

RANCHITA RANGE STUDY
ANNUAL PROGRESS REPORT
1964

Work on the Ranchita Range Study proceeded just about as planned during 1964. The accomplishments consisted of conducting grazing trials on Plots 1 and 2, follow-up chemical brush control on a portion of Plot #1, and fertilization on Plot #1. In addition, there was a field tour held at the Study. The following report expands on these items, and the future plans for the Study.

Grazing Trials

Grazing returns for 1964 were lowest of any of the years since grazing began. A return of only \$5.12 per acre was realized. The reasons were: 1) Comparatively less forage than in the previous years because of lack of rainfall; 2) decrease of soil fertility since burning, and 3) lower market value for feeder cattle.

Precipitation at the Study this year reached only 12.45 inches. This is substantially lower than the 20 inch average, and is lowest of any of the years since grazing began.

Cattle were placed on the Study for grazing on March 14; they were allowed to graze for 91 days and then taken off on May 16. There was a total of 30 head of replacement heifers used for the grazing; 18 were placed on Plot #1, and 12 on Plot #2. We placed a value on the weight gains from the grazing for this period at 18 cents per pound this year. This compares with 25¢ for previous years. It was done in an effort to bring the return values on the Study in line with prices received for feeder cattle on the open market this year.

Tables 1 and 2 below give a breakdown of the weight gains and return values for the three years of grazing on the Study. Table 1 shows the overall gains and values for all grazing done on the Study, and Table 2 breaks it down by Plots. Weight gains shown in both tables have been reduced 3 per cent for shrink.

TABLE 1

Year	Weight Gained	Price per lb.	Total Return	Per acre Average
1962	4,200 lbs. @	\$.25	\$1,018.50	\$ 8.56
1963	5,321 " @	.25	1,290.25	10.84
1964	3,490 " @	.18	609.30	5.12
TOTAL 119 A. for 3-yr. period			\$ 2,918.05	\$ 24.52

TABLE 2

	Plot #1 (54 Acres)	Plot #2 (65 Acres)
1962		
Weight gains	2,522 lbs.	1,522 lbs.
Values at 25¢	\$ 630.50	\$ 388.00
1963		
Weight gains	3,250 lbs.	1,911 lbs.
Values at 25¢	812.50	477.75
1964		
Weight gains	1,959 lbs.	1,426 lbs.
Values at 25¢	352.62	256.58
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TOTALS		
Weight Gains	7,731 lbs.	5,040 lbs.
Return Values	1,795.62	1,122.43
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AVERAGE RETURN PER ACRE	\$33.25	\$17.25

Follow-up Chemical Spraying

Follow-up chemical spraying was done on 32 acres of Plot #1 in the Spring. This was done to control additional brush re-sprouting, and new brush seedlings that have appeared in the last two years. This spraying was done by inmates from the Cuesta Conservation Camp using 3 gallon hand sprayers. A mixture of 1 gallon of 2, 4-D and 2,4,5-T, plus 1 gallon diesel in 25 gallons of water was used. Preliminary results indicate good control. The cost for this spraying is broken down as follows:

Herbicide	8 gal. @ \$4.95 per gal.	\$ 47.60
Diesel	8 gal. @ .116 " "	.93
Inmate time	49 hrs. @ .75 per hr.	36.75
Foreman time	7 hrs. @ 4.31 " "	30.17

TOTAL COST \$115.45

AVERAGE COST PER ACRE (32 Acres) 3.61

No further spraying is being done on Plot #2 as not enough desirable forage plants are present to make spraying economical.

Fertilization

Some 32 acres of Plot #1 on the Study was fertilized during December of 1964. The area treated was roughly the same as was sprayed earlier in the year. Fertilization consisted of applying by air 133 pounds of granular Urea per acre. Urea contains 45 percent Nitrogen so this gave 60 pounds of the element which was the desired rate. The complete fertilization job, including both flying and fertilizer, was contracted. It cost \$9.52 per acre, amounting to a total of \$115.45 for the complete job.

Results of the 1963 Fertilizer Trial on the Study indicated a Nitrogen fertilization to be economical on the Study. It was on the basis of these results that we justified this year's treatment. Forage production on the Trial showed this fertilization to be marginal on the basis of this year's measurements. There will be a carry-over response in the second year which we felt would be worth enough to make the fertilization worth while.

Field Tour

There was a field tour held on the Study April 18, 1964. The purpose of the tour was to show ranchers in the locality the progress on the Study up until that time. The tour was a joint effort of the Agricultural Extension Service and the Division of Forestry. Both agencies took part in the preparations. The tour was not well attended, but those that were there were enthusiastic and interested in the work. Many questions were asked about the operation and we feel sure a good deal was gained by those who attended.

Future Plans

Our intentions are to depart from the original plan by doing some additional work on Plot #2. This Plot's value is declining rapidly as brush regrowth is beginning to take over. Chemical spraying on this Plot was not as successful in killing brush sprouts as on Plot #1. The reason for this was that the brush wasn't crushed well and therefore didn't burn well. Much of the original brush was left. Also, the hand seeding on this Plot didn't do well, and the forage production of the weedy annuals are not worth the cost of continuing chemical brush control.

This additional treatment being considered for Plot #2 would consist of disking those areas flat enough to get over with equipment, and then follow up with a drill seeding of perennials. The area suitable for treatment would amount to approximately 30 to 40 acres of the Plot. If a good stand of grass results, provision for control of brush regrowth would have to be worked out as in the initial program.

Because of different treatments now being done on the two plots and in future plans, we felt it necessary to break cost down on a plot basis. Table #3, following on next page, shows these costs by Plot, and the average cost per Plot to date.

TABLE 3

	Plot #1 (54 Acres)	Plot #2 (65 Acres) 10 year
✓ <u>Brush Crushing-1960</u>	47 acres @ 4.37 = \$205.39	48 acres @ 4.37 = \$209.76
✓ <u>Fire Line Construction-1960</u>	54 acres @ 1.48 = 79.92	45 acres @ 1.48 = 96.20
✓ <u>Oak Tree Poisoning-1960</u>	-	155 trees @ .10 = 15.17
✓ <u>Burning-1960</u>	54 acres @ 1.92 = 103.68	65 acres @ 1.92 = 124.80
✓ <u>Drill Seeding-1960</u>	24 acres @ 14.38 = 345.12	10 acres @ 14.38 = 143.80
✓ <u>Hand Seeding-1960</u>	15 acres @ 7.57 = 113.55	19 acres @ 7.57 = 143.83
✓ <u>Spraying-1961</u>	50 acres @ 9.57 = 478.50	60 acres @ 9.57 = 574.20
✓ <u>Legume Seeding-1961</u>	40 acres @ 5.47 = 218.80	29 acres @ 5.47 = 158.63
✓ <u>Erosion Check Dams-1961</u>	7 each @ 9.30 = 65.10	1 each @ 9.30 = 9.30
<u>Follow up Spraying-1961</u> <i>cut cost</i>	39 acres @ 3.67 = 143.13	29 acres @ 3.67 = 106.43
<u>Cleaning Check Dams-1962</u> <i>10/40</i>	7 each @ 6.12 = 42.84	1 each @ 6.12 = 6.12
<u>Fertilization-1964</u>	32 acres @ 9.53 = 304.91	-
<u>Follow up Spraying-1964</u>	32 acres @ 3.61 = 115.45	-
TOTAL COSTS	\$2,216.39	\$1,588.24
AVERAGE COST PER ACRE	\$41.04	\$24.43

SUMMARY

The Ranchita Range Study is continuing to be a worthwhile project. Much valuable knowledge is being learned from the work being conducted and it is providing a good demonstration of brush range conversion. Cost and return ratios on this work are showing that conversion work is not a get-rich-quick scheme and that a complete conversion program will pay in the long run with a minimum of maintenance.

RICHARD H. BAWCOM
Forester II

Itemized Chargeable Costs on Ranchita Project
Based on Actual Expenditures for Materials, Equipment & Labor*

	Plot #1 (45 Converted Acres)		Plot #2 (50 Converted Acres)	
Brush Crushing	Feb 1960	47 acres @ 4.37=205.39	Feb 1960	48 acres @ 4.37=209.76
Fire Line Construction	Feb 1960	54 acres @ 1.48= 79.92	Feb 1960	65 acres @ 1.48= 96.20
Oak Tree Treatment		--	Feb 1960	155 each @ .0= 15.17
Oak Tree Removal (Bulldozing)		--		--
Brush Disking #1		--		--
Brush Disking #2		--		--
Burning	Oct 1960	54 acres @ 1.92=103.68	Oct 1960	65 acres @ 1.92=124.80
Drill Seeding	Nov 1960	24 acres @14.38=345.12	Nov 1960	10 acres @14.38=143.80
Manual Seeding	Nov 1960	15 acres @ 7.57=113.55	Nov 1960	19 acres @ 7.57=143.83
Herbicide Spraying	May 1961	50 acres @ 9.57=478.50	May 1961	60 acres @ 9.57=574.20
Follow-up Spraying #1	May 1962	39 acres @ 3.67=143.13	May 1962	29 acres @ 3.67=106.43
Follow-up Spraying #2	Apr 1964	32 acres @ 3.61=115.45		--
Follow-up Spraying #3	May 1967	40 acres @ 5.83=233.25		--
Legume Over-seeding	Dec 1961	40 acres @ 5.47=218.80	Dec 1961	29 acres @ 5.47=158.63
Erosion Check Dams	Dec 1961	7 each @ 9.30= 65.10	Dec 1961	1 each @ 9.30= 9.30
Cleaning Check Dams	Dec 1962	7 each @ 6.12= 42.84	Dec 1962	1 each @ 6.12= 6.12
Fertilization #1	Dec 1964	32 acres @ 9.53=304.91		--
Fertilization #2	Nov 1966 & Jan 1967	20 acres @10.00=200.00		--
TOTAL COSTS		\$2,649.64		\$1,588.24
AVERAGE COST PER ACRE		\$58.88		\$31.77

* Equipment & labor costs based on CDF reimbursement rates; AGC rates used when CDF rates could not be applied.