```sas
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.dakota15;
17 run;
18
19 /*data cleaning proceess, delete missing variable*/
20
21 data sasintro.dakota15clean;
22      set sasintro.dakota15;
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.dakota15clean;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.dakota15;
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.dakota15;
```

```sas
 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'
```

```
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)'
```

```sas
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 tabulute 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;
```

```sas
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.;
```

```sas
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;
```

```sas
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'
```

```
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.dakota15clean 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.dakota15clean 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.dakota15clean 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'
```

```
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'
```

```
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
```

```sas
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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';
```

```sas
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.dakota15clean;
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';
```

```
 988 | run;
 989 |
 990 | proc freq data=sasintro.dakota15clean;
 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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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
```

```sas
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
```

```
1216          1='Yes'
1217          2='No';
1218   run;
1219   proc freq data=sasintro.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean 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.dakota15clean format=6.;
1288   class Region;
1289   var Q9aYN Q9bYN Q9cYN Q9dYN Q9eYN Q9fYN;
1290   label
1291          Q9aYN='Conversion of native grass to cropland'
```

```sas
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.
```

```
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'
```

```sas
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
```

```
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
```

```sas
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;
```

```sas
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 opertor'
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'
```

```
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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
```

```sas
1900            1='Yes'
1901            2='No';
1902  run;
1903  proc freq data=sasintro.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
1978  label Q3A= 'Farmland Acres Operated in 2014'
1979        Q9aYN='Conversion of native grass to cropland'
1980        Q9bYN='Conversion of tamend 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.dakota15clean;
2002  label Q4= 'Best Ownership Status in 2014'
2003        Q9aYN='Conversion of native grass to cropland'
2004        Q9bYN='Conversion of tamend 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.dakota15;
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.dakota15;
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;
```

```sas
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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'
```

```
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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.dakota15clean;
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**/
```

```
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;
```

```
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
```

```
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.dakota15;
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.dakota15reg;
2597        set sasintro.dakota15clean;
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.dakota15reg;
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 Ocupation'
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 Ocupation'
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;
```

```
2736  label
2737        Q19='Respondent Age'
2738        Q20='Respondent Gender'
2739        Q21='Respondent Level of Education'
2740        Q22='Principal Ocupation'
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 Ocupation'
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 Ocupation'
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 Ocupation'
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';
```

```sas
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
```

```
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 Ocupation'
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;


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 Ocupation'
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;

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 Ocupation'
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;

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 Ocupation'
```

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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 Ocupation'
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 Ocupation'
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;
```

```
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 regro
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 regro
3113 run;
3114
3115
```

```sas
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'
```

```sas
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 regrou
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 regrou
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 regrou
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='Ownersip 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 regrou
3265 run;
3266
3267
```

```sas
3268  proc logistic data=sasintro.dakota15reg;
3269  label
3270        Q4='Ownersip 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 regrou
3280  run;
3281
3282  /*extra analysis end */
3283
3284
3285  /* Q10 related regression analysis start */
3286
3287  data sasintro.dakota15regQ10a;
3288        set sasintro.dakota15clean;
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.dakota15regQ10a;
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.dakota15regQ10a;
3340  class NQ10a1 region;
3341  level NQ10a1='Changing crop prices';
3342  model NQ10a1=region;
3343  format  NQ10a1 reformat.;
```

```sas
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'
```

```sas
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.dakota15reg1;
3655         set sasintro.dakota15clean;
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.dakota15reg1;run;
3668
3669   /*data sasintro.dakota15reg2;
3670         set sasintro.dakota15reg1;
3671   GCROP=.;
3672   GCROP= (Q9AYN*100)+(Q9BYN*10)+Q9CYN;
3673   RUN;
3674   proc print data=sasintro.dakota15reg2;run;
3675
3676   data sasintro.dakota15reg3;
3677         set sasintro.dakota15reg2;
3678
3679   GRASCROP=.;
3680    if GCROP=1 then GRASCROP=1;
3681   proc print data=sasintro.dakota15reg3;run;*/
3682
3683
3684   /*data sasintro.dakota15reg1;
3685         set sasintro.dakota15clean;
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.dakota15reg1;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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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
```

```sas
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.dakota15reg1;
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 run;
3828
3829 proc freq data=sasintro.dakota15reg1;
3830 label Q3A= 'Farmland Acres Operated in 2014'
3831        GRASCROP='grass/CRP conversion to cropland decison:';
3832 tables GRASCROP*Q3A/chisq;
3833 format Q3A Farmland.;
3834 run;
3835
3836 proc format;
3837 value Ownership
3838        1='Own all acres farmed'
3839        2='Own most acres farmed, rented the remainder'
3840        3='Own and rent roughly equal number of farmland acres'
3841        4='Rented most of the acres farmed,owned the remainder'
3842        5='Rented all acres farmland'
3843        6='Professional farm manager';
3844 run;
3845
3846 proc freq data=sasintro.dakota15reg1;
3847 label Q4= 'Best Ownership Status in 2014'
3848        GRASCROP='grass/CRP conversion to cropland decison:';
3849 tables GRASCROP*Q4/chisq;
3850 format Q4 Ownership. GRASCROP Reresponse.;
3851 run;
3852
3853 proc freq data=sasintro.dakota15reg1;
3854 label
3855        GRASCROP='grass/CRP conversion to cropland decison:';
3856 table GRASCROP*State/chisq;
3857 run;
3858
3859
3860 proc freq data=sasintro.dakota15reg1;
3861 label GRASCROP='grass/CRP conversion to cropland decison:';
3862 table GRASCROP*Region/chisq;
3863 run;
3864
3865 /*cross tab chi square test, Q9 part one CRPUSE
3866 AND  region and state based, 19, 20, 21, 22, 23, */
3867
3868 proc format;
3869 value Age
3870        1='19 to 34 years'
3871        2='35 to 49 years'
3872        3='50 to 59 years'
3873        4='60 to 69 years'
3874        5='70 years and over';
3875
```

```
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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;
```

```
3952
3953  proc freq data=sasintro.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.;
```

```sas
4028  run;
4029
4030
4031  /* depending on your findingsrelated to (2) on farm-related issues afftecting
4032  their own decisons, 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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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 iteam and operators characteristcs */
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
```

```
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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'
```

```
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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'
```

```
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.dakota15reg1;
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 /
4575 /*I want to sum of acres converted to cropland for any reason, create new variable*/
4576
4577 data sasintro.dakota15reg11;
4578      set sasintro.dakota15reg1;
4579
4580 CONVERT=.;
4581     CONVERT=(Q9AAC+Q9BAC+Q9CAC);
4582
4583 RUN;
4584
4585 proc print data=sasintro.dakota15reg11;run;
4586
4587 /*I want to sum of acres converted to cropland for any reason, create new variable end*/
4588
4589
4590 proc means data=sasintro.dakota15reg11 n nmiss sum min max mean CV std STDERR maxdec=2;
4591 class state;
4592 var CONVERT;
4593 label CONVERT='Sum of Acres Converted';
4594 run;
4595
4596
4597 proc means data=sasintro.dakota15reg11 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.dakota15reg11 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.dakota15reg11 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'
```

```
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
```

```
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'
```

```
4788                    5000-high ='5000 acres and above';
4789 run;
4790
4791 proc means data=sasintro.dakota15reg11 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.dakota15reg11 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.dakota15reg11 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'
```

```sas
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
```

```sas
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 ;
```

```
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.dakota15reg11 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.dakota15reg11;
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.dakota15reg11;
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
```

```
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.dakota15reg11;
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.dakota15reg11;
5111 label Q20='Respondent Genger'
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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'
```

```
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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 Ownersip. 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.dakota15reg11;
5240 label
5241        Q14b1='Grassland acres, any type'
5242        Q14b2='Native Grassland acres only'
5243        Q14b3='Soybean or Corn acres';
```

```sas
5244  tables (Q14b1 Q14b2 Q14b3)*State/chisq;
5245  format  Q14b1 Futurechange. Q14b2 Futurechange. Q14b3 Futurechange.;
5246  run;
5247
5248  proc freq data=sasintro.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
5302  label Q20='Respondent Genger'
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.dakota15reg11;
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.dakota15reg11;
```

```sas
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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;
```

```sas
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.dakota15reg11;
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.dakota15reg11 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.dakota15reg11 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.dakota15reg11 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.dakota15reg11 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
```

```
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.dakota15reg111;
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.dakota15reg111;run;
5504
5505
5506   proc means data=sasintro.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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;
```

```sas
5548
5549
5550  /* summary statistics related to different acres*/
5551
5552
5553  proc means data=sasintro.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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.dakota15reg111 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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg1;
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg11;
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
```

```sas
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.dakota15reg11;
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.dakota15reg11;
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.dakota15reg1;
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'
```

```sas
5852                       5000-high ='5000 acres and above';
5853  run;
5854
5855  proc freq data=sasintro.dakota15reg11;
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 exibit each characteristics (number of total cropland acres in Q4 multiflied
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.dakota15reg1111;
5876        set sasintro.dakota15reg111;
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.dakota15reg1111;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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111;
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.dakota15reg1111 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.dakota15reg1111 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
6055
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