

1993

## CC392 1993 Nebraska Panhandle Pasture Rental Survey

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# 1993 Nebraska Panhandle Pasture Rental Survey

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# 1993 Nebraska Panhandle Pasture Rental Survey

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Native rangeland and seeded pasture is a critical resource for livestock in the Nebraska Panhandle. Five million acres or two-thirds of all land area in the Nebraska Panhandle is grazed by beef cattle. An estimated 42 percent of grazing lands were under some form of pasture rental agreement in 1987 (USDA Agricultural Census), contributing almost \$15 million annually. Consequently, pasture rental rates are of considerable interest to cattle producers and landowners.

A pasture rental rate survey was conducted during 1993. The purpose was to provide the livestock industry with information to help establish and negotiate fair pasture rental rates. The primary objective was to summarize 1993 pasture lease rates on a per acre, per head, and per animal unit month (AUM).

The average rate during 1993 for annual based contracts was \$5.43 per acre compared with \$6.52 per acre for summer contracts. Average rates for irrigated pastures were two times the average rate for native upland. On a per head basis, monthly rates for a cow-calf pair averaged \$15.88, ranging between \$6.50 and \$28.00. Average monthly rates for bulls, breeding heifers, and yearlings was \$12.73, \$10.33, and \$10.83 per head, respectively. Average AUM rates for native upland pasture ranged from \$8.14 per AUM for bulls to \$15.24 for yearlings. The cost of forage for cow-calf pairs averaged \$12.13 per AUM, ranging from \$5.31 to \$20.99 per AUM.

Routine checking and maintenance contributions were estimated by both cattle and land owners. Average per acre rates for routine checking was \$0.64 for land owners and \$1.15 for cattle owners. Maintenance contributions averaged \$0.41 per acre for land owners and \$0.49 per acre for cattle owners. Similar estimations were made on a monthly rate per head and AUM basis.

Average survey results are reported in the text of the paper. Additional detailed information is presented in the Appendix. Given the dispersion of results, mathematical averages were different from the most frequently or reported values. Consequently, the reader is encouraged to utilize information provided in the Appendix to fully understand the range and variability of the survey data when evaluating and negotiating rental agreements.

## Survey Methods and Responses

During the summer of 1993, a pasture rental survey was mailed to 742 agricultural producers and/or landowners in the eleven Panhandle counties. Survey data were summarized for three Panhandle regions. The **North** region consisted of Box Butte, Dawes, Sheridan, and Sioux counties; **Central** region included Scotts Bluff and Morrill counties, and the **South** region consisted of Banner, Cheyenne, Deuel, Garden, and Kimball counties. Survey participants were obtained from mailing lists maintained by the respective University of Nebraska Cooperative Extension offices. Three hundred forty-five surveys were returned resulting in a 46 percent response rate. Fifty-three percent of the returned surveys reported at least one pasture rental contract. The remaining surveys indicated the respondent was not actively involved in pasture rental contracts.

The survey allowed each respondent to specify up to three lease contracts. A total of 297 contracts were reported in the survey. The total acres in these contracts was about 11 percent of all leased rangeland reported in the 1987 USDA Census data. Sixty-three percent of the contracts were cattle owners that rented pastures, 28 percent of contracts were completed by landowners, and 6 percent of the contracts were represented by third party individuals. The remaining contracts did not identify affiliation.

## Types of Pasture Rental Contracts

Pasture rental rates are specified by 1) rate per acre, 2) monthly rate per head, and 3) rate per AUM (animal unit month) of forage. Survey respondents had the option of reporting rental rates on a per acre or monthly rate per head basis. Survey information was used to calculate rates per AUM.

In addition, rental rate results were categorized for two pasture types: 1) pastures with greater than 50 percent upland, and 2) pastures with greater than 50 percent irrigated or sub-irrigated land.

*The reported rental rates are average survey responses. The reported values may not accurately*



reflect the economic value of forage for any particular location because of differences in: 1) range condition, 2) forage production potential associated with different sites, 3) stand quality of seeded pastures, 5) pasture / range conditions in surrounding regions, 6) distance from livestock handling facilities, 7) fence and facility conditions, 8) contract longevity, 9) family arrangements, and / or 10) other resources made available through the contract.

### Per Acre Contracts

Contracts based on per acre rates may generate considerable debate because of differences in carrying capacity, and associated resources and facilities. However, absentee owners may favor per acre contracts because they establish a total annual dollar return and the lessee assumes all production risks.

Substantial differences in forage production occur among range sites in the Panhandle. Quality and quantity of forage should also affect rental rates per acre. With the same amount of precipitation, one upland site may produce 5 times more forage than another upland site (Stubbenieck and Reece, 1992). Spring and summer forage is higher in quality than fall and winter forage. Livestock gain more weight per pound of forage during the forage growing season than during periods when plants are dormant. Pastures that produce large amounts of palatable forage are worth more per acre than non-productive pastures. The total number of cattle, and beginning and ending dates of the grazing season should be specified in rate per acre contracts to reduce the potential of overgrazing.

Survey respondents were allowed to specify rates based on summer, winter, or an annual time period. Insufficient responses were received to report winter lease rates or irrigated per acre rates. *Table 1* shows the average rental rate for upland summer contracts were \$6.52 per acre, which was over \$1.00 higher than annual based contracts. Differences in forage quality alone could justify differences between summer and annual contracts. However, additional factors may include short-term supply/demand issues, water availability, and differences in management contributions. Native upland pasture rental rates ranged between \$3.00 and \$15.00 per acre. Forty percent of the reported per acre contracts were annual compared to 60 percent for summer only contracts. *Appendix Tables A-1a* and *A-1b* provide detailed information on the range and variability of per acre rates.

**Table 1. 1993 Grassland Rental Rates, \$/Acre**

Region of Panhandle	Annual	Summer
<i>Native Upland Pasture</i>		
North	\$5.24	\$6.65
Central	\$5.91	\$6.22
South	\$5.52	\$6.55
<b>Panhandle Avg</b>	<b>\$5.43</b>	<b>\$6.52</b>

Rates per acre increased significantly between 1991 and 1993. Annual and summer based contracts increased by 7.5 and 12.7 percent, respectively. Summer rates increased by over \$1.20 per acre from 1991 to 1993.

Statewide, rental rates ranged from \$10.60 to \$12.40 per acre between 1989 and 1993 (Economic Research Service, 1993). Average per acre rates in the 1993 Panhandle Pasture Rental Survey were only about one-half of the reported statewide levels. However, forage growth in the semi-arid Panhandle is less productive than central or eastern Nebraska because of lower precipitation levels. Rental rates in western Nebraska are similar to statewide rates in Montana and Wyoming.

### Monthly Rate Per Head Contracts

Contracts based on a monthly rate allow both parties additional flexibility in negotiating rental rates based on available forage. However, selling forage on the basis of a monthly rate per head may not account for differences in forage intake associated with animal weight. Forage intake increases as animal weights increase. Large variation in the average animal weight occurred in the survey results for each livestock classification. The range in reported average weights could account for an 87 to 144 percent variation in forage intake per head, when comparing the lightest and heaviest animals within each class of livestock. Contracts that do not account for forage intake based upon animal weight might lead to damaging levels of overgrazing and reduced animal performance.

*Table 2* illustrates the monthly rate for upland pasture during 1993 ranged from \$6.50 to \$28.00 per cow-calf pair. The average Panhandle rental rate for a cow-calf pair per month was \$15.88. The average rental rate for bulls in the Panhandle was \$12.73 per head per month. However, 16 percent of the contracts that included bulls did not charge for bulls. Excluding contracts with no charge for bulls increased the per head rate to \$15.08 a month, about 95 percent of the average value reported for a cow-calf pair. The average monthly rate for breeding heifers was \$10.33 per head compared to the average yearling rate of \$10.83 per head. The range and frequency distributions are shown in *Appendix Tables A-2a-2d*.



**Table 2. 1993 Monthly Rental Rates, (\$/month)**

Region of Panhandle	Cow Calf		Breeding	
	Pairs	Bulls	Heifers	Yearlings
<i>Native Upland Pasture</i>				
North	\$16.73	\$14.53	\$11.12	\$11.29
Central	\$14.56	\$11.24	\$ 8.33	\$11.01
South	\$15.68	\$11.57	\$10.05	\$10.07
<b>Panhandle Avg</b>	<b>\$15.88</b>	<b>\$12.73</b>	<b>\$10.33</b>	<b>\$10.83</b>
<i>Irrigated Pasture</i>				
<b>Panhandle Avg</b>	<b>\$15.67</b>	<b>\$13.62</b>	NA	NA

Monthly rates per head have increased from 0.3 to 4.4 percent annually since 1991. Average monthly cow-calf rates have increased from \$14.57 in 1991 to \$15.88 in 1993, resulting in the largest annual increase of 4.4 percent. The annual percentage increase for yearlings was slightly less at 3.7 percent. However, the reported monthly rates for bulls and yearlings have increased less than one percent annually.

### **Animal Unit Month Contracts**

To compare pasture lease rates across livestock classes, all animals were converted to standard animal units (AU). The total number of animal units was multiplied by the number of months in the contract to calculate the total amount of forage consumed, expressed as animal unit months (AUM). An AUM is a quantity of forage needed to feed a 1,000 pound beef animal for one month (Reece et al., 1991). For example, a yearling with an average weight of 500 pounds during June requires 0.5 AUMs of forage. The same yearling could have an average weight of 700 pounds by September, requiring 0.7 AUMs of forage during September. Cows with an average weight of 1,300 pounds require 1.3 AUMs of forage per month. Research has shown that calves begin consuming forage by 3 months of age (Dwyer, 1961). Consequently, the cow and calf weight should be combined and the total divided by 1,000 pounds to calculate AUs per pair. A cow herd with an average cow weight of 1,300 pounds and an average calf weight of 400 pounds would be 1.7 AUs. The pair would then require 1.7 AUMs for one month, 3.4 AUMs for two months, and up to 8.5 AUMs of forage for five months. Lower weight cattle would consume less forage, consequently a smaller number of AUMs.

Survey information was used to calculate the dollar per AUM rate in the Panhandle for each livestock classification. Reported weight was divided by 1,000 pounds to obtain an animal unit equivalent. The dollar per AUM rate was then calculated by dividing the dollar per head rate by the

animal unit equivalent. Animal unit equivalents for cow-calf pairs were adjusted by a factor of 1.3 after July 1 to account for additional forage consumption by the calf.

Table 3 presents the average AUM rates for upland pastures ranged from \$8.14 per AUM for bulls to \$15.24 per AUM for yearlings. The cost of forage for cow-calf pairs averaged \$12.13 per AUM, ranging from \$5.31 to \$20.90 per AUM. The average AUM rate for breeding heifers was \$12.82 and the average yearling AUM rate was \$15.24. Overall, breeding heifers and yearlings are charged more per AUM of forage than the mature cow or bull. Thus owners of lighter weight animals paid a premium as compared to rates charged for mature breeding stock. As shown in *Appendix Tables A-3a-3d*, great variation in dollars per AUM occurred within the Nebraska Panhandle. Proper adjustments for animal weights should reduce the variation among animal classifications, assuming other factors equal.

**Table 3. 1993 Calculated AUM Rates, \$/AUM**

Region of Panhandle	Cow Calf		Breeding	
	Pairs	Bulls	Heifers	Yearlings
<i>Native Upland Pasture</i>				
North	\$12.77	\$ 9.25	\$14.62	\$15.81
Central	\$11.05	\$ 7.28	\$11.03	\$14.99
South	\$12.05	\$ 7.41	\$11.57	\$14.58
<b>Panhandle Avg</b>	<b>\$12.13</b>	<b>\$ 8.14</b>	<b>\$12.82</b>	<b>\$15.24</b>
<i>Irrigated Pasture</i>				
<b>Panhandle Avg</b>	<b>\$11.59</b>	<b>\$10.01</b>	NA	NA

Between the two survey periods, 1991 and 1993, estimated AUM rates increased 2.2 to 6.1 percent annually. Increases were largest for breeding heifer AUM rates with average rates of \$11.39 in 1991 and \$12.82 in 1993. Cow-calf, bull, and yearling AUM rates increased 5.4, 2.2 and 3.6 percent annually.

Results from statewide pasture rental rate studies indicate the average market value of an AUM of forage is generally stable over years with moderate changes over time. Over the most recent 5-year period, 1989-1993, the average AUM for the Panhandle was \$14.05, ranging from \$11.35 in 1989 to \$16.40 in 1993. For the same time period, Panhandle AUM rates were \$2.00 to \$6.50 less than AUM rates in other regions of Nebraska (Johnson, 1993). Another study reported average AUM rates for Nebraska ranged from \$13.13 to \$17.00 per AUM between 1989 and 1993. State-wide AUM rates are typically \$4.00 to \$5.00 greater than the national average.



## Weighted Average AUM Rate

AUM rates are expected to be relatively constant between all livestock classes, assuming similar rental conditions. Differences in animal weight among livestock classes are eliminated by dividing weights by 1,000 pounds to determine animal unit equivalents. A weighted average of all AUM contracts will provide a single value for forage.

A unified AUM rate may be calculated by weighing contract AUM rates by total AUMs available within the contract. For each contract, the dollar per AUM rate for each livestock class was multiplied by total AUMs in each class to estimate a total value of forage. Within regions, the total forage value was divided by the total AUMs to derive the weighted average AUM.

As *Table 4* indicates, the weighted average AUM value for native upland pasture in the Nebraska Panhandle was \$12.71, ranging from \$5.39 to \$21.33 per AUM. Average rates for the three regions were within \$0.60 of the Panhandle average. The weighted average irrigated AUM value was \$12.98 per AUM. *Appendix Table A-4* provides additional information on weighted average AUM rates.

**Table 4. 1993 Weighted Average AUM Rates, \$/AUM**

<i>Region of Panhandle</i>	<i>Weighted Average</i>
<i>Native Upland Pasture</i>	
North	\$12.90
Central	\$13.30
South	\$12.17
<b>Panhandle Avg</b>	<b>\$12.71</b>
<i>Irrigated Pasture</i>	
<b>Panhandle Avg</b>	<b>\$12.98</b>

## Rental Rate/Land Value Ratio

A rent-to-value ratio provides a guideline for estimating gross returns per acre. The ratio is calculated by dividing annual returns by an estimated land value. These ratios often vary for different classes and uses of land.

On a statewide basis, the gross rent-to-value for pasture land ranged from 6.9 to 7.9 percent between 1989 and 1993. However for states with pasture land similar to the Nebraska Panhandle, the rent-to-value ratio range was significantly lower, ranging from 2.3 to 6.8 percent (Economic Research Service, 1993).

The survey instrument requested an estimated land value, allowing a rent-to-value ratio to be calculated, as shown in *Table 5*. During 1993, the average Panhandle rent-to-value ratio for native upland pasture ranged from 5.9 percent for annual

based contracts to 7.4 percent for monthly based contracts. The South Panhandle region had the lowest rent-to-value ratios. Even though the majority of respondents reporting annual rates per acre indicated pasture usage primarily during summer months, summer based contracts maintained a greater rent-to-value than annual based contracts.

**Table 5. 1993 Calculated Rent to Value**

<i>Region of Panhandle</i>	<i>Land Value</i>	<i>Rent-to-Value</i>		
		<i>Monthly Annual (\$/acre)</i>	<i>Summer Rates (\$/head &amp; AUM)</i>	<i>Rates (\$/head &amp; AUM)</i>
<i>Native Upland Pasture</i>				
North	\$95	5.8%	7.1%	8.2%
Central	\$97	6.7%	8.3%	7.8%
South	\$94	5.6%	6.9%	6.3%
<b>Panhandle Avg</b>	<b>\$95</b>	<b>5.9%</b>	<b>7.2%</b>	<b>7.4%</b>

## Estimated Contributions

The survey included a section requesting the respondent to estimate annual material and equipment costs and annual labor hours for routine cattle checking, maintenance, supplemental feed, and other potential items. Contribution information was collected only from the respondent. It was not possible to determine total contributions provided in the contractual arrangement. The following summary represents either the land owner's or cattle owner's contribution. Any shared contributions are unknown. Variation in the data may be due to the respondent providing a low or high proportion of total contributions.

Cost contributions were calculated on an acre, monthly, and AUM basis. All contracts providing sufficient information were utilized. Unfortunately, large variations occurred in contribution levels, resulting in the mathematical average greatly exceeding the most frequent intervals. Consequently, those outlying observations were removed from the survey data. The remaining observations represent less than one-third of the total reporting contracts.

A second limitation is the lack of respondents indicating no contributions provided. Numerous blank responses were returned, causing an uncertainty if information was unknown, or no contributions provided. Follow-up phone calls suggest the incomplete survey responses consisted of both no contributions and provided contributions. The results of the survey can be interpreted as the average and range of contributions of those providing contributions.

The survey requested a value for hourly labor. Several respondents reported extreme high values,



indicating vehicle, material, and management costs were included in their response. Consequently, the average of appropriate responses, approximately \$7.00 per hour, was used for all contracts. No comparisons in labor efficiency were made between large and small contracts. Generally, labor efficiency increases as the number of cattle or size of property increases.

*Cost contributions have only been summarized for contracts specifying native, upland pastures. The reported annual contributions were adjusted for a per acre, per head, or per AUM basis.*

Several survey respondents indicated a third party relationship in the contractual agreement. All third party respondents were assumed to represent the landowner. *Appendix Tables A-5a-c* present summaries of land owner and cattle owner contributions for per acre, per month, and per AUM contracts.

Contributions may be difficult to interpret due to the unit upon which the contribution is based. For example, estimating contributions for routine cattle checking on a per month basis may be more reasonable than on a per acre basis. Conversely, maintenance charges on an acre basis may be more appropriate than on a per month or AUM basis. The contract parties should be aware of abnormal conditions, such as initially high fence or water system repairs, and adjust costs and resource contributions over the term of the contract. *Table 6* illustrates the average contributions for both land and cattle owner.

### **Routine Contributions**

Contributions relating to routine checking, moving, and gathering cattle, checking water, providing salt, minerals, and fly control varied significantly between land owner and cattle owner. The average contributions reported by cattle owners were generally 2 to 3 times the average level reported by the land owner, primarily due to relative high values reported by cattle owners.

On a per acre basis, the landowner's estimated contributions toward routine checking averaged \$0.64 per acre, with a range of \$0.02 to \$1.40 per acre. Cattle owners estimated routine checking contributions averaged \$1.15, ranging from \$0.03 to \$5.75 per acre. However, the most frequent level of contributions for both parties was between \$0.01-0.25 per acre.

Monthly contributions for routine checking averaged \$0.75 for land owners and \$2.34 for cattle owners. The large difference between the two parties is due to 43 percent of the cattle owner's estimating their contributions over \$2.50 per month.

On a per AUM basis, the landowner's estimated contributions toward routine checking

averaged \$0.65 per AUM, with a range of \$0.08 to \$1.56 per AUM. Cattle owners estimated routine checking contributions averaged \$2.06, ranging from \$0.09 to \$12.00 per AUM. The most frequent level of contributions for land owners was less than \$0.25 per AUM, but cattle owners most frequent range was greater than \$2.50 per AUM.

**Table 6. 1993 Estimated Contributions**

Contribution Type	Land Owner	Cattle Owner
<i>\$/Acre</i>		
Routine	\$0.64	\$1.15
Maintenance	\$0.41	\$0.49
<i>\$/Month</i>		
Routine	\$0.75	\$2.34
Maintenance	\$0.72	\$1.02
<i>\$/AUM</i>		
Routine	\$1.23	\$2.50
Maintenance	\$1.50	\$1.82

### **Maintenance Contributions**

Maintenance contributions include those costs associated with fence, water, and facility improvements, as well as pasture weed control. Maintenance contributions reported by the cattle owner were again greater than contributions provided by the land owner. The high values may be due to long term improvements incurred during the survey year. Maintenance contributions on a per acre and per AUM basis are summarized in the lower half of *Appendix Tables A-5a-c*.

The landowner's estimated contributions toward maintenance averaged \$0.41 per acre, with a range of \$0.04 to \$1.67 per acre. Cattle owners estimated maintenance contributions averaged \$0.49, ranging from \$0.03 to \$1.75 per acre. However, the most frequent level of contributions for both parties was between \$0.01-0.25 per acre.

Monthly contribution rates average \$0.72 for land owners and \$1.02 for cattle owners. The reported range for land owners was between \$0.07 and \$1.50 per month. Equal number of observations were reported for the two intervals, \$0.01-\$0.25 and \$0.25-\$0.50 per month. For cattle owners, the most frequent interval was less than \$0.25 per month.

On a per AUM basis, the landowner's estimated contributions toward maintenance averaged \$0.66 per AUM, with a range of \$0.08 to \$1.58 per AUM. Cattle owners estimated maintenance contributions averaged \$0.90, ranging from \$0.05 to \$3.39 per AUM. The most frequent level of contributions for both parties was between \$0.01-0.25 per AUM.



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# 1993 Nebraska Panhandle Pasture Rental Survey

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**Table A-1. 1993 Grassland Rental Rates, \$/Acre, Nebraska Panhandle**

**Table A-1a. Annual Rates (\$/Acre)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<i>Native Upland Pasture</i>						
North	23	\$5.24a	\$6.50	\$3.00	\$4.50-5.00 \$5.50-6.00 \$6.00-6.50	22% 26% 17%
Central	6	\$5.91a	\$8.65	\$4.30	Insufficient Responses	
South	16	\$5.52a	\$9.38	\$3.00	<=\$3.00 \$3.00-3.50 \$3.50-4.00 \$4.50-5.00 \$5.50-6.00 \$9.00-9.50	12% 12% 12% 25% 12% 19%
<b>Panhandle Avg</b>	<b>45</b>	<b>\$5.43</b>	<b>\$9.38</b>	<b>\$3.00</b>	<b>\$4.50-5.00</b> <b>\$5.50-6.00</b>	<b>27%</b> <b>18%</b>

**Table A-1b. Summer Rates (\$/Acre)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<i>Native Upland Pasture</i>						
North	17	\$6.65a	\$10.00	\$3.00	\$4.50-5.00 \$5.00-5.50 \$5.50-6.00 \$8.50-9.00	18% 18% 18% 18%
Central	12	\$6.22a	\$15.00	\$4.00	\$3.50-4.00 \$4.50-5.00 \$5.00-5.50	25% 33% 17%
South	39	\$6.55a	\$13.20	\$3.00	\$4.50-5.00 \$5.00-5.50 \$5.50-6.00	15% 10% 15%
<b>Panhandle Avg</b>	<b>68</b>	<b>\$6.52</b>	<b>\$15.00</b>	<b>\$3.00</b>	<b>\$4.50-5.00</b> <b>\$5.00-5.50</b> <b>\$5.50-6.00</b> <b>&gt;\$9.50</b>	<b>15%</b> <b>13%</b> <b>13%</b> <b>11%</b>

Means within each column followed by the same letter are not significantly different (P>0.05).

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-2. 1993 Monthly Rental Rates, \$/Head, Nebraska Panhandle**

**Table A-2a. Monthly Cow-Calf Pair Rates (\$/Head)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<i>Native Upland Pasture</i>						
North	51	\$16.73a	\$24.48	\$6.50	\$14.00-16.00 \$16.00-18.00 \$18.00-20.00	28% 30% 20%
Central	24	\$14.56b	\$20.00	\$8.50	\$ 8.00-10.00 \$10.00-12.00 \$14.00-16.00 \$16.00-18.00	21% 17% 17% 21%
South	59	\$15.68ab	\$28.00	\$8.00	\$10.00-12.00 \$12.00-14.00 \$14.00-16.00 \$18.00-20.00	14% 22% 32% 14%
<b>Panhandle Avg</b>	<b>134</b>	<b>\$15.88</b>	<b>\$28.00</b>	<b>\$6.50</b>	<b>\$12.00-14.00</b> <b>\$14.00-16.00</b> <b>\$16.00-18.00</b> <b>\$18.00-20.00</b>	<b>16%</b> <b>28%</b> <b>19%</b> <b>16%</b>
<i>Irrigated Pasture</i>						
<b>Panhandle Avg</b>	<b>12</b>	<b>\$15.67</b>	<b>\$21.00</b>	<b>\$12.00</b>	<b>Insufficient Responses</b>	

**Table A-2b. Monthly Bull Rates (\$/Head)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<i>Native Upland Pasture</i>						
North	45	\$14.53a	\$22.00	\$0.00	\$14.00-16.00 \$16.00-18.00 \$18.00-20.00	18% 24% 20%
Central	20	\$11.24ab	\$23.07	\$0.00	\$ 0.00- 2.00 \$ 8.00-10.00 \$16.00-18.00	15% 25% 20%
South	44	\$11.57b	\$25.00	\$0.00	\$ 0.00- 2.00 \$12.00-14.00 \$14.00-16.00	21% 25% 21%
<b>Panhandle Avg</b>	<b>109</b>	<b>\$12.73</b>	<b>\$25.00</b>	<b>\$0.00</b>	<b>\$ 0.00- 2.00</b> <b>\$12.00-14.00</b> <b>\$14.00-16.00</b> <b>\$16.00-18.00</b>	<b>16%</b> <b>16%</b> <b>17%</b> <b>17%</b>
<i>Irrigated Pasture</i>						
<b>Panhandle Avg</b>	<b>13</b>	<b>\$13.62</b>	<b>\$18.00</b>	<b>\$0.00</b>	<b>Insufficient Responses</b>	

Means within each column followed by the same letter are not significantly different (P>0.05).

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-2. 1993 Monthly Rental Rates, \$/Head, Nebraska Panhandle (continued)**

**Table A-2c. Monthly Breeding Heifer Rates (\$/Head)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<b>Native Upland Pasture</b>						
North	19	\$11.12a	\$16.00	\$6.50	\$ 6.00- 8.00 \$10.00-12.00 \$12.00-14.00	21% 37% 21%
Central	5	\$ 8.33b	\$10.00	\$7.00	Insufficient Responses	
South	19	\$10.05ab	\$15.00	\$6.00	\$ 6.00- 8.00 \$ 8.00-10.00 \$10.00-12.00	26% 21% 42%
<b>Panhandle Avg</b>	<b>43</b>	<b>\$10.33</b>	<b>\$16.00</b>	<b>\$6.00</b>	<b>\$ 6.00- 8.00</b> <b>\$ 8.00-10.00</b> <b>\$10.00-12.00</b>	<b>28%</b> <b>21%</b> <b>35%</b>

**Table A-2d. Monthly Yearling Rates (\$/Head)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<b>Native Upland Pasture</b>						
North	24	\$11.29a	\$14.00	\$7.50	\$ 8.00-10.00 \$10.00-12.00 \$12.00-14.00	29% 46% 21%
Central	12	\$11.01ab	\$14.50	\$7.00	\$ 8.00-10.00 \$10.00-12.00	33% 42%
South	17	\$10.07b	\$12.50	\$5.70	\$ 8.00-10.00 \$10.00-12.00	47% 35%
<b>Panhandle Avg</b>	<b>53</b>	<b>\$10.83</b>	<b>\$14.50</b>	<b>\$5.70</b>	<b>\$ 8.00-10.00</b> <b>\$10.00-12.00</b> <b>\$12.00-14.00</b>	<b>36%</b> <b>42%</b> <b>13%</b>

Means within each column followed by the same letter are not significantly different (P>0.05).

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-3. 1993 Animal Unit Month Rates, \$/AUM, Nebraska Panhandle**

**Table A-3a. Cow-Calf Pair AUM Rates (\$/AUM)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<b>Native Upland Pasture</b>						
North	44	\$12.77ab	\$18.15	\$5.31	\$10.50-12.00 \$12.00-13.50 \$13.50-15.00	18% 32% 17%
Central	22	\$11.05b	\$15.73	\$6.48	\$ 7.50- 9.00 \$10.50-12.00 \$12.00-13.50 \$15.00-16.50	23% 18% 23% 18%
South	48	\$12.05ab	\$20.90	\$7.13	\$ 9.00-10.50 \$10.50-12.00 \$12.00-13.50	17% 21% 15%
<b>Panhandle Avg</b>	<b>114</b>	<b>\$12.13</b>	<b>\$20.90</b>	<b>\$5.31</b>	<b>\$ 7.50- 9.00</b> <b>\$10.50-12.00</b> <b>\$12.00-13.50</b>	<b>13%</b> <b>21%</b> <b>24%</b>

**Table A-3b. Bull AUM Rates (\$/AUM)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<b>Native Upland Pasture</b>						
North	40	\$9.25a	\$15.45	\$0.00	\$ 7.50- 9.00 \$ 9.00-10.50 \$12.00-13.50	20% 25% 15%
Central	20	\$7.28a	\$15.38	\$0.00	\$ 0.00- 1.50 \$ 4.50- 6.00 \$ 6.00- 7.50 \$10.50-12.00	15% 25% 20% 15%
South	37	\$7.41a	\$14.76	\$0.00	\$ 0.00- 1.50 \$ 6.00- 7.50 \$10.50-12.00	22% 19% 22%
<b>Panhandle Avg</b>	<b>97</b>	<b>\$8.14</b>	<b>\$15.45</b>	<b>\$0.00</b>	<b>\$ 0.00- 1.50</b> <b>\$ 6.00- 7.50</b> <b>\$ 7.50- 9.00</b> <b>\$ 9.00-10.50</b> <b>\$10.50-12.00</b>	<b>14%</b> <b>16%</b> <b>13%</b> <b>16%</b> <b>16%</b>

Means within each column followed by the same letter are not significantly different (P>0.05).

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-3. 1993 Animal Unit Month Rates, \$/AUM, Nebraska Panhandle (continued)**

**Table A-3c. Breeding Heifer AUM Rates (\$/AUM)**

<i>Region of Panhandle</i>	# Obs.	<i>Average</i>	<i>Range</i>		<i>Most Frequent*</i>	
			<i>High</i>	<i>Low</i>	<i>Intervals</i>	<i>% Obs.</i>
<b>Native Upland Pasture</b>						
North	14	\$14.62a	\$20.69	\$7.65	\$10.50-12.00 \$12.00-13.50 >\$19.50	21% 21% 21%
Central	5	\$11.03b	\$14.49	\$7.37	Insufficient Responses	
South	13	\$11.57b	\$15.00	\$6.67	\$ 7.50- 9.00 \$10.50-12.00 \$12.00-13.00 \$13.50-15.00	15% 15% 31% 23%
<b>Panhandle Avg</b>	<b>32</b>	<b>\$12.82</b>	<b>\$20.69</b>	<b>\$6.67</b>	<b>\$10.50-12.00</b> <b>\$12.00-13.50</b> <b>\$13.50-15.00</b>	<b>19%</b> <b>25%</b> <b>19%</b>

**Table A-3d. Yearling AUM Rates (\$/AUM)**

<i>Region of Panhandle</i>	# Obs.	<i>Average</i>	<i>Range</i>		<i>Most Frequent*</i>	
			<i>High</i>	<i>Low</i>	<i>Intervals</i>	<i>% Obs.</i>
<b>Native Upland Pasture</b>						
North	20	\$15.81a	\$20.48	\$12.41	\$12.00-13.50 \$15.00-16.50 \$16.50-18.00	25% 20% 25%
Central	11	\$14.99a	\$18.00	\$11.54	\$12.00-13.50 \$13.50-15.00 \$15.00-16.50 \$16.50-18.00	18% 27% 18% 27%
South	13	\$14.58a	\$21.33	\$7.86	\$10.50-12.00 \$13.50-15.00 \$15.00-16.50	23% 15% 23%
<b>Panhandle Avg</b>	<b>44</b>	<b>\$15.24</b>	<b>\$21.33</b>	<b>\$7.86</b>	<b>\$12.00-13.50</b> <b>\$13.50-15.00</b> <b>\$15.00-16.50</b> <b>\$16.50-18.00</b>	<b>18%</b> <b>18%</b> <b>21%</b> <b>21%</b>

Means within each column followed by the same letter are not significantly different (P>0.05).

*\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.*



**Table A-4. 1993 Weighted Average AUM Rates, \$/AUM, Nebraska Panhandle**

**Table A-4. Weighted Average AUM Rates, Nebraska Panhandle, 1993 (\$/AUM)**

Region of Panhandle	# Obs.	Average	Range		Most Frequent*	
			High	Low	Intervals	% Obs.
<b>Native Upland Pasture</b>						
North	52	\$13.37a	\$20.48	\$5.39	\$10.50-12.00 \$12.00-13.50 \$13.50-15.00	15% 33% 21%
Central	30	\$12.26a	\$18.00	\$6.47	\$ 7.50- 9.00 \$10.50-12.00 \$12.00-13.50 \$15.00-16.50	17% 17% 23% 17%
South	47	\$12.48a	\$21.33	\$7.05	\$ 7.50- 9.00 \$ 9.00-10.50 \$10.50-12.00 \$12.00-13.50	17% 17% 13% 19%
<b>Panhandle Avg</b>	<b>129</b>	<b>\$12.79</b>	<b>\$21.33</b>	<b>\$5.39</b>	<b>\$10.50-12.00</b> <b>\$12.00-13.50</b> <b>\$13.50-15.00</b>	<b>15%</b> <b>26%</b> <b>12%</b>
<b>Irrigated Pasture</b>						
<b>Panhandle Avg</b>	<b>7</b>	<b>\$14.36</b>	<b>\$20.88</b>	<b>\$10.75</b>	<b>\$10.50-12.00</b> <b>\$12.00-13.50</b> <b>\$13.50-15.00</b>	<b>15%</b> <b>26%</b> <b>12%</b>

Means within each column followed by the same letter are not significantly different (P>0.05).

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-5. 1993 Estimated Contributions by Land and Cattle Owner, Nebraska Panhandle<sup>1</sup>**

**Table A-5a. Routine and Maintenance Contributions (\$/Acre)**

	Land Owner						Cattle Owner					
	# Obs.	Average	Range		Most Frequent*		# Obs.	Average	Range		Most Frequent*	
			High	Low	Interval	% Obs.			High	Low	Intervals	% Obs.
<b>Routine</b>												
Labor	25	\$0.48	\$1.40	\$0.02	\$0.01- .25	48%	55	\$0.63	\$2.99	\$0.01	\$0.01- .25	35%
					\$0.75-1.00	20%					\$0.25- .50	22%
Material	13	\$0.18	\$0.51	\$0.05	\$0.01- .25	77%	39	\$0.53	\$3.24	\$0.02	\$0.01- .25	44%
											\$0.25- .50	23%
Equipment	8	\$0.28	\$1.19	\$0.01	\$0.01- .25	50%	32	\$0.28	\$1.41	\$0.01	\$0.01- .25	66%
<b>Total</b>	<b>26</b>	<b>\$0.64</b>	<b>\$1.69</b>	<b>\$0.02</b>	<b>\$0.01- .25</b>	<b>39%</b>	<b>56</b>	<b>\$1.15</b>	<b>\$5.75</b>	<b>\$0.03</b>	<b>\$0.01- .25</b>	<b>23%</b>
					<b>\$0.75-1.00</b>	<b>23%</b>					<b>\$0.25- .50</b>	<b>14%</b>
											<b>\$1.00-1.25</b>	<b>14%</b>
<b>Maintenance</b>												
Labor	27	\$0.20	\$1.21	\$0.03	\$0.01- .25	74%	56	\$0.31	\$1.75	\$0.02	\$0.01- .25	61%
Material	27	\$0.23	\$1.24	\$0.01	\$0.01- .25	78%	29	\$0.24	\$0.88	\$0.02	\$0.01- .25	66%
Equipment	13	\$0.22	\$1.19	\$0.01	\$0.01- .25	77%	22	\$0.18	\$0.88	\$0.02	\$0.01- .25	77%
<b>Total</b>	<b>36</b>	<b>\$0.41</b>	<b>\$1.67</b>	<b>\$0.04</b>	<b>\$0.01- .25</b>	<b>44%</b>	<b>58</b>	<b>\$0.49</b>	<b>\$1.75</b>	<b>\$0.03</b>	<b>\$0.01- .25</b>	<b>40%</b>
					<b>\$0.25- .50</b>	<b>36%</b>					<b>\$0.25- .50</b>	<b>21%</b>

<sup>1</sup>All differences between landowner and cattle owner contributions were significantly different at  $P \leq 0.05$ , except as noted by an asterisk.

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-5. 1993 Estimated Contributions by Land and Cattle Owner, Nebraska Panhandle (continued)**

**Table A-5b. Routine and Maintenance Contributions (\$/Month)**

	Land Owner							Cattle Owner					
	# Obs.	Average	Range		Most Frequent*		# Obs.	Average	Range		Most Frequent*		
			High	Low	Interval	% Obs.			High	Low	Intervals	% Obs.	
<b>Routine</b>													
Labor	20	\$0.62	\$1.59	\$0.08	\$0.01- \$0.25- .25 .50	35% 20%	28	\$1.08	\$4.46	\$0.06	\$0.01- \$0.25- .25 .50 \$0.50- .75 \$1.50- 1.75	14% 21% 25% 14%	
Material	10	\$0.19	\$0.49	\$0.01	\$0.01- .25	70%	22	\$1.09	\$2.91	\$0.02	\$0.01- .25 \$0.25- .50	27% 23%	
Equipment	4	\$0.36	\$1.31	\$0.01	\$0.01- .25	75%	20	\$0.57	\$2.48	\$0.01	\$0.01- .25	55%	
<b>Total</b>	<b>21</b>	<b>\$0.75</b>	<b>\$1.82</b>	<b>\$0.09</b>	<b>\$0.01- .25 \$0.25- .50 \$1.00- 1.25</b>	<b>24% 29% 24%</b>	<b>28</b>	<b>\$2.34</b>	<b>\$8.57</b>	<b>\$0.09</b>	<b>\$0.75- 1.00 &gt;\$2.50</b>	<b>21% 43%</b>	
<b>Maintenance</b>													
Labor	20	\$0.32	\$0.80	\$0.02	\$0.01- .25 \$0.25- .50	40% 45%	29	\$0.53	\$2.24	\$0.05	\$0.01- .25 \$0.25- .50	31% 38%	
Material	18	\$0.42	\$1.27	\$0.03	\$0.01- .25	50%	17	\$0.41	\$1.21	\$0.03	\$0.01- .25 \$0.25- .50 \$0.50- .75	47% 18% 18%	
Equipment	12	\$0.22	\$1.31	\$0.02	\$0.01- .25	75%	18	\$0.39	\$2.33	\$0.02	\$0.01- .25	56%	
<b>Total</b>	<b>23</b>	<b>\$0.72</b>	<b>\$1.50</b>	<b>\$0.07</b>	<b>\$0.25- .50 \$0.50- .75 \$1.25- 1.50</b>	<b>22% 22% 17%</b>	<b>29</b>	<b>\$1.02</b>	<b>\$3.95</b>	<b>\$0.08</b>	<b>\$0.01- .25 \$0.25- .50 \$0.75- 1.00</b>	<b>24% 21% 17%</b>	

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



**Table A-5. 1993 Estimated Contributions by Land and Cattle Owner, Nebraska Panhandle (continued)**

**Table A-5c. Routine and Maintenance Contributions (\$/AUM)**

Land Owner							Cattle Owner					
# Obs.	Average	Range		Most Frequent*			# Obs.	Average	Range		Most Frequent*	
		High	Low	Interval	% Obs.	High			Low	Intervals	% Obs.	
<b>Routine</b>												
Labor	20	\$0.56	\$1.27	\$0.08	\$0.01- .25	35%	27	\$0.94	\$6.25	\$0.06	\$0.01- .25	15%
					\$0.25- .50	20%					\$0.25- .50	33%
					\$ .75-1.00	20%					\$0.50- .75	15%
Material	9	\$0.19	\$0.72	\$0.01	\$0.01- .25	89%	21	\$0.97	\$3.10	\$0.03	\$0.01- .25	33%
											\$0.50- .75	14%
											\$1.25-1.50	14%
Equipment	3	\$0.04	\$0.10	\$0.01	\$0.01- .25	100%	19	\$0.52	\$2.94	\$0.01	\$0.01- .25	58%
<b>Total</b>	<b>20</b>	<b>\$0.65</b>	<b>\$1.56</b>	<b>\$0.08</b>	<b>\$0.01- .25</b>	<b>30%</b>	<b>27</b>	<b>\$2.06</b>	<b>\$12.00</b>	<b>\$0.09</b>	<b>\$0.01- .25</b>	<b>11%</b>
					<b>\$0.25- .50</b>	<b>25%</b>					<b>\$0.25- .50</b>	<b>11%</b>
					<b>\$1.00-1.25</b>	<b>25%</b>					<b>\$0.50- .75</b>	<b>15%</b>
											<b>\$0.75-1.00</b>	<b>11%</b>
											<b>\$2.00-2.25</b>	<b>11%</b>
											<b>&gt;\$2.50</b>	<b>30%</b>
<b>Maintenance</b>												
Labor	20	\$0.29	\$0.61	\$0.02	\$0.01- .25	40%	28	\$0.50	\$3.14	\$0.05	\$0.01- .25	39%
					\$0.25- .50	45%					\$0.25- .50	32%
Material	18	\$0.40	\$1.07	\$0.03	\$0.01- .25	50%	16	\$0.35	\$0.97	\$0.03	\$0.01- .25	56%
Equipment	11	\$0.13	\$0.39	\$0.03	\$0.01- .25	82%	17	\$0.32	\$1.60	\$0.02	\$0.01- .25	58%
<b>Total</b>	<b>22</b>	<b>\$0.66</b>	<b>\$1.58</b>	<b>\$0.08</b>	<b>\$0.01- .25</b>	<b>23%</b>	<b>28</b>	<b>\$0.90</b>	<b>\$3.39</b>	<b>\$0.05</b>	<b>\$0.01- .25</b>	<b>25%</b>
					<b>\$0.25- .50</b>	<b>23%</b>					<b>\$0.25- .50</b>	<b>21%</b>
					<b>\$0.50- .75</b>	<b>18%</b>					<b>\$0.50- .75</b>	<b>11%</b>
											<b>\$1.75-2.00</b>	<b>11%</b>

\*Frequency intervals are presented to illustrate the wide variability of observations. The most frequent intervals are not contiguous. The intervals represent over 50% of the observations and signify the most dominate intervals.



