdec=2;
6034  class Region;
6035  var Q18A1 Q18B1 Q18C1 Q18D1 ;
6036  label
6037      Q18A1 ='Highly erodable land'
6038      Q18B1='Heavy Soil'
6039      Q18C1='Slow draining soil(Perdominantly clay'
6040      Q18D1='Sandy Soil';
6041  run;
6042
6043  proc means data=sasintro.dakotal5regl111 n nmiss sum min max mean CV std STDERR maxdec=2;
6044  class State;
6045  var Q18A1 Q18B1 Q18C1 Q18D1 ;
6046  label
6047      Q18A1 ='Highly erodable land'
6048      Q18B1='Heavy Soil'
6049      Q18C1='Slow draining soil(Perdominantly clay'
6050      Q18D1='Sandy Soil';
6051  run;
6052
6053
6054  /*You can use question 5a and 5b to develop a new variabele call acrechg.
6055  then you cross-tab (chi square) acrechg by a series of variables ins
6056  Q8, Q9, Q10, Q11*/
6057
6058
6059  data sasintro.dakotal5sizeq5;
6060      set sasintro.dakotal5clean;
6061
6062  Sizeq5=(Q5A*10)+Q5B;
6063
6064  RUN;
6065
6066  proc print data=sasintro.dakotal5sizeq5;run;
6067
6068
6069  data sasintro.dakotal5sizeqnew;
6070      set sasintro.dakotal5sizeq5;
6071
6072
6073  ACRECHG=.;
6074      if (Sizeq5=22) then ACRECHG=1;
6075      if (Sizeq5=13) or (Sizeq5=31) then ACRECHG=2;
6076      if (Sizeq5=33) or (Sizeq5=32) or (Sizeq5=23) then ACRECHG=3;
6077      if (Sizeq5=11) or (Sizeq5=12) or (Sizeq5=21) then ACRECHG=4;
6078  RUN;
6079

```



```

6080 proc print data=sasintro.dakotal5sizeqnew;run;
6081
6082
6083
6084 proc format;
6085 value Currentacres
6086     1 = 'Fewer acres than 10 years ago (by over 10%)'
6087     2 = 'No change or a minor change'
6088     3 = 'More acres than 10 years ago (by over 10%)';
6089 run;
6090
6091 proc format;
6092 value sizevariable
6093     33,32,23='Expand'
6094     22='Same'
6095     11,12,21='DownSize'
6096     13,31='Unsure';
6097 run;
6098
6099 proc freq data=sasintro.dakotal5sizeqnew;
6100 label Q5A='Cropland acres operated';
6101 tables (Q5a)*Sizeq5/chisq;
6102 format Q5a Currentacres. Sizeq5 sizevariable. ;
6103 run;
6104
6105
6106 proc format;
6107 value Currentacres
6108     1 = 'Fewer acres than 10 years ago (by over 10%)'
6109     2 = 'No change or a minor change'
6110     3 = 'More acres than 10 years ago (by over 10%)';
6111 run;
6112
6113 proc freq data=sasintro.dakotal5sizeqnew;
6114 label Q5B='Pasture/rangeland acres operated';
6115 tables (Q5B)*Sizeq5/chisq;
6116 format Q5B Currentacres. Sizeq5 sizevariable. ;
6117 run;
6118
6119
6120 proc format;
6121 value acrechgvari
6122     1='SAME'
6123     2='UNSURE'
6124     3='EXPAND'
6125     4='DOWNSIZE';
6126 run;
6127
6128 proc freq data=sasintro.dakotal5sizeqnew;
6129 label Q5A='Cropland acres operated';
6130 tables (Q5a)*ACRECHG/chisq;
6131 format Q5a Currentacres. ACRECHG acrechgvari. ;
6132 run;
6133
6134
6135 proc freq data=sasintro.dakotal5sizeqnew;
6136 label Q5B='Pasture/rangeland acres operated';
6137 tables (Q5B)*ACRECHG/chisq;
6138 format Q5B Currentacres. ACRECHG acrechgvari. ;
6139 run;
6140
6141
6142
6143
6144
6145 /** question 8 vs acrechg**/
6146
6147
6148 proc format;
6149 value Response
6150     1='Yes'
6151     2='No';
6152 run;
6153
6154 proc freq data=sasintro.dakotal5sizeqnew;
6155 label

```

```

6156      Q8a='Grown corn and/or soybeans each year'
6157      Q8b='Increased proportion of corn and/or soybeans'
6158      Q8c='Grown wheat each year'
6159      Q8d='Increased proportion of wheat'
6160      Q8e='Grown other grains or oilseed crops each year'
6161      Q8f='Grown alfalfa or other hay crops each year'
6162      Q8g='Adopted or increased use of tile drainage'
6163      Q8h='Adopted or increased use of no-till';
6164  tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*STATE/chisq;
6165  format Q8a Response. Q8b Response. Q8c Response. Q8d Response.
6166  Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
6167  run;
6168
6169
6170
6171  proc freq data=sasintro.dakotal5sizeqnew;
6172  label
6173      Q8a='Grown corn and/or soybeans each year'
6174      Q8b='Increased proportion of corn and/or soybeans'
6175      Q8c='Grown wheat each year'
6176      Q8d='Increased proportion of wheat'
6177      Q8e='Grown other grains or oilseed crops each year'
6178      Q8f='Grown alfalfa or other hay crops each year'
6179      Q8g='Adopted or increased use of tile drainage'
6180      Q8h='Adopted or increased use of no-till';
6181  tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*REGION/chisq;
6182  format Q8a Response. Q8b Response. Q8c Response. Q8d Response.
6183  Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
6184  run;
6185
6186
6187  proc freq data=sasintro.dakotal5sizeqnew;
6188  label
6189      Q8a='Grown corn and/or soybeans each year'
6190      Q8b='Increased proportion of corn and/or soybeans'
6191      Q8c='Grown wheat each year'
6192      Q8d='Increased proportion of wheat'
6193      Q8e='Grown other grains or oilseed crops each year'
6194      Q8f='Grown alfalfa or other hay crops each year'
6195      Q8g='Adopted or increased use of tile drainage'
6196      Q8h='Adopted or increased use of no-till';
6197  tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*ACRECHG/chisq;
6198  format ACRECHG acrechgvari. Q8a Response. Q8b Response. Q8c Response. Q8d Response.
6199  Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
6200  run;
6201
6202
6203
6204  /* Q9 vs acrechg */
6205
6206  proc freq data=sasintro.dakotal5sizeqnew;
6207  label
6208      Q9aYN='Conversion of native grass to cropland'
6209      Q9bYN='Conversion of tame grassland to cropland'
6210      Q9cYN='Conversion of CRP land to cropland'
6211      Q9dYN='Conversion of CRP land to pasture/hay'
6212      Q9eYN='Enrollment of farmland acres to CRP'
6213      Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
6214  table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*ACRECHG/chisq;
6215  format ACRECHG acrechgvari. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
6216  Q9eYN Response. Q9fYN Response.;
6217  run;
6218
6219
6220  proc format;
6221  value Farmacres 0 = '0 acres'
6222                  1-99 = '1 to 99 acres'
6223                  100-179 = '100 to 179 acres'
6224                  180-259 = '180 to 259 acres'
6225                  260-499 = '260 to 499 acres'
6226                  500-high = '500 acrs and above';
6227  run;
6228
6229
6230  proc freq data=sasintro.dakotal5sizeqnew;
6231  label

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```

6232     Q9aAC='Conversion of native grass to cropland'
6233     Q9bAC='Conversion of tamend grassland to cropland'
6234     Q9cAC='Conversion of CRP land to cropland'
6235     Q9dAC='Conversion of CRP land to pasture/hay'
6236     Q9eAC='Enrollment of farmland acres to CRP'
6237     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
6238 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*ACRECHG/chisq;
6239 format ACRECHG acrechgvari. Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.
6240 Q9eAC Farmacres. Q9fAC Farmacres.;
6241 run;
6242
6243
6244 proc format;
6245 value Responsechg
6246     1='Yes'
6247     0='No';
6248 run;
6249
6250 proc freq data=sasintro.dakotal5sizeqnew;
6251 label
6252     Q9aCorn='Conversion of native grass to Corn land'
6253     Q9aSoy='Conversion of native grass to Soybean land'
6254     Q9aWht='Conversion of native grass to Wheat land'
6255     Q9aOth='Conversion of native grass to Other use'
6256     Q9bCorn='Conversion of tamend grassland to Corn land'
6257     Q9bSoy='Conversion of tamend grassland to Soy land'
6258     Q9bWht='Conversion of tamend grassland to Wheat land'
6259     Q9bOth='Conversion of tamend grassland to Other use'
6260     Q9cCorn='Conversion of CRP land to Corn land'
6261     Q9cSoy='Conversion of CRP land to Soy land'
6262     Q9cWht='Conversion of CRP land to Wheat land'
6263     Q9cOth='Conversion of CRP land to Other use';
6264 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*ACRECHG/chisq;
6265 format ACRECHG acrechgvari. Q9aCorn responsechg. Q9aSoy responsechg. Q9aWht responsechg. Q9aOth responsechg.
6266     Q9bCorn responsechg. Q9bSoy responsechg. Q9bWht responsechg. Q9bOth responsechg.
6267     Q9cCorn responsechg. Q9cSoy responsechg. Q9cWht responsechg. Q9cOth responsechg.;
6268 run;
6269
6270 /*Q10 vs ACRECHG*/
6271
6272 proc format;
6273 value Impact
6274     1='No Impact'
6275     2='Slight Impact'
6276     3='Some Impact'
6277     4='Quite a bit of Impact'
6278     5='Great Impact';
6279 run;
6280
6281 proc freq data=sasintro.dakotal5sizeqnew;
6282 label
6283     Q10a1='Changing crop prices'
6284     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
6285     Q10a3='Availability of crop and revenue insurance policies'
6286     Q10a4='Availability of drought-tolerant seed'
6287     Q10a5='Developments in pest management practices, including pest management seed traits'
6288     Q10a6='Improved crop yields (other than seed related traits)'
6289     Q10a7='Development of more efficient cropping equipment'
6290     Q10a8='Labor availability problems'
6291     Q10a9='Improving wildlife habitat'
6292     Q10a10='Changing weather /climate patterns';
6293 tables (Q10a1 Q10a2 Q10a3 Q10a4 Q10a5 Q10a6 Q10a7 Q10a8 Q10a9 Q10a10)*ACRECHG/chisq;
6294 format ACRECHG acrechgvari. Q10a1 Impact. Q10a2 Impact. Q10a3 Impact. Q10a4 Impact. Q10a5 Impact.
6295 Q10a6 Impact. Q10a7 Impact. Q10a8 Impact. Q10a9 Impact. Q10a10 Impact.;
6296 run;
6297
6298 proc format;
6299 value gimpect
6300     01 = 'Changing crop prices'
6301     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
6302     03 = 'Availability of crop and revenue insurance policies'
6303     04 = 'Availability of drought-tolerant seed'
6304     05 = 'Developments in pest management practices, including pest management seed traits'
6305     06 = 'Improved crop yields (other than seed related traits) '
6306     07 = 'Development of more efficient cropping equipment'
6307     08 = 'Labor availability problems'

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6308      09 = 'Improving wildlife habitat'
6309      10 = 'Changing weather /climate patterns';
6310 RUN;
6311
6312 proc freq data=sasintro.dakotal5sizeqnew;
6313 label Q10B='greatest impact on changes in ouwn land use';
6314 tables Q10B*ACRECHG/chisq;
6315 format ACRECHG acrechgvari. Q10B gimpect.;
6316 run;
6317
6318
6319 /*Q11 vs ACRECHG */
6320
6321 proc format;
6322 value Future
6323     1='Yes'
6324     2='No'
6325     3='Dont Know';
6326 run;
6327
6328 proc freq data=sasintro.dakotal5sizeqnew;
6329 label
6330     Q11a='Plan to convert native grassland to cropland in next 10 years'
6331     Q11b='Plan to convert tame grassland to cropland in next 10 years'
6332     Q11c='Plan to convert cropland to grassland in next 10 years';
6333 tables (Q11a Q11b Q11c)*ACRECHG/norow;
6334 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
6335 run;
6336
6337 proc freq data=sasintro.dakotal5sizeqnew;
6338 label
6339     Q11a='Plan to convert native grassland to cropland in next 10 years'
6340     Q11b='Plan to convert tame grassland to cropland in next 10 years'
6341     Q11c='Plan to convert cropland to grassland in next 10 years';
6342 tables (Q11a Q11b Q11c)*ACRECHG/chisq;
6343 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
6344 run;
6345
6346
6347 /*obtain a frequency distribution of Sizeq5 and also sum the number of cropland
6348 acres, pasture acres, and farmland acres (Q3 variables0 by eliment of Size5*/
6349
6350 proc format;
6351 value Farmland 10-259='1 to 259 acres'
6352               260-499='260 to 499 acres'
6353               500-999='500 to 999 acres'
6354               1000-1999='1000 to 1999 acres'
6355               2000-4999='2000 to 4999 acres'
6356               5000-high ='5000 acres and above';
6357
6358 value Cropland 0 ='0 acres'
6359               1-9 = '1 to 9 acres'
6360               10-49 = '10 to 49 acres'
6361               50-69 = '50 to 69 acres'
6362               70-99 = '70 to 99 acres'
6363               100-139 = '100 to 139 acres'
6364               140-179 = '140 to 179 acres'
6365               180-219 = '180 to 219 acres'
6366               220-259 = '220 to 259 acres'
6367               260-499 = '260 to 499 acres'
6368               500-999 = '500 to 999 acres'
6369               1000-1999 = '1,000 to 1,999 acres'
6370               2000-4999 = '2,000 to 4,999 acres'
6371               5000-high = '5000 acres and above';
6372
6373 value CRPLand 0 ='0 acres'
6374               1-9 = '1 to 9 acres'
6375               10-49 = '10 to 49 acres'
6376               50-69 = '50 to 69 acres'
6377               70-99 = '70 to 99 acres'
6378               100-139 = '100 to 139 acres'
6379               140-179 = '140 to 179 acres'
6380               180-219 = '180 to 219 acres'
6381               220-259 = '220 to 259 acres'
6382               260-499 = '260 to 499 acres'
6383               500-999 = '500 to 999 acres'

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6384         1000-1999 ='1,000 to 1,999 acres'
6385         2000-4999 ='2,000 to 4,999 acres'
6386         5000-high ='5000 acres and above';
6387
6388
6389 value Pastureland 0 ='0 acres'
6390         1-9 = '1 to 9 acres'
6391         10-49 ='10 to 49 acres'
6392         50-69 ='50 to 69 acres'
6393         70-99 ='70 to 99 acres'
6394         100-139 ='100 to 139 acres'
6395         140-179 ='140 to 179 acres'
6396         180-219 ='180 to 219 acres'
6397         220-259 ='220 to 259 acres'
6398         260-499 ='260 to 499 acres'
6399         500-999 ='500 to 999 acres'
6400         1000-1999 ='1,000 to 1,999 acres'
6401         2000-4999 ='2,000 to 4,999 acres'
6402         5000-high ='5000 acres and above';
6403 run;
6404
6405
6406 /* Q3a vs Sizeq5, chisq*/
6407
6408
6409 proc freq data=sasintro.dakotal5sizeqnew;
6410 label
6411     Q3A='farmland acres operated in 2014';
6412 tables Q3A*Sizeq5/chisq;
6413 format Sizeq5 sizevariable. Q3A Farmland. ;
6414 run;
6415
6416
6417 /* Q3B vs Sizeq5 chisq*/
6418
6419
6420 proc freq data=sasintro.dakotal5sizeqnew;
6421 label
6422     Q3B='cropland acres operated in 2014';
6423 tables Q3B*Sizeq5/chisq;
6424 format Sizeq5 sizevariable. Q3B Cropland. ;
6425 run;
6426
6427
6428 /* Q3C vs Sizeq5 chisq*/
6429
6430
6431 proc freq data=sasintro.dakotal5sizeqnew;
6432 label
6433     Q3C='CRP acres in 2014';
6434 tables Q3C*Sizeq5/chisq;
6435 format Sizeq5 sizevariable. Q3C CRPLand. ;
6436 run;
6437
6438 /* Q3D vs Sizeq5 chisq*/
6439
6440
6441 proc freq data=sasintro.dakotal5sizeqnew;
6442 label
6443     Q3D='pasture/rangeland acres in 2014';
6444 tables Q3D*Sizeq5/chisq;
6445 format Sizeq5 sizevariable. Q3D Pastureland. ;
6446 run;
6447
6448 /* Q3a vs ACRECHG, chisq*/
6449
6450
6451 proc freq data=sasintro.dakotal5sizeqnew;
6452 label
6453     Q3A='farmland acres operated in 2014';
6454 tables Q3A*ACRECHG/chisq;
6455 format ACRECHG acrechgvari. Q3A Farmland. ;
6456 run;
6457
6458
6459 /* Q3B vs ACRECHG chisq*/

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6460 |
6461 |
6462 | proc freq data=sasintro.dakotal5sizeqnew;
6463 | label
6464 |     Q3B='cropland acres operated in 2014';
6465 | tables Q3B*ACRECHG/chisq;
6466 | format ACRECHG acrechgvari. Q3B Cropland. ;
6467 | run;
6468 |
6469 |
6470 | /* Q3C vs ACRECHG chisq*/
6471 |
6472 |
6473 | proc freq data=sasintro.dakotal5sizeqnew;
6474 | label
6475 |     Q3C='CRP acres in 2014';
6476 | tables Q3C*ACRECHG/chisq;
6477 | format ACRECHG acrechgvari. Q3C CRPLand. ;
6478 | run;
6479 |
6480 | /* Q3D vs ACRECHG chisq*/
6481 |
6482 |
6483 | proc freq data=sasintro.dakotal5sizeqnew;
6484 | label
6485 |     Q3D='pasture/rangeland acres in 2014';
6486 | tables Q3D*ACRECHG/chisq;
6487 | format ACRECHG acrechgvari. Q3D Pastureland. ;
6488 | run;
6489 |
6490 |
6491 |
6492 | /* means analysis*/
6493 |
6494 |
6495 | proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;
6496 | class Sizeq5;
6497 | var Q3A Q3B Q3C Q3D;
6498 | label
6499 |     Q3A='farmland acres operated in 2014'
6500 |     Q3B='cropland acres operated in 2014'
6501 |     Q3C='CRP acres in 2014'
6502 |     Q3D='pasture/rangeland acres in 2014';
6503 | format Sizeq5 sizevariable.;
6504 | run;
6505 |
6506 |
6507 | /** question 8 vs acrechg MENA ANALYSIS**/
6508 |
6509 |
6510 | proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6511 | CLASS ACRECHG;
6512 | var Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h;
6513 | label
6514 |     Q8a='Grown corn and/or soybeans each year'
6515 |     Q8b='Increased proportion of corn and/or soybeans'
6516 |     Q8c='Grown wheat each year'
6517 |     Q8d='Increased proportion of wheat'
6518 |     Q8e='Grown other grains or oilseed crops each year'
6519 |     Q8f='Grown alfalfa or other hay crops each year'
6520 |     Q8g='Adopted or increased use of tile drainage'
6521 |     Q8h='Adopted or increased use of no-till';
6522 | format ACRECHG acrechgvari. ;
6523 | run;
6524 |
6525 |
6526 | /** question 9 vs acrechg MEAN ANALYSIS**/
6527 |
6528 |
6529 | proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6530 | CLASS ACRECHG;
6531 | var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
6532 | label
6533 |     Q9aYN='Conversion of native grass to cropland'
6534 |     Q9bYN='Conversion of tame grassland to cropland'
6535 |     Q9cYN='Conversion of CRP land to cropland'

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6536     Q9dYN='Conversion of CRP land to pasture/hay'
6537     Q9eYN='Enrollment of farmland acres to CRP'
6538     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
6539 format ACRECHG acrechgvari. ;
6540 run;
6541
6542
6543 proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6544 CLASS ACRECHG;
6545 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC;
6546 label
6547     Q9aAC='Conversion of native grass to cropland'
6548     Q9bAC='Conversion of tamend grassland to cropland'
6549     Q9cAC='Conversion of CRP land to cropland'
6550     Q9dAC='Conversion of CRP land to pasture/hay'
6551     Q9eAC='Enrollment of farmland acres to CRP'
6552     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
6553 format ACRECHG acrechgvari. ;
6554 run;
6555
6556 proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6557 CLASS ACRECHG;
6558 var Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth;
6559 label
6560     Q9aCorn='Conversion of native grass to Corn land'
6561     Q9aSoy='Conversion of native grass to Soybean land'
6562     Q9aWht='Conversion of native grass to Wheat land'
6563     Q9aOth='Conversion of native grass to Other use'
6564     Q9bCorn='Conversion of tamend grassland to Corn land'
6565     Q9bSoy='Conversion of tamend grassland to Soy land'
6566     Q9bWht='Conversion of tamend grassland to Wheat land'
6567     Q9bOth='Conversion of tamend grassland to Other use'
6568     Q9cCorn='Conversion of CRP land to Corn land'
6569     Q9cSoy='Conversion of CRP land to Soy land'
6570     Q9cWht='Conversion of CRP land to Wheat land'
6571     Q9cOth='Conversion of CRP land to Other use' ;
6572 format ACRECHG acrechgvari. ;
6573 run;
6574
6575
6576 /* Q10 vs acrechg mean analysis*/
6577
6578
6579 proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6580 CLASS ACRECHG;
6581 var Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
6582 label
6583     Q10a1='Changing crop prices'
6584     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
6585     Q10a3='Availability of crop and revenue insurance policies'
6586     Q10a4='Availability of drought-tolerant seed'
6587     Q10a5='Developments in pest management practices, including pest management seed traits'
6588     Q10a6='Improved crop yields (other than seed related traits)'
6589     Q10a7='Development of more efficient cropping equipment'
6590     Q10a8='Labor availability problems'
6591     Q10a9='Improving wildlife habitat'
6592     Q10a10='Changing weather /climate patterns';
6593 format ACRECHG acrechgvari. ;
6594 run;
6595
6596
6597 proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6598 CLASS ACRECHG;
6599 var Q10B;
6600 label Q10B='greatest impact on changes in own land use';
6601 format ACRECHG acrechgvari. Q10B gimact.;
6602 run;
6603
6604
6605 /* Q11 vs acrechg mean analysis*/
6606
6607 proc means data=sasintro.dakotal5sizeqnew n nmiss sum min max mean CV std STDERR maxdec=2;;
6608 CLASS ACRECHG;
6609 var Q11a Q11b Q11c;
6610 label
6611     Q11a='Plan to convert native grassland to cropland in next 10 years'

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6612         Q11b='Plan to convert tame grassland to cropland in next 10 years'
6613         Q11c='Plan to convert cropland to grassland in next 10 years';
6614 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
6615 run;
6616
6617
6618 /* #Q2 related analysis, where GRASCROP, it is most important that iteam
6619 is completd for the subset of 360+ response where GRASCROP=1*/
6620
6621 data sasintro.dakotal5regl2;
6622     set sasintro.dakotal5regl1;
6623
6624     if GRASCROP=1 then GRASCROP=1;
6625     if GRASCROP=0 then GRASCROP=.;
6626
6627     if CRPUSE=1 then CRPUSE=1;
6628     if CRPUSE=0 then CRPUSE=.;
6629
6630 RUN;
6631
6632 proc print data=sasintro.dakotal5regl2;run;
6633
6634
6635 /* cross tab chi square test, Q9 part one GRASCROP region and state based, 19, 20, 21, 22, 23, */
6636
6637
6638 proc format;
6639 value Age
6640     1='19 to 34 years'
6641     2='35 to 49 years'
6642     3='50 to 59 years'
6643     4='60 to 69 years'
6644     5='70 years and over';
6645
6646 value Gender
6647     1='Male'
6648     2='Female';
6649
6650 value Education
6651     1='Less than high school'
6652     2='High school'
6653     3='Some college/technical school'
6654     4='4-year college degree'
6655     5='Advanced degree (Masters, etc.)';
6656
6657 value Occupation
6658     1='Farming or Ranching'
6659     2='Employment in off-farm job'
6660     3='Own/operate a non-farm business'
6661     4='Retired';
6662
6663 value Sales
6664
6665     12='Less than $99,999'
6666     3='From $100,000 up to $249,999'
6667     4='From $250,000 up to $499,999'
6668     5='From $500,000 up to $999,999'
6669     6='$1 million or more';
6670 run;
6671
6672 proc format;
6673 value grascrpvari
6674     1='yes';
6675 run;
6676
6677
6678
6679 proc freq data=sasintro.dakotal5regl2;
6680 label Q19='Respondent Age'
6681     GRASCROP='grass conversion to cropland decison: ';
6682 tables GRASCROP*Q19/chisq;
6683 format Q19 Age. GRASCROP grascrpvari. ;
6684 run;
6685
6686
6687 proc freq data=sasintro.dakotal5regl2;

```



```

6688 label Q20='Respondent Gender'
6689 GRASCROP='grass conversion to cropland decison: ';
6690 tables GRASCROP*Q20/chisq;
6691 format Q20 Gender. GRASCROP grascrpvari. ;
6692 run;
6693
6694
6695 proc freq data=sasintro.dakotal5reg12;
6696 label Q21='Respondent Level of Education'
6697 GRASCROP='grass conversion to cropland decison: ';
6698 tables GRASCROP*Q21/chisq;
6699 format Q21 Education. GRASCROP grascrpvari.;
6700 run;
6701
6702
6703 proc freq data=sasintro.dakotal5reg12;
6704 label Q22='Principal Occupation'
6705 GRASCROP='grass conversion to cropland decison: ';
6706 tables GRASCROP*Q22/chisq;
6707 format Q22 Occupation. GRASCROP grascrpvari.;
6708 run;
6709
6710
6711 proc freq data=sasintro.dakotal5reg12;
6712 label Q23= 'Gross farm/ranch sales'
6713 GRASCROP='grass conversion to cropland decison: ';
6714 tables GRASCROP*Q23/chisq;
6715 format Q23 Sales. GRASCROP grascrpvari. ;
6716 run;
6717
6718
6719
6720 proc format;
6721 value operation
6722 1='Have been a farm operator'
6723 2='less than 10 years as a farm operator'
6724 3='10 to 10 years as a farm operator'
6725 4='20 to 29 years as a farm operator'
6726 5='30 years or more as a farm operator';
6727
6728 run;
6729
6730 proc freq data=sasintro.dakotal5reg12;
6731 label Q1= 'Year As a Farm Operator'
6732 GRASCROP='grass conversion to cropland decison: ';
6733 tables GRASCROP*Q1/chisq;
6734 format Q1 Operation. GRASCROP grascrpvari. ;
6735 run;
6736
6737
6738 proc format;
6739 value Farmland 10-259='10 to 259 acres'
6740 260-499='260 to 499 acres'
6741 500-999='500 to 999 acres'
6742 1000-1999='1000 to 1999 acres'
6743 2000-4999='2000 to 4999 acres'
6744 5000-high ='5000 acres and above';
6745 run;
6746
6747 proc freq data=sasintro.dakotal5reg12;
6748 label Q3A= 'Farmland Acres Operated in 2014'
6749 GRASCROP='grass conversion to cropland decison: ';
6750 tables GRASCROP*Q3A/chisq;
6751 format Q3A Farmland. GRASCROP grascrpvari.;
6752 run;
6753
6754 proc format;
6755 value Ownership
6756 1='Own all acres farmed'
6757 2='Own most acres farmed, rented the remainder'
6758 3='Own and rent roughly equal number of farmland acres'
6759 4='Rented most of the acres farmed,owned the remainder'
6760 5='Rented all acres farmland'
6761 6='Professional farm manager';
6762 run;
6763

```

```

6764 proc freq data=sasintro.dakotal5reg12;
6765 label Q4= 'Best Ownership Status in 2014'
6766 GRASCROP='grass conversion to cropland decison:';
6767 tables GRASCROP*Q4/chisq;
6768 format Q4 Ownership. GRASCROP grascrpvari.;
6769 run;
6770
6771 proc freq data=sasintro.dakotal5reg12;
6772 label
6773 GRASCROP='grass conversion to cropland decison:';
6774 table GRASCROP*State/chisq;
6775 format GRASCROP grascrpvari.;
6776 run;
6777
6778
6779 proc freq data=sasintro.dakotal5reg12;
6780 label GRASCROP='grass conversion to cropland decison:';
6781 table GRASCROP*Region/chisq;
6782 format GRASCROP grascrpvari.;
6783 run;
6784
6785
6786
6787 proc means data=sasintro.dakotal5reg12 n nmiss sum min max mean CV std STDERR maxdec=2;
6788 CLASS GRASCROP;
6789 var Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4;
6790 label GRASCROP='grass conversion to cropland decison:'
6791 Q19='Respondent Age'
6792 Q20='Respondent Gender'
6793 Q21='Respondent Level of Education'
6794 Q22='Principal Occupation'
6795 Q23='Gross farm/ranch sales'
6796 Q1=' Years as a farm operator'
6797 Q3A='Farmland acres operated in 2014'
6798 Q4='Ownership Status in 2014';
6799 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
6800 Q3A Farmland. Q4 Ownership. GRASCROP grascrpvari.;
6801 run;
6802
6803
6804
6805 /* CRPUSE and operator characteristics, if it CRPUSE=1*/
6806
6807
6808 proc format;
6809 value Age
6810 1='19 to 34 years'
6811 2='35 to 49 years'
6812 3='50 to 59 years'
6813 4='60 to 69 years'
6814 5='70 years and over';
6815
6816 value Gender
6817 1='Male'
6818 2='Female';
6819
6820 value Education
6821 1='Less than high school'
6822 2='High school'
6823 3='Some college/technical school'
6824 4='4-year college degree'
6825 5='Advanced degree (Masters, etc.)';
6826
6827 value Occupation
6828 1='Farming or Ranching'
6829 2='Employment in off-farm job'
6830 3='Own/operate a non-farm business'
6831 4='Retired';
6832
6833 value Sales
6834
6835 12='Less than $99,999'
6836 3='From $100,000 up to $249,999'
6837 4='From $250,000 up to $499,999'
6838 5='From $500,000 up to $999,999'
6839 6='$1 million or more';

```

```

6840 run;
6841
6842 proc format;
6843 value grascrpvari
6844     1='yes';
6845 run;
6846
6847
6848
6849 proc freq data=sasintro.dakotal5reg12;
6850 label Q19='Respondent Age'
6851     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6852 tables CRPUSE*Q19/chisq;
6853 format Q19 Age. CRPUSE grascrpvari. ;
6854 run;
6855
6856
6857 proc freq data=sasintro.dakotal5reg12;
6858 label Q20='Respondent Gender'
6859     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6860 tables CRPUSE*Q20/chisq;
6861 format Q20 Gender. CRPUSE grascrpvari. ;
6862 run;
6863
6864
6865 proc freq data=sasintro.dakotal5reg12;
6866 label Q21='Respondent Level of Education'
6867     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6868 tables CRPUSE*Q21/chisq;
6869 format Q21 Education. CRPUSE grascrpvari.;
6870 run;
6871
6872
6873 proc freq data=sasintro.dakotal5reg12;
6874 label Q22='Principal Occupation'
6875     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6876 tables CRPUSE*Q22/chisq;
6877 format Q22 Occupation. CRPUSE grascrpvari.;
6878 run;
6879
6880
6881 proc freq data=sasintro.dakotal5reg12;
6882 label Q23= 'Gross farm/ranch sales'
6883     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6884 tables CRPUSE*Q23/chisq;
6885 format Q23 Sales. CRPUSE grascrpvari. ;
6886 run;
6887
6888
6889
6890 proc format;
6891 value operation
6892     1='Have been a farm operator'
6893     2='less than 10 years as a farm operator'
6894     3='10 to 10 years as a farm operator'
6895     4='20 to 29 years as a farm operator'
6896     5='30 years or more as a farm operator';
6897
6898 run;
6899
6900 proc freq data=sasintro.dakotal5reg12;
6901 label Q1= 'Year As a Farm Operator'
6902     CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6903 tables CRPUSE*Q1/chisq;
6904 format Q1 Operation. CRPUSE grascrpvari. ;
6905 run;
6906
6907
6908 proc format;
6909 value Farmland 10-259='10 to 259 acres'
6910     260-499='260 to 499 acres'
6911     500-999='500 to 999 acres'
6912     1000-1999='1000 to 1999 acres'
6913     2000-4999='2000 to 4999 acres'
6914     5000-high ='5000 acres and above';
6915 run;

```

```

6916
6917 proc freq data=sasintro.dakotal5reg12;
6918 label Q3A= 'Farmland Acres Operated in 2014'
6919 CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6920 tables CRPUSE*Q3A/chisq;
6921 format Q3A Farmland. CRPUSE grascrpvari.;
6922 run;
6923
6924 proc format;
6925 value Ownership
6926 1='Own all acres farmed'
6927 2='Own most acres farmed, rented the remainder'
6928 3='Own and rent roughly equal number of farmland acres'
6929 4='Rented most of the acres farmed,owned the remainder'
6930 5='Rented all acres farmland'
6931 6='Professional farm manager';
6932 run;
6933
6934 proc freq data=sasintro.dakotal5reg12;
6935 label Q4= 'Best Ownership Status in 2014'
6936 CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6937 tables CRPUSE*Q4/chisq;
6938 format Q4 Ownership. CRPUSE grascrpvari.;
6939 run;
6940
6941 proc freq data=sasintro.dakotal5reg12;
6942 label
6943 CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6944 table CRPUSE*State/chisq;
6945 format CRPUSE grascrpvari.;
6946 run;
6947
6948
6949 proc freq data=sasintro.dakotal5reg12;
6950 label CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use';
6951 table CRPUSE*Region/chisq;
6952 format CRPUSE grascrpvari.;
6953 run;
6954
6955
6956
6957 proc means data=sasintro.dakotal5reg12 n nmiss sum min max mean CV std STDERR maxdec=2;
6958 CLASS CRPUSE;
6959 var Q19 Q20 Q21 Q22 Q23 Q1 Q3A Q4;
6960 label CRPUSE='Some changes CRP during past 10 years vs no changes in CRP use'
6961 Q19='Respondent Age'
6962 Q20='Respondent Gender'
6963 Q21='Respondent Level of Education'
6964 Q22='Principal Occupation'
6965 Q23='Gross farm/ranch sales'
6966 Q1=' Years as a farm operator'
6967 Q3A='Farmland acres operated in 2014'
6968 Q4='Ownership Status in 2014';
6969 format Q19 Age. Q20 Gender. Q21 Education. Q22 Occupation. Q23 Sales. Q1 Operation.
6970 Q3A Farmland. Q4 Ownership. CRPUSE grascrpvari.;
6971 run;
6972
6973
6974 /* latest.....You can use question 5a and 5b to develop a new variabele call acrechg.
6975 then you cross-tab (chi square) acrechg by a series of variables ins
6976 Q8, Q9, Q10, Q11.....*/
6977
6978
6979 data sasintro.dakotal5sizeq51;
6980 set sasintro.dakotal5clean;
6981
6982 Sizeq5=.;
6983 if Q5A=. and Q5B>0 then Sizeq5=Q5B;
6984 if Q5B=. and Q5A>0 then Sizeq5=Q5A*10;
6985 if (Q5A>0 and Q5B>0) then Sizeq5=(Q5A*10)+Q5B;
6986
6987 RUN;
6988
6989 proc print data=sasintro.dakotal5sizeq51;run;
6990
6991

```

```

6992 data sasintro.dakotal5sizeqnew1;
6993     set sasintro.dakotal5sizeq51;
6994
6995 ACRECHG=.;
6997     if (Sizeq5=22) or (Sizeq5=20) or (Sizeq5=2) then ACRECHG=1;
6998     if (Sizeq5=13) or (Sizeq5=31) then ACRECHG=2;
6999     if (Sizeq5=33) or (Sizeq5=32) or (Sizeq5=23) or (Sizeq5=30) or (Sizeq5=3) then ACRECHG=3;
7000     if (Sizeq5=11) or (Sizeq5=12) or (Sizeq5=21) or (Sizeq5=10) or (Sizeq5=1) then ACRECHG=4;
7001 RUN;
7002
7003 proc print data=sasintro.dakotal5sizeqnew1; run;
7004
7005
7006 proc format;
7007 value Currentacres
7008     1 = 'Fewer acres than 10 years ago (by over 10%)'
7009     2 = 'No change or a minor change'
7010     3 = 'More acres than 10 years ago (by over 10%)';
7011 run;
7012
7013 proc format;
7014 value sizevariable
7015     33,32,23,30,3='Expand'
7016     22,20,2='Same'
7017     11,12,21,10,1='DownSize'
7018     13,31='Unsure';
7019 run;
7020
7021 proc freq data=sasintro.dakotal5sizeqnew1;
7022 label Q5A='Cropland acres operated';
7023 tables (Q5a)*Sizeq5/chisq;
7024 format Q5a Currentacres. Sizeq5 sizevariable. ;
7025 run;
7026
7027
7028 proc format;
7029 value Currentacres
7030     1 = 'Fewer acres than 10 years ago (by over 10%)'
7031     2 = 'No change or a minor change'
7032     3 = 'More acres than 10 years ago (by over 10%)';
7033 run;
7034
7035 proc freq data=sasintro.dakotal5sizeqnew1;
7036 label Q5B='Pasture/rangeland acres operated';
7037 tables (Q5B)*Sizeq5/chisq;
7038 format Q5B Currentacres. Sizeq5 sizevariable. ;
7039 run;
7040
7041
7042 proc format;
7043 value acrechgvari
7044     1='SAME'
7045     2='UNSURE'
7046     3='EXPAND'
7047     4='DOWNSIZE';
7048 run;
7049
7050 proc freq data=sasintro.dakotal5sizeqnew1;
7051 label Q5A='Cropland acres operated';
7052 tables (Q5a)*ACRECHG/chisq;
7053 format Q5a Currentacres. ACRECHG acrechgvari. ;
7054 run;
7055
7056
7057 proc freq data=sasintro.dakotal5sizeqnew1;
7058 label Q5B='Pasture/rangeland acres operated';
7059 tables (Q5B)*ACRECHG/chisq;
7060 format Q5B Currentacres. ACRECHG acrechgvari. ;
7061 run;
7062
7063
7064
7065
7066
7067 /** question 8 vs acrechg**/

```

```

7068 |
7069 |
7070 | proc format;
7071 | value Response
7072 |     1='Yes'
7073 |     2='No';
7074 | run;
7075 |
7076 | proc freq data=sasintro.dakotal5sizeqnew1;
7077 | label
7078 |     Q8a='Grown corn and/or soybeans each year'
7079 |     Q8b='Increased proportion of corn and/or soybeans'
7080 |     Q8c='Grown wheat each year'
7081 |     Q8d='Increased proportion of wheat'
7082 |     Q8e='Grown other grains or oilseed crops each year'
7083 |     Q8f='Grown alfalfa or other hay crops each year'
7084 |     Q8g='Adopted or increased use of tile drainage'
7085 |     Q8h='Adopted or increased use of no-till';
7086 | tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*STATE/chisq;
7087 | format Q8a Response. Q8b Response. Q8c Response. Q8d Response.
7088 | Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
7089 | run;
7090 |
7091 |
7092 |
7093 | proc freq data=sasintro.dakotal5sizeqnew1;
7094 | label
7095 |     Q8a='Grown corn and/or soybeans each year'
7096 |     Q8b='Increased proportion of corn and/or soybeans'
7097 |     Q8c='Grown wheat each year'
7098 |     Q8d='Increased proportion of wheat'
7099 |     Q8e='Grown other grains or oilseed crops each year'
7100 |     Q8f='Grown alfalfa or other hay crops each year'
7101 |     Q8g='Adopted or increased use of tile drainage'
7102 |     Q8h='Adopted or increased use of no-till';
7103 | tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*REGION/chisq;
7104 | format Q8a Response. Q8b Response. Q8c Response. Q8d Response.
7105 | Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
7106 | run;
7107 |
7108 |
7109 | proc freq data=sasintro.dakotal5sizeqnew1;
7110 | label
7111 |     Q8a='Grown corn and/or soybeans each year'
7112 |     Q8b='Increased proportion of corn and/or soybeans'
7113 |     Q8c='Grown wheat each year'
7114 |     Q8d='Increased proportion of wheat'
7115 |     Q8e='Grown other grains or oilseed crops each year'
7116 |     Q8f='Grown alfalfa or other hay crops each year'
7117 |     Q8g='Adopted or increased use of tile drainage'
7118 |     Q8h='Adopted or increased use of no-till';
7119 | tables (Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h)*ACRECHG/chisq;
7120 | format ACRECHG acrechgvari. Q8a Response. Q8b Response. Q8c Response. Q8d Response.
7121 | Q8e Response. Q8f Response. Q8g Response. Q8h Response.;
7122 | run;
7123 |
7124 |
7125 |
7126 | /* Q9 vs acrechg */
7127 |
7128 | proc freq data=sasintro.dakotal5sizeqnew1;
7129 | label
7130 |     Q9aYN='Conversion of native grass to cropland'
7131 |     Q9bYN='Conversion of tamend grassland to cropland'
7132 |     Q9cYN='Conversion of CRP land to cropland'
7133 |     Q9dYN='Conversion of CRP land to pasture/hay'
7134 |     Q9eYN='Enrollment of farmland acres to CRP'
7135 |     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
7136 | table (Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN)*ACRECHG/chisq;
7137 | format ACRECHG acrechgvari. Q9aYN Response. Q9bYN Response. Q9cYN Response. Q9dYN Response.
7138 | Q9eYN Response. Q9fYN Response.;
7139 | run;
7140 |
7141 |
7142 | proc format;
7143 | value Farmacres 0 ='0 acres'

```

```

7144         1-99 = '1 to 99 acres'
7145         100-179 = '100 to 179 acres'
7146         180-259 = '180 to 259 acres'
7147         260-499 = '260 to 499 acres'
7148         500-high = '500 acrsa and above';
7149 run;
7150
7151
7152 proc freq data=sasintro.dakotal5sizeqnew1;
7153 label
7154     Q9aAC='Conversion of native grass to cropland'
7155     Q9bAC='Conversion of tamend grassland to cropland'
7156     Q9cAC='Conversion of CRP land to cropland'
7157     Q9dAC='Conversion of CRP land to pasture/hay'
7158     Q9eAC='Enrollment of farmland acres to CRP'
7159     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
7160 table (Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC)*ACRECHG/chisq;
7161 format ACRECHG acrechgvari. Q9aAC Farmacres. Q9bAC Farmacres. Q9cAC Farmacres. Q9dAC Farmacres.
7162 Q9eAC Farmacres. Q9fAC Farmacres.;
7163 run;
7164
7165
7166 proc format;
7167 value Responsechg
7168     1='Yes'
7169     0='No';
7170 run;
7171
7172 proc freq data=sasintro.dakotal5sizeqnew1;
7173 label
7174     Q9aCorn='Conversion of native grass to Corn land'
7175     Q9aSoy='Conversion of native grass to Soybean land'
7176     Q9aWht='Conversion of native grass to Wheat land'
7177     Q9aOth='Conversion of native grass to Other use'
7178     Q9bCorn='Conversion of tamend grassland to Corn land'
7179     Q9bSoy='Conversion of tamend grassland to Soy land'
7180     Q9bWht='Conversion of tamend grassland to Wheat land'
7181     Q9bOth='Conversion of tamend grassland to Other use'
7182     Q9cCorn='Conversion of CRP land to Corn land'
7183     Q9cSoy='Conversion of CRP land to Soy land'
7184     Q9cWht='Conversion of CRP land to Wheat land'
7185     Q9cOth='Conversion of CRP land to Other use' ;
7186 table (Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth)*ACRECHG/chisq;
7187 format ACRECHG acrechgvari. Q9aCorn responsechg. Q9aSoy responsechg. Q9aWht responsechg. Q9aOth responsechg.
7188 Q9bCorn responsechg. Q9bSoy responsechg. Q9bWht responsechg. Q9bOth responsechg.
7189 Q9cCorn responsechg. Q9cSoy responsechg. Q9cWht responsechg. Q9cOth responsechg.;
7190 run;
7191
7192 /*Q10 vs ACRECHG*/
7193
7194 proc format;
7195 value Impact
7196     1='No Impact'
7197     2='Slight Impact'
7198     3='Some Impact'
7199     4='Quite a bit of Impact'
7200     5='Great Impact';
7201 run;
7202
7203 proc freq data=sasintro.dakotal5sizeqnew1;
7204 label
7205     Q10a1='Changing crop prices'
7206     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
7207     Q10a3='Availability of crop and revenue insurance policies'
7208     Q10a4='Availability of drought-tolerant seed'
7209     Q10a5='Developments in pest management practices, including pest management seed traits'
7210     Q10a6='Improved crop yields (other than seed related traits)'
7211     Q10a7='Development of more efficient cropping equipment'
7212     Q10a8='Labor availability problems'
7213     Q10a9='Improving wildlife habitat'
7214     Q10a10='Changing weather /climate patterns';
7215 tables (Q10a1 Q10a2 Q10a3 Q10a4 Q10a5 Q10a6 Q10a7 Q10a8 Q10a9 Q10a10)*ACRECHG/chisq;
7216 format ACRECHG acrechgvari. Q10a1 Impact. Q10a2 Impact. Q10a3 Impact. Q10a4 Impact. Q10a5 Impact.
7217 Q10a6 Impact. Q10a7 Impact. Q10a8 Impact. Q10a9 Impact. Q10a10 Impact.;
7218 run;
7219

```

```

7220 proc format;
7221 value gimpact
7222     01 = 'Changing crop prices'
7223     02 = 'Changing prices in input markets (seed, fertilizer, chemicals, etc.) '
7224     03 = 'Availability of crop and revenue insurance policies'
7225     04 = 'Availability of drought-tolerant seed'
7226     05 = 'Developments in pest management practices, including pest management seed traits'
7227     06 = 'Improved crop yields (other than seed related traits) '
7228     07 = 'Development of more efficient cropping equipment'
7229     08 = 'Labor availability problems'
7230     09 = 'Improving wildlife habitat'
7231     10 = 'Changing weather /climate patterns';
7232 RUN;
7233
7234 proc freq data=sasintro.dakotal5sizeqnew1;
7235 label Q10B='greatest impact on changes in own land use';
7236 tables Q10B*ACRECHG/chisq;
7237 format ACRECHG acrechgvari. Q10B gimpact.;
7238 run;
7239
7240
7241 /*Q11 vs ACRECHG */
7242
7243 proc format;
7244 value Future
7245     1='Yes'
7246     2='No'
7247     3='Dont Know';
7248 run;
7249
7250 proc freq data=sasintro.dakotal5sizeqnew1;
7251 label
7252     Q11a='Plan to convert native grassland to cropland in next 10 years'
7253     Q11b='Plan to convert tame grassland to cropland in next 10 years'
7254     Q11c='Plan to convert cropland to grassland in next 10 years';
7255 tables (Q11a Q11b Q11c)*ACRECHG/norow;
7256 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
7257 run;
7258
7259 proc freq data=sasintro.dakotal5sizeqnew1;
7260 label
7261     Q11a='Plan to convert native grassland to cropland in next 10 years'
7262     Q11b='Plan to convert tame grassland to cropland in next 10 years'
7263     Q11c='Plan to convert cropland to grassland in next 10 years';
7264 tables (Q11a Q11b Q11c)*ACRECHG/chisq;
7265 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
7266 run;
7267
7268
7269 /*obtain a frequency distribution of Sizeq5 and also sum the number of cropland
7270 acres, pasture acres, and farmland acres (Q3 variables) by element of Size5*/
7271
7272 proc format;
7273 value Farmland 10-259='1 to 259 acres'
7274     260-499='260 to 499 acres'
7275     500-999='500 to 999 acres'
7276     1000-1999='1000 to 1999 acres'
7277     2000-4999='2000 to 4999 acres'
7278     5000-high ='5000 acres and above';
7279
7280 value Cropland 0 ='0 acres'
7281     1-9 = '1 to 9 acres'
7282     10-259='1 to 259 acres'
7283     260-499='260 to 499 acres'
7284     500-999='500 to 999 acres'
7285     1000-1999='1000 to 1999 acres'
7286     2000-4999='2000 to 4999 acres'
7287     5000-high ='5000 acres and above';
7288
7289 value CRPLand 0 ='0 acres'
7290     1-9 = '1 to 9 acres'
7291     10-259='1 to 259 acres'
7292     260-499='260 to 499 acres'
7293     500-999='500 to 999 acres'
7294     1000-1999='1000 to 1999 acres'
7295     2000-4999='2000 to 4999 acres'

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7296             5000-high ='5000 acres and above';
7297
7298
7299 value Pastureland 0 ='0 acres'
7300             1-9 = '1 to 9 acres'
7301             10-259='1 to 259 acres'
7302             260-499='260 to 499 acres'
7303             500-999='500 to 999 acres'
7304             1000-1999='1000 to 1999 acres'
7305             2000-4999='2000 to 4999 acres'
7306             5000-high ='5000 acres and above';
7307 run;
7308
7309
7310 /* Q3a vs Sizeq5, chisq*/
7311
7312
7313 proc freq data=sasintro.dakotal5sizeqnew1;
7314 label
7315     Q3A='farmland acres operated in 2014';
7316 tables Q3A*Sizeq5/chisq;
7317 format Sizeq5 sizevariable. Q3A Farmland. ;
7318 run;
7319
7320
7321 /* Q3B vs Sizeq5 chisq*/
7322
7323
7324 proc freq data=sasintro.dakotal5sizeqnew1;
7325 label
7326     Q3B='cropland acres operated in 2014';
7327 tables Q3B*Sizeq5/chisq;
7328 format Sizeq5 sizevariable. Q3B Cropland. ;
7329 run;
7330
7331
7332 /* Q3C vs Sizeq5 chisq*/
7333
7334
7335 proc freq data=sasintro.dakotal5sizeqnew1;
7336 label
7337     Q3C='CRP acres in 2014';
7338 tables Q3C*Sizeq5/chisq;
7339 format Sizeq5 sizevariable. Q3C CRPLand. ;
7340 run;
7341
7342 /* Q3D vs Sizeq5 chisq*/
7343
7344
7345 proc freq data=sasintro.dakotal5sizeqnew1;
7346 label
7347     Q3D='pasture/rangeland acres in 2014';
7348 tables Q3D*Sizeq5/chisq;
7349 format Sizeq5 sizevariable. Q3D Pastureland. ;
7350 run;
7351
7352 /* Q3a vs ACRECHG, chisq*/
7353
7354
7355 proc freq data=sasintro.dakotal5sizeqnew1;
7356 label
7357     Q3A='farmland acres operated in 2014';
7358 tables Q3A*ACRECHG/chisq;
7359 format ACRECHG acrechgvari. Q3A Farmland. ;
7360 run;
7361
7362
7363 /* Q3B vs ACRECHG chisq*/
7364
7365
7366 proc freq data=sasintro.dakotal5sizeqnew1;
7367 label
7368     Q3B='cropland acres operated in 2014';
7369 tables Q3B*ACRECHG/chisq;
7370 format ACRECHG acrechgvari. Q3B Cropland. ;
7371 run;

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7372 |
7373 |
7374 | /* Q3C vs ACRECHG chisq*/
7375 |
7376 |
7377 | proc freq data=sasintro.dakotal5sizeqnew1;
7378 | label
7379 |     Q3C='CRP acres in 2014';
7380 | tables Q3C*ACRECHG/chisq;
7381 | format ACRECHG acrechgvari. Q3C CRPLand. ;
7382 | run;
7383 |
7384 | /* Q3D vs ACRECHG chisq*/
7385 |
7386 |
7387 | proc freq data=sasintro.dakotal5sizeqnew1;
7388 | label
7389 |     Q3D='pasture/rangeland acres in 2014';
7390 | tables Q3D*ACRECHG/chisq;
7391 | format ACRECHG acrechgvari. Q3D Pastureland. ;
7392 | run;
7393 |
7394 |
7395 |
7396 | /* means analysis*/
7397 |
7398 |
7399 | proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;
7400 | class Sizeq5;
7401 | var Q3A Q3B Q3C Q3D;
7402 | label
7403 |     Q3A='farmland acres operated in 2014'
7404 |     Q3B='cropland acres operated in 2014'
7405 |     Q3C='CRP acres in 2014'
7406 |     Q3D='pasture/rangeland acres in 2014';
7407 | format Sizeq5 sizevariable.;
7408 | run;
7409 |
7410 |
7411 | /** question 8 vs acrechg MENA ANALYSIS**/
7412 |
7413 |
7414 | proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7415 | CLASS ACRECHG;
7416 | var Q8a Q8b Q8c Q8d Q8e Q8f Q8g Q8h;
7417 | label
7418 |     Q8a='Grown corn and/or soybeans each year'
7419 |     Q8b='Increased proportion of corn and/or soybeans'
7420 |     Q8c='Grown wheat each year'
7421 |     Q8d='Increased proportion of wheat'
7422 |     Q8e='Grown other grains or oilseed crops each year'
7423 |     Q8f='Grown alfalfa or other hay crops each year'
7424 |     Q8g='Adopted or increased use of tile drainage'
7425 |     Q8h='Adopted or increased use of no-till';
7426 | format ACRECHG acrechgvari. ;
7427 | run;
7428 |
7429 |
7430 | /** question 9 vs acrechg MEAN ANALYSIS**/
7431 |
7432 |
7433 | proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7434 | CLASS ACRECHG;
7435 | var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
7436 | label
7437 |     Q9aYN='Conversion of native grass to cropland'
7438 |     Q9bYN='Conversion of tame grassland to cropland'
7439 |     Q9cYN='Conversion of CRP land to cropland'
7440 |     Q9dYN='Conversion of CRP land to pasture/hay'
7441 |     Q9eYN='Enrollment of farmland acres to CRP'
7442 |     Q9fYN='Enrollment of land into WRP (wetland reserve) or grass easement program';
7443 | format ACRECHG acrechgvari. ;
7444 | run;
7445 |
7446 |
7447 | proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;

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7448 CLASS ACRECHG;
7449 var Q9aAC Q9bAC Q9cAC Q9dAC Q9eAC Q9fAC;
7450 label
7451     Q9aAC='Conversion of native grass to cropland'
7452     Q9bAC='Conversion of tamend grassland to cropland'
7453     Q9cAC='Conversion of CRP land to cropland'
7454     Q9dAC='Conversion of CRP land to pasture/hay'
7455     Q9eAC='Enrollment of farmland acres to CRP'
7456     Q9fAC='Enrollment of land into WRP (wetland reserve) or grass easement program';
7457 format ACRECHG acrechgvari. ;
7458 run;
7459
7460 proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7461 CLASS ACRECHG;
7462 var Q9aCorn Q9aSoy Q9aWht Q9aOth Q9bCorn Q9bSoy Q9bWht Q9bOth Q9cCorn Q9cSoy Q9cWht Q9cOth;
7463 label
7464     Q9aCorn='Conversion of native grass to Corn land'
7465     Q9aSoy='Conversion of native grass to Soybean land'
7466     Q9aWht='Conversion of native grass to Wheat land'
7467     Q9aOth='Conversion of native grass to Other use'
7468     Q9bCorn='Conversion of tamend grassland to Corn land'
7469     Q9bSoy='Conversion of tamend grassland to Soy land'
7470     Q9bWht='Conversion of tamend grassland to Wheat land'
7471     Q9bOth='Conversion of tamend grassland to Other use'
7472     Q9cCorn='Conversion of CRP land to Corn land'
7473     Q9cSoy='Conversion of CRP land to Soy land'
7474     Q9cWht='Conversion of CRP land to Wheat land'
7475     Q9cOth='Conversion of CRP land to Other use' ;
7476 format ACRECHG acrechgvari.;
7477 run;
7478
7479
7480 /* Q10 vs acrechg mean analysis*/
7481
7482
7483 proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7484 CLASS ACRECHG;
7485 var Q10A1 Q10A2 Q10A3 Q10A4 Q10A5 Q10A6 Q10A7 Q10A8 Q10A9 Q10A10;
7486 label
7487     Q10a1='Changing crop prices'
7488     Q10a2='Changing prices in input markets (seed, fertilizer, chemicals, etc.)'
7489     Q10a3='Availability of crop and revenue insurance policies'
7490     Q10a4='Availability of drought-tolerant seed'
7491     Q10a5='Developments in pest management practices, including pest management seed traits'
7492     Q10a6='Improved crop yields (other than seed related traits)'
7493     Q10a7='Development of more efficient cropping equipment'
7494     Q10a8='Labor availability problems'
7495     Q10a9='Improving wildlife habitat'
7496     Q10a10='Changing weather /climate patterns';
7497 format ACRECHG acrechgvari. ;
7498 run;
7499
7500
7501 proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7502 CLASS ACRECHG;
7503 var Q10B;
7504 label Q10B='greatest impact on changes in own land use';
7505 format ACRECHG acrechgvari. Q10B gimpect.;
7506 run;
7507
7508
7509 /* Q11 vs acrechg mean analysis*/
7510
7511 proc means data=sasintro.dakotal5sizeqnew1 n nmiss sum min max mean CV std STDERR maxdec=2;;
7512 CLASS ACRECHG;
7513 var Q11a Q11b Q11c;
7514 label
7515     Q11a='Plan to convert native grassland to cropland in next 10 years'
7516     Q11b='Plan to convert tame grassland to cropland in next 10 years'
7517     Q11c='Plan to convert cropland to grassland in next 10 years';
7518 format ACRECHG acrechgvari. Q11a Future. Q11b Future. Q11c Future.;
7519 run;
7520
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