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Characteristics of Eastern Oregon Cattle Operations

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Highlights

- 2,148 cattlemen with 20 or more brood cows operate in the area
- 602,000 brood cows are managed by these operators
- 133,000 weaners and stockers are purchased annually
- 58 percent derive over half of their gross income from livestock
- 70 percent manage cows to calve in the spring
- 8.2 million AUM's of forage are produced annually
- 15 percent produce insufficient hay to meet winter feed needs
- 30 percent sell a total of 283,500 tons of hay annually
- 56 percent produce grain crops
- 7 percent haul water to livestock
- Cattlemen are about equally divided between cow-calf and cow-calf yearling operations.

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Characteristics of Eastern Oregon Cattle Operations

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General characteristics of cattle ranching operations in Eastern Oregon with 20 or more brood cows are presented in this report. This information is based on a stratified random sample of 502 ranchers taken from an estimated total population of 2,148. The characteristics as presented do not pertain to a specific point in time but reflect what participating ranchers considered to be "normal" or typical for their operations.

Eastern Oregon for this study includes all counties east of the Cascade Mountains, except Hood River, but including Jackson. Because of variations in local conditions and the nature of the operations resulting therefrom, descriptive information is presented by major regions as well as the total study area. The study area and its major regions are delineated in Figure 1.

A brief overview of the sampling procedure that was followed is presented as a basis for evaluating the various population estimates derived from the sample.

Cattlemen selected for survey were taken from lists provided by County Extension Agents. These lists identified cattlemen in each county of the study area by number of brood cows: 20-99; 100-199; 200-499; and 500 and over. The herd size of some identified cattlemen was not known. Questionnaires were sent in July of 1978 to all ranchers with an unknown number of brood cows

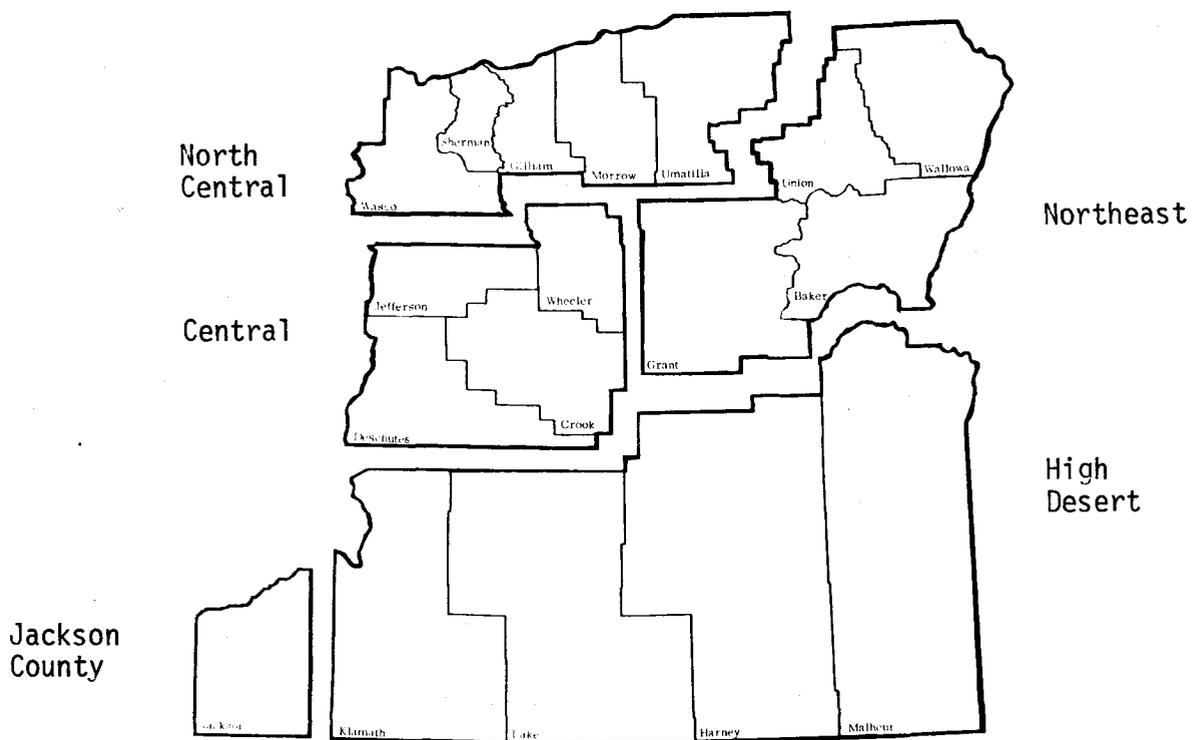


Figure 1. Study Area and Its Major Regions.

and to all cattlemen reported having 500 or more brood cows. In addition, a minimum of seven cattlemen from each of the other herd size groupings in each county was randomly selected for survey. Ranchers having 200 to 499 brood cows were sampled more heavily than the two smaller herd size groupings to insure an adequate number of responses from cattlemen with larger ranching operations.

The information supplied by County Extension agents provided a preliminary estimate of the population of cattlemen in the study area by region and herd size. This preliminary estimate was adjusted based on survey results. Responses from 69 of the 203 ranchers classified as having an unknown herd size were used to allocate all 203 ranchers to their appropriate herd size group. Several respondents indicated they had fewer than 20 brood cows or were no longer in the cattle business and, hence, were not included in the final estimated population or study results. A revised estimate of the population of cattlemen by region and herd size including an estimate of the number of ranchers with 1,000 or more head was determined. An estimated population for this latter herd size group was determined by allocating a portion of the ranchers initially classified as having an unknown herd size to the 1,000 or more head group based on the percent of the ranchers with an unknown herd size who responded and indicated they had 1,000 or more head. In addition, respondents who were initially identified as having less than 1,000 brood cows but reported being in the 1,000 or more group were added to the group. The estimated population of ranchers, number of survey respondents, and the percentage of the population responding to this survey appear by region and herd size in Table 1.

Table 1. Estimated population of ranchers, number of survey respondents and the percentage of the population responding by region and herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
<u>Central</u>						
number of ranchers	69	53	65	30	8	225
number of respondents	22	21	22	12	4	81
percentage responding	32	40	34	40	50	36
<u>High Desert</u>						
number of ranchers	82	58	146	104	55	445
number of respondents	27	21	47	33	21	149
percentage responding	33	36	32	32	38	33
<u>Jackson County</u>						
number of ranchers	128	24	29	0	0	181
number of respondents	16	4	6	0	0	26
percentage responding	12	17	21			14
<u>North Central</u>						
number of ranchers	349	122	96	15	13	595
number of respondents	52	34	33	4	5	128
percentage responding	15	28	34	27	38	22
<u>Northeast</u>						
number of ranchers	193	184	265	52	8	702
number of respondents	25	26	50	14	3	118
percentage responding	13	14	19	27	38	17
<u>Study area total</u>						
number of ranchers	821	441	601	201	84	2,148
number of respondents	142	106	158	63	33	502
percentage responding	17	24	26	31	39	23

Based on the revised population estimate and the number of ranchers in the sample by region and herd size, a weighting scheme was developed. Weights corrected group average responses for sampling bias and permitted expanding survey responses to provide descriptive data for ranchers by study area, region, and selected herd sizes.

The information about ranching operations in the study area and its regions is presented and discussed in the next sections. This information believed to be an accurate description of cattle ranching operations in the study area since it was developed using sound statistical sampling and weighting procedures. If there are any shortcomings in developing this information, it is that it was assumed that non-respondents in each region had characteristics similar to those of respondents. Detailed information by herd size and region is presented in Tables A-1 through A-12.

Cow Herd Size

About 602,500 brood cows are owned by the 2,148 cattlemen in the study area. Average herd size is 280 head but varies from about 120 head in Jackson County to some 500 head in the High Desert Region (Table 2).

Table 2. Estimated number of ranchers with brood cow herds, number of brood cows, and average herd size

Region	Ranchers (number)	Brood cows (head)	Average herd size (head)
Central	225	69,340	308
High Desert	445	225,220	506
Jackson County	181	21,430	118
North Central	595	103,590	174
Northeast	702	182,930	261
Study area	2,148	602,519	280

Thirty-eight percent of the cattlemen in the study area have between 20 and 99 brood cows. But, these cattlemen own only eight percent of the brood cows in the study area. At the other extreme, four percent of the cattlemen have 1,000 or more head but own 21 percent of the cows. Estimated number of ranchers and cows are reported by region and herd size in Table A-1.

Small cow herds predominate in Jackson County and the North Central Region. A majority of the ranchers in the Central and Northeast Regions have cow herds of between 100 and 499 head, while larger cow herds predominate in the High Desert Region.

Weaner and Stocker Purchases

Cattlemen in the study area purchase some 133,510 weaners and stockers annually. Average number purchased is about 370 head but varies from 50 head in Jackson County to about 700 head in the High Desert Region. Total and average number of weaners and stockers purchased by region are illustrated in Table 3.

Table 3. Estimated percent of ranchers buying weaners and stockers, number purchased and average number bought

Region	Ranchers buying (percent)	Total number purchased (head)	Average number purchased (head)
Central	21	11,900	248
High Desert	23	72,500	704
Jackson County	23	2,050	50
North Central	7	13,700	319
Northeast	18	33,000	268
Study Area	17	133,150	372

Seventeen percent of the 2,148 ranchers usually purchase weaners and stockers. This percentage varied from only seven percent in the North Central Region to 23 percent in the High Desert Region and Jackson County.

In all regions except the High Desert, at least 46 percent of the cattlemen purchasing weaners and stockers buy less than 100 head annually. Most of these cattlemen have 20 to 99 brood cows. Seventy-eight percent of the ranchers purchasing weaners and stockers in the High Desert Region buy more than 100 head. Most of these cattlemen have between 200 and 999 brood cows. Number of ranchers purchasing different lot sizes of weaners and stockers and total number purchased annually are illustrated by region and herd size in Tables A-2 and A-3.

Income Importance

Livestock sales are a major source of income for ranchers in the study area. Forty-four percent of the cattlemen derive more than 74 percent of their gross income from livestock. Relative importance of livestock to ranchers' gross income is presented by region in Table 4. Livestock plays a major role in generating income for ranchers in Central, High Desert, and Northeast Regions. In Jackson County and the North Central Region, livestock sales play a lesser role. Number of ranchers deriving various gross income proportions from livestock appear by region and herd size in Table A-4.

Type of Operation

Ranchers in the study area are about equally divided between cow-calf and cow-calf yearling operations. High Desert and Northeast ranchers are

Table 4. Estimate percent of ranchers by percent gross income derived from livestock

Region	Gross income derived from livestock			
	Less than 25 percent	25 to 49 percent	50 to 74 percent	More than 74 percent
	- - - - - percent of ranchers - - - - -			
Central	11.6	19.1	20.9	48.4
High Desert	6.7	12.4	7.9	73.0
Jackson County	31.5	32.0	9.4	27.1
North Central	45.4	30.6	7.9	16.1
Northeast	7.3	17.2	22.2	53.3
Study area	20.2	21.4	14.1	44.3

predominantly cow-calf yearling operators, while more cow-calf operations exist in the North Central Region. Percent of ranchers by type of operation and region are shown in Table 5.

In the study area, cow herds larger than 200 head are managed predominantly as cow-calf yearling operations, while smaller herds are managed predominantly as cow-calf operations. Number of ranchers by type of operation, region, and herd size are detailed in Table A-5.

Table 5. Estimated percent of ranchers by type of operation

Region	Cow-calf	Cow-calf yearling	Weaner or stocker	Other
	- - - - - percent of ranchers - - - - -			
Central	48.4	50.3	0	1.3
High Desert	34.6	58.7	4.5	2.2
Jackson County	46.4	44.8	0	8.8
North Central	68.9	29.6	0	1.5
Northeast	40.2	56.8	0	3.0
Study area	48.4	48.0	0.9	2.7

Calving Season

Seventy percent of the cattlemen in the study area manage their herds to calve in the spring, 18 percent both spring and fall calve, and 12 percent fall calve. These percentages vary by region and are presented in Table 6. In all regions except Jackson County a majority of the herds spring calve.

Table 6. Estimated percent of ranchers by calving season

Region	Fall	Spring	Fall and spring
	- - - percent of ranchers - - - - -		
Central	8.9	73.3	17.8
High Desert	2.7	68.1	29.2
Jackson County	30.9	44.2	24.9
North Central	17.1	68.1	14.8
Northeast	10.0	78.5	11.5
Study Area	12.1	70.0	17.9

Compared to other herd size groups, relatively more ranchers with less than 200 brood cows manage their herds to calve in the fall. No other relationship between calving season and herd size appeared evident. Number of ranchers by calving season, region, and herd size appear in Table A-6.

Forage Production and Utilization

A majority of the 2,148 ranchers produce dryland range, irrigated pasture, and hay forage (Table 7). The percent of ranchers producing these forages varied by region. For example, in Jackson County 95 percent of the cattlemen reported producing irrigated pasture; whereas in the North Central Region only 36 percent of the cattlemen produce this forage.

Table 7. Estimated percent of ranchers producing selected forage sources

Region	Dryland range	Irrigated pasture	Dryland & irrigated hay	Grain aftermath
	- - - - - percent of ranchers - - - - -			
Central	85.3	64.0	92.9	46.2
High Desert	88.1	78.9	96.4	29.7
Jackson County	79.6	95.0	71.8	5.0
North Central	94.1	36.8	65.5	81.5
Northeast	85.8	71.8	97.6	32.2
Study area	88.0	64.7	85.8	44.5

The percent of ranchers producing each identified forage also varied by herd size. Ranchers with 20 to 99 brood cows tend to utilize less dryland range forage and more grain aftermath than ranchers with larger herds. No other obvious relationships appeared to exist between forage sources utilized and herd size. Estimated number of ranchers utilizing selected forage sources by region and herd size are shown in Tables A-7 through A-10.

In the study area, forage production from dryland range exceeds production from irrigated pasture, hay, and grain aftermath (Table 8). In the Northeast Region, however, production from irrigated and dryland hay exceeds forage produced from range. Forage from grain aftermath appeared to be an important forage source to cattlemen in the North Central Region. Annual production of forages

Table 8. Estimated annual production of dryland range, irrigated pasture, irrigated and dryland hay, and grain aftermath

Region	Dryland range	Irrigated pasture	Dryland & irrigated hay a/	Grain aftermath	Total
----- AUM's -----					
Central	352,375	139,074	233,853	28,238	753,540
High Desert	1,728,936	926,061	1,296,633	102,060	405,369
Jackson County	126,592	133,449	69,447	1,583	331,071
North Central	473,935	48,902	381,432	231,362	1,135,631
Northeast	681,449	354,661	850,704	27,553	1,914,367
Study Area	3,363,287	1,602,147	2,832,069	390,796	8,188,299

a/ One ton of hay equals three AUM's.

in the study area is estimated at about 8.2 million AUM's (animal unit months) or about 2.7 million tons. Estimated annual production and average production per rancher by forage source, region, and herd size is detailed in Tables A-7 through A-10.

Hay Production Relative to Feed Needs

Eighty-six percent of the 2,148 cattlemen produce hay. Fifteen percent of these ranchers do not produce enough hay to meet winter feed needs. The remaining 85 percent produce either enough or more than enough hay to meet feed needs. These percentages varied by region; see Table 9. The greatest percentage of ranchers producing hay but not enough to meet feed needs are in the North Central and Northeast Regions.

Table 9. Estimated number of ranchers producing hay and percent of ranchers producing hay relative to feed needs

Region	Ranchers producing hay (number)	Ranchers producing hay		
		Not meeting feed needs	Just meeting feed needs	Exceeding feed needs
		----- percent -----		
Central	209	12	46	42
High Desert	429	13	37	50
Jackson County	130	14	30	56
North Central	390	17	45	38
Northeast	685	17	44	39
Study area	1,843	15	42	43

Hay production relative to feed needs varied by herd size. Compared to other herd size groups, relatively more ranchers with 500 or more cows produce hay in excess of winter feed needs. On the other hand, relatively more ranchers with fewer than 500 cows produce an insufficient quantity of hay relative to feed needs. The estimated number of ranchers producing hay relative to feed needs by region and herd size are reported in Table A-11.

Hay Sales

About 30 percent of the cattlemen in the study area who produce hay normally sell some hay. Total annual sales are estimated at 283,500 tons. Average sales per ranchers selling hay are estimated at about 530 tons. Data on hay sales appear by region in Table 10. The greatest percentage of cattlemen selling hay are in Jackson

County; the lowest in the Northeast Region. Average sales per rancher varied from a high of about 680 tons in the High Desert Region to a low of 230 tons in Jackson County. Estimated number of ranchers who produce hay in excess of feed needs and sell some of this production is reported by region and herd size in Table A-11.

Table 10. Estimated percent of ranchers producing and selling excess hay production and total annual and average sales

Regions	Ranchers who produce hay and sell excess (percent)	Annual sales (tons)	Average tons sold (tons)
Central	26	22,723	421
High Desert	28	81,482	679
Jackson County	56	16,762	230
North Central	34	71,907	541
Northeast	22	90,605	592
Study Area	29	283,479	532

Grain Production

Fifty-six percent of the cattlemen in the study area produce grain crops. This percentage varied from a high of about 90 percent in the North Central Region to a low of 17 percent in Jackson County. The estimated percent of ranchers growing grain is illustrated by region in Table 11. Cattlemen in all herd size groups raise grain crops with no obvious relationship evident between growing

Table 11. Estimated percent of ranchers producing grain crops

Region	Ranchers growing grain crops (percent)
Central	60
High Desert	43
Jackson County	17
North Central	91
Northeast	44
Study Area	56

grain crops and herd size. Estimated number of cattlemen producing grain crops by region and herd size are presented in Table A-10.

Hauling Water

Seven percent of the 2,148 cattlemen normally haul some water to livestock during the year. This percentage varied by region from about 15 percent in the North Central Region to one percent in the Northeast Region; see Table 12. No relationship appeared to exist between water hauling and herd size. Estimated number of ranchers hauling water to livestock by region and herd size is illustrated in Table A-12.

Table 12. Estimated percent of ranchers hauling water to livestock

Region	Ranchers hauling water (percent)
Central	10
High Desert	5
Jackson County	8
North Central	14
Northeast	1
Study Area	7

Appendix

DETAILED CHARACTERISTICS OF
EASTERN OREGON CATTLE OPERATIONS

Table A-1. Estimated number of ranchers and cows by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
<u>Central</u>						
total ranchers	69	53	65	30	8	225
number of cows	4,140	7,950	22,750	22,500	12,000	69,340
<u>High Desert</u>						
total ranchers	82	58	146	104	55	445
number of cows	4,920	8,700	51,100	78,000	82,500	225,220
<u>Jackson County</u>						
total ranchers	128	24	29	0	0	181
number of cows	7,680	3,600	10,150	0	0	21,430
<u>North Central</u>						
total ranchers	349	122	96	15	13	595
number of cows	20,940	18,300	33,600	11,250	19,500	103,590
<u>Northeast</u>						
total ranchers	193	184	265	52	8	702
number of cows	11,580	27,600	92,750	39,000	12,000	182,930
<u>Study Area</u>						
total ranchers	821	441	601	201	84	2,148
number of cows	49,260	66,150	210,350	150,750	126,000	602,510

Table A-2. Estimated number of ranchers annually purchasing different lot sizes of weaners and stockers by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
Central	number of ranchers					
total ranchers	69	53	65	30	8	225
ranchers purchasing: weaners & stockers	19	9	10	10	0	48
less than 100 head	15	6	0	1	0	22
100 to 499 head	4	3	10	4	0	21
500 to 999 head	0	0	0	4	0	4
1,000 to 1,999 head	0	0	0	1	0	1
2,000 or more head	0	0	0	0	0	0
High Desert						
total ranchers	82	58	146	104	55	445
ranchers purchasing: weaners & stockers	22	0	34	35	12	103
less than 100 head	2	0	17	2	2	23
100 to 499 head	20	0	11	10	0	41
500 to 999 head	0	0	6	8	3	17
1,000 to 1,999 head	0	0	0	2	1	3
2,000 or more head	0	0	0	13	6	19
Jackson County						
total ranchers	128	24	29	0	0	181
ranchers purchasing: weaners & stockers	41	0	0	N/A	N/A	41
less than 100 head	41	0	0	N/A	N/A	41
100 to 499 head	0	0	0	N/A	N/A	0
500 to 999 head	0	0	0	N/A	N/A	0
1,000 to 1,999 head	0	0	0	N/A	N/A	0
2,000 or more head	0	0	0	N/A	N/A	0
North Central						
total ranchers	349	122	96	15	13	595
ranchers purchasing: weaners & stockers	29	0	12	2	0	43
less than 100 head	24	0	1	0	0	25
100 to 499 head	5	0	5	2	0	12
500 to 999 head	0	0	3	0	0	3
1,000 to 1,999 head	0	0	0	0	0	0
2,000 or more head	0	0	3	0	0	3
Northeast						
total ranchers	193	184	265	52	8	702
ranchers purchasing: weaners & stockers	10	44	60	8	1	123
less than 100 head	10	31	25	0	0	66
100 to 499 head	0	13	17	8	1	39
500 to 999 head	0	0	12	0	0	12
1,000 to 1,999 head	0	0	6	0	0	6
2,000 or more head	0	0	0	0	0	0
Study Area						
total ranchers	821	441	601	201	84	2,148
ranchers purchasing: weaners & stockers	121	53	116	55	13	358
less than 100 head	92	37	43	3	2	177
100 to 499 head	29	16	43	24	1	113
500 to 999 head	0	0	21	12	3	36
1,000 to 1,999 head	0	0	6	3	1	10
2,000 or more head	0	0	3	13	6	22

Table A-3. Estimated number of weaners and stockers purchased annually by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
	----- number of weaners and stockers purchased -----					
Central	1,950	1,200	3,000	5,750	0	11,900
High Desert	6,100	0	8,650	40,700	17,050	72,500
Jackson County	2,050	0	0	N/A	N/A	2,050
North Central	2,700	0	10,400	600	0	13,700
Northeast	500	5,450	24,350	2,400	300	33,000
Study Area Total	13,300	6,650	46,400	49,450	17,350	133,150

Table A-4. Estimated number of ranchers by percent gross income derived from livestock operation by region and cow herd size

	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
	number of ranchers					
Central						
total ranchers	69	53	65	30	8	225
gross income from livestock:						
less than 25%	12	4	6	4	0	26
25 to 49%	19	16	8	0	0	43
50 to 74%	27	5	15	0	0	47
more than 74%	11	28	36	26	8	109
High Desert						
total ranchers	82	58	146	104	55	445
gross income from livestock:						
less than 25%	22	8	0	0	0	30
25 to 49%	24	12	10	6	3	55
50 to 74%	10	5	14	6	0	35
more than 74%	26	33	122	92	52	325
Jackson County						
total ranchers	128	24	29	0	0	181
gross income from livestock:						
less than 25%	57	0	0	N/A	N/A	57
25 to 49%	47	11	0	N/A	N/A	58
50 to 74%	4	4	9	N/A	N/A	17
more than 74%	20	9	20	N/A	N/A	49
North Central						
total ranchers	349	122	96	15	13	595
gross income from livestock:						
less than 25%	217	40	10	0	3	270
25 to 49%	109	48	24	1	0	182
50 to 74%	9	16	12	1	9	47
more than 74%	14	18	50	13	1	96
Northeast						
total ranchers	193	184	265	52	8	702
gross income from livestock:						
less than 25%	44	7	0	0	0	51
25 to 49%	68	26	27	0	0	121
50 to 74%	60	57	35	4	0	156
more than 74%	21	94	203	48	8	374
Study Area						
total ranchers	821	441	601	201	84	2,148
gross income from livestock:						
less than 25%	352	59	16	4	3	434
25 to 49%	267	113	69	7	3	459
50 to 74%	110	87	85	11	9	302
more than 74%	92	182	431	179	69	953

Table A-5. Estimated number of ranchers by type of operation, region, and cow herd size

Region	Cow herd size					1,000 & above	Total
	20-99	100-199	200-499	500-999			
	number of ranchers						
<u>Central</u>							
total ranchers	69	53	65	30		8	225
cow-calf	30	30	40	9		0	109
cow-calf yearling	39	20	25	21		8	113
weaner or stocker	0	0	0	0		0	0
other	0	3	0	0		0	3
<u>High Desert</u>							
total ranchers	82	58	146	104		55	445
cow-calf	42	52	27	17		16	154
cow-calf yearling	21	6	116	81		37	261
weaner or stocker	12	0	0	6		2	20
other	7	0	3	0		0	10
<u>Jackson County</u>							
total ranchers	128	24	29	0		0	181
cow-calf	71	4	9	N/A		N/A	84
cow-calf yearling	41	20	20	N/A		N/A	81
weaner or stocker	0	0	0	N/A		N/A	0
other	16	0	0	N/A		N/A	16
<u>North Central</u>							
total ranchers	349	122	96	15		13	595
cow-calf	240	106	54	2		8	410
cow-calf yearling	106	16	36	13		5	176
weaner or stocker	0	0	0	0		0	0
other	3	0	6	0		0	9
<u>Northeast</u>							
total ranchers	193	184	265	52		8	702
cow-calf	98	69	93	22		9	282
cow-calf yearling	93	96	172	30		8	399
weaner or stocker	0	0	0	0		0	0
other	2	19	0	0		0	21
<u>Study Area</u>							
total ranchers	821	441	601	201		84	2,148
cow-calf	481	261	223	50		24	1,039
cow-calf yearling	300	158	369	145		58	1,030
weaner or stocker	12	0	0	6		2	20
other	28	22	9	0		0	59

Table A-6. Estimated number of ranchers by season of calving, region, and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
----- number of ranchers -----						
Central						
total ranchers	69	53	65	30	8	225
fall calving	14	4	2	0	0	20
spring calving	43	40	45	29	8	165
fall and spring calving	12	9	18	1	0	40
High Desert						
total ranchers	82	58	146	104	55	445
fall calving	0	4	5	03	3	12
spring calving	69	45	78	77	34	303
fall and spring calving	13	9	63	27	18	130
Jackson County						
total ranchers	128	24	29	0	0	181
fall calving	45	11	0	N/A	N/A	56
spring calving	47	9	24	N/A	N/A	80
fall and spring calving	36	4	5	N/A	N/A	45
North Central						
total ranchers	349	122	96	15	13	595
fall calving	77	12	13	0	0	102
spring calving	247	78	67	8	5	405
fall and spring calving	25	32	16	7	8	88
Northeast						
total ranchers	193	184	265	52	8	702
fall calving	28	32	10	0	0	70
spring calving	165	131	195	52	8	551
fall and spring calving	0	21	60	0	0	81
Study Area						
total ranchers	821	441	601	201	84	2,148
fall calving	164	63	30	0	3	260
spring calving	571	303	409	166	55	1,504
fall and spring calving	86	75	162	35	26	384

Table A-7. Estimated number of ranchers utilizing dryland range and annual production by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
Central						
total ranchers:	69	53	65	30	8	225
with rangeland	45	44	65	30	8	192
normal production (AUM's)	15,558	20,458	128,585	82,591	105,183	352,375
average production (AUM's)	346	464	194	2,753	13,148	1,835
High Desert						
total ranchers:	82	58	146	104	55	445
with rangeland	44	52	140	101	55	392
normal production (AUM's)	11,850	48,350	333,176	610,980	724,580	1,728,936
average production (AUM's)	269	930	2,380	6,049	13,174	4,410
Jackson County						
total ranchers:	128	24	29	0	0	181
with rangeland	91	24	29	N/A	N/A	144
normal production (AUM's)	32,133	8,385	86,074	N/A	N/A	126,592
average production (AUM's)	353	349	2,968	N/A	N/A	879
North Central						
total ranchers:	349	122	96	15	13	595
with rangeland	322	122	91	15	10	560
normal production (AUM's)	52,637	90,102	201,244	42,344	87,608	473,935
average production (AUM's)	163	738	2,211	2,822	8,760	846
Northeast						
total ranchers:	193	184	265	52	8	702
with rangeland	143	147	252	52	8	602
normal production (AUM's)	25,229	128,388	254,286	188,890	84,656	681,449
average production (AUM's)	176	873	1,009	3,632	10,582	1,132
Study Area Total						
total ranchers	821	441	601	201	84	2,148
with rangeland	645	389	577	198	81	1,890
normal production (AUM's)	137,407	295,683	1,003,365	924,805	1,002,027	3,363,287
average production (AUM's)	213	760	1,738	4,670	12,370	1,780

Table A-8. Estimated number of ranchers utilizing irrigated pasture and annual production by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
Central						
total ranchers	69	53	65	30	8	225
with irrigated pasture	47	33	34	23	7	144
normal production (AUM's)	9,721	12,534	30,769	34,676	51,374	139,074
average production (AUM's)	206	380	904	1,508	7,339	966
High Desert						
total ranchers	82	58	146	104	55	445
with irrigated pasture	78	36	106	85	46	351
normal production (AUM's)	21,356	17,095	164,465	216,977	506,168	926,061
average production (AUM's)	274	474	1,552	2,552	11,004	2,638
Jackson County						
total ranchers	128	24	29	0	0	181
with irrigated pasture	124	19	29	N/A	N/A	172
normal production (AUM's)	67,486	934	65,029	N/A	N/A	133,449
average production (AUM's)	544	49	2,242	N/A	N/A	776
North Central						
total ranchers	349	122	96	15	13	595
with irrigated pasture	138	46	29	1	5	219
normal production (AUM's)	12,332	5,630	9,304	2,113	19,523	48,902
average production (AUM's)	89	122	320	2,113	3,904	223
Northeast						
total ranchers	193	184	265	52	8	702
with irrigated pasture	113	136	208	39	8	504
normal production (AUM's)	32,209	53,669	167,903	60,066	40,814	354,661
average production (AUM's)	285	394	807	1,540	5,102	704
Study Area Total						
total ranchers	821	441	601	201	84	2,148
with irrigated pasture	500	270	406	148	66	1,390
normal production (AUM's)	134,104	89,862	437,470	313,832	617,879	1,602,147
average production (AUM's)	286	332	1,078	2,120	9,362	1,152

Table A-9. Estimated number of ranchers producing irrigated and dryland hay and estimated annual production by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
Central						
total ranchers:	69	53	65	30	8	225
with irrigated hay	51	25	25	13	6	120
normal production (tons)	8,979	5,741	8,341	15,212	11,194	49,467
with dryland hay	8	0	8	0	2	18
normal production (tons)	925	N/A	1,562	N/A	2,000	4,487
with irrigated and dryland hay	10	16	28	17	0	71
normal production (tons)	1,458	2,569	7,404	12,566	N/A	23,997
High Desert						
total ranchers:	82	58	146	104	55	445
with irrigated hay	58	43	118	78	30	327
normal production (tons)	8,334	19,411	86,662	104,474	121,312	340,193
with dryland hay	0	0	2	0	0	2
normal production (tons)	N/A	N/A	303	N/A	N/A	303
with irrigated and dryland hay	13	13	26	23	25	100
normal production (tons)	1,713	3,528	11,514	18,943	56,017	91,715
Jackson County						
total ranchers:	128	24	29	0	0	181
with irrigated hay	71	0	10	N/A	N/A	81
normal production (tons)	9,256	N/A	4,180	N/A	N/A	13,436
with dryland hay	0	0	0	N/A	N/A	0
normal production (tons)	N/A	N/A	N/A	N/A	N/A	N/A
with irrigated and dryland hay	20	20	9	N/A	N/A	49
normal production (tons)	1,582	5,277	2,854	N/A	N/A	9,713
North Central						
total ranchers:	349	122	96	15	13	595
with irrigated hay	123	42	33	0	3	201
normal production (tons)	47,115	8,832	20,875	N/A	2,417	79,239
with dryland hay	63	11	8	2	0	84
normal production (tons)	8,058	1,429	1,497	361	N/A	11,345
with irrigated and dryland hay	46	8	40	1	10	105
normal production (tons)	11,752	1,361	16,394	181	6,872	36,560
Northeast						
total ranchers:	193	184	265	52	8	702
with irrigated hay	100	138	165	46	8	457
normal production (tons)	13,696	42,167	112,971	44,615	17,102	230,551
with dryland hay	85	20	19	0	0	124
normal production (tons)	7,188	2,553	4,163	N/A	N/A	13,904
with irrigated and dryland hay	8	26	65	5	0	104
normal production (tons)	886	5,632	29,373	3,222	N/A	39,113
Study Area						
total ranchers	821	441	601	201	84	2,148
with irrigated hay	403	248	351	137	47	1,186
normal production (tons)	87,380	76,151	233,029	164,301	152,025	712,886
with dryland hay	156	31	37	2	2	228
normal production (tons)	16,171	3,982	7,525	361	2,000	30,039
with irrigated and dryland hay	97	83	168	46	35	429
normal production (tons)	17,391	18,367	67,539	34,912	62,889	201,098

Table A-10. Estimated number of ranchers producing grain crops and utilizing grain aftermath and annual production by region and cow herd size

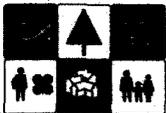
Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
Central						
total ranchers:	69	53	65	30	8	225
with grain crops	43	32	50	7	3	135
utilizing grain aftermath	34	27	41	1	1	104
normal production (AUM's)	3,398	3,422	18,568	909	1,941	28,238
average production (AUM's)	100	126	452	909	1,941	272
High Desert						
total ranchers:	82	58	146	104	55	445
with grain crops	31	29	69	38	25	192
utilizing grain aftermath	27	15	37	36	17	132
normal production (AUM's)	4,048	5,257	18,712	18,369	55,674	102,060
average production (AUM's)	150	350	506	510	3,274	773
Jackson County						
total ranchers:	128	24	29	0	0	181
with grain crops	17	4	9	N/A	N/A	30
utilizing grain aftermath	0	4	5	N/A	N/A	9
normal production (AUM's)	N/A	333	1,250	N/A	N/A	1,583
average production (AUM's)	N/A	83	250	N/A	N/A	176
North Central						
total ranchers	349	122	96	15	13	595
with grain crops	322	106	91	7	13	539
utilizing grain aftermath	292	106	70	7	10	485
normal production (AUM's)	47,482	35,657	102,273	19,068	26,882	231,362
average production (AUM's)	162	336	1,461	2,724	2,688	477
Northeast						
total ranchers:	193	184	265	52	8	702
with grain crops	123	47	104	32	2	308
utilizing grain aftermath	93	34	79	20	0	226
normal production (AUM's)	5,378	2,414	15,855	3,906	N/A	27,553
average production (AUM's)	58	71	200	195	N/A	122
Study Area						
total ranchers:	821	441	601	201	84	2,148
with grain crops	536	218	323	84	43	1,204
utilizing grain aftermath	446	186	232	64	28	956
normal production (AUM's)	60,306	47,083	156,658	42,252	84,497	390,796
average production (AUM's)	135	253	675	660	3,018	408

Table A-11. Estimated number of ranchers producing hay relative to feed needs and selling excess production by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
<u>Central</u>						
total ranchers	69	53	65	30	8	225
ranchers producing hay:	69	41	61	30	8	209
but not meeting needs	5	9	7	5	0	26
just meeting needs	26	9	38	18	5	96
exceeding needs	38	23	16	7	3	87
and selling excess	32	11	6	5	0	54
average tons sold	393	229	338	1,078	N/A	421
<u>High Desert</u>						
total ranchers	82	58	146	104	55	445
ranchers producing hay:	71	56	146	101	55	429
but not meeting needs	6	12	26	5	5	54
just meeting needs	24	33	60	19	24	160
exceeding needs	41	11	60	77	26	215
and selling excess	41	8	34	32	5	120
average tons sold	293	574	661	971	2,713	679
<u>Jackson County</u>						
total ranchers	128	24	29	0	0	181
ranchers producing hay:	91	20	19	N/A	N/A	130
but not meeting needs	13	0	5	N/A	N/A	18
just meeting needs	23	16	0	N/A	N/A	39
exceeding needs	55	4	14	N/A	N/A	73
and selling excess	55	4	14	N/A	N/A	73
average tons sold	96	101	452	N/A	N/A	230
<u>North Central</u>						
total ranchers	349	122	96	15	13	595
ranchers producing hay:	232	61	81	3	13	390
but not meeting needs	36	11	18	2	0	67
just meeting needs	118	20	31	0	6	175
exceeding needs	78	30	32	1	7	148
and selling excess	78	22	25	1	7	133
average tons sold	739	277	517	56	280	541
<u>Northeast</u>						
total ranchers	193	184	265	52	8	702
ranchers producing hay:	193	184	249	51	8	685
but not meeting needs	65	15	36	0	2	118
just meeting needs	86	67	134	12	0	299
exceeding needs	42	102	79	39	6	268
and selling excess	42	59	38	8	6	153
average tons sold	161	527	657	1,714	3,378	592
<u>Study Area</u>						
total ranchers	821	441	601	201	84	2,148
ranchers producing hay:	656	362	556	185	84	1,843
but not meeting needs	125	47	92	12	7	283
just meeting needs	277	145	263	49	35	769
exceeding needs	254	170	201	124	42	791
and selling excess	248	104	117	46	18	533
average tons sold	390	395	579	1,193	1,285	532

Table A-12. Estimated number of ranchers hauling water to livestock by region and cow herd size

Region	Cow herd size					Total
	20-99	100-199	200-499	500-999	1,000 & above	
	number of ranchers					
<u>Central</u>						
total ranchers	69	53	65	30	8	225
ranchers hauling water	4	7	6	5	1	23
<u>High Desert</u>						
total ranchers	82	58	146	104	55	445
ranchers hauling water	2	0	4	7	8	21
<u>Jackson County</u>						
total ranchers	128	24	29	0	0	181
ranchers hauling water	15	0	0	N/A	N/A	15
<u>North Central</u>						
total ranchers	349	122	96	15	13	595
ranchers hauling water	41	20	14	7	0	82
<u>Northeast</u>						
total ranchers	193	184	265	52	8	702
ranchers hauling water	5	0	2	1	0	8
<u>Study Area</u>						
total ranchers	821	441	601	201	84	2,148
ranchers hauling water	67	27	26	20	9	149



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