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COSTS and RETURNS

Northwest Cattle Ranches

1970

ABSTRACT

Net returns in 1970 were record-high on viable commercial cattle ranches in the Northern Plains and Northern Rocky Mountain areas, 2 of the most important cow-calf producing areas in the West. Record-high prices received for calves contributed the most to higher returns. Better than average range conditions and heavier market weights of calves on Northern Plains ranches more than offset a lower calving rate. In the Rocky Mountain area, less favorable range conditions reduced market weights of calves and net ranch production and offset much of the income benefits of higher calving rates and calf prices.

KEY WORDS: Cattle, calves, costs and returns, farm income.

FARM COSTS AND RETURNS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches in selected farming regions. The study is conducted under the general supervision of Wylie D. Goodsell, Farm Production Economics Division, Economic Research Service. Objectives, methodology, procedure, and terms are uniform for all areas studied.

The costs and returns studies cover the following commercial farms and ranches by type and size:

Dairy Farms, Southeastern Wisconsin and Central New York
Cash Grain Farms, Corn Belt
Hog-Beef Feeding Farms, Corn Belt
Egg-Producing Farms, New Jersey
Cotton Farms, Mississippi Delta
Cotton Farms, Southern High Plains, Texas
Tobacco Farms, Coastal Plain, North Carolina
Tobacco-Livestock Farms, Bluegrass Area, Kentucky
Wheat-Fallow Farms, Pacific Northwest, Northern Plains, and Southern Plains
Northwest Cattle Ranches
Migratory Sheep Ranches, Utah-Nevada
Southwest Cattle Ranches

Information on the studies can be obtained from Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250

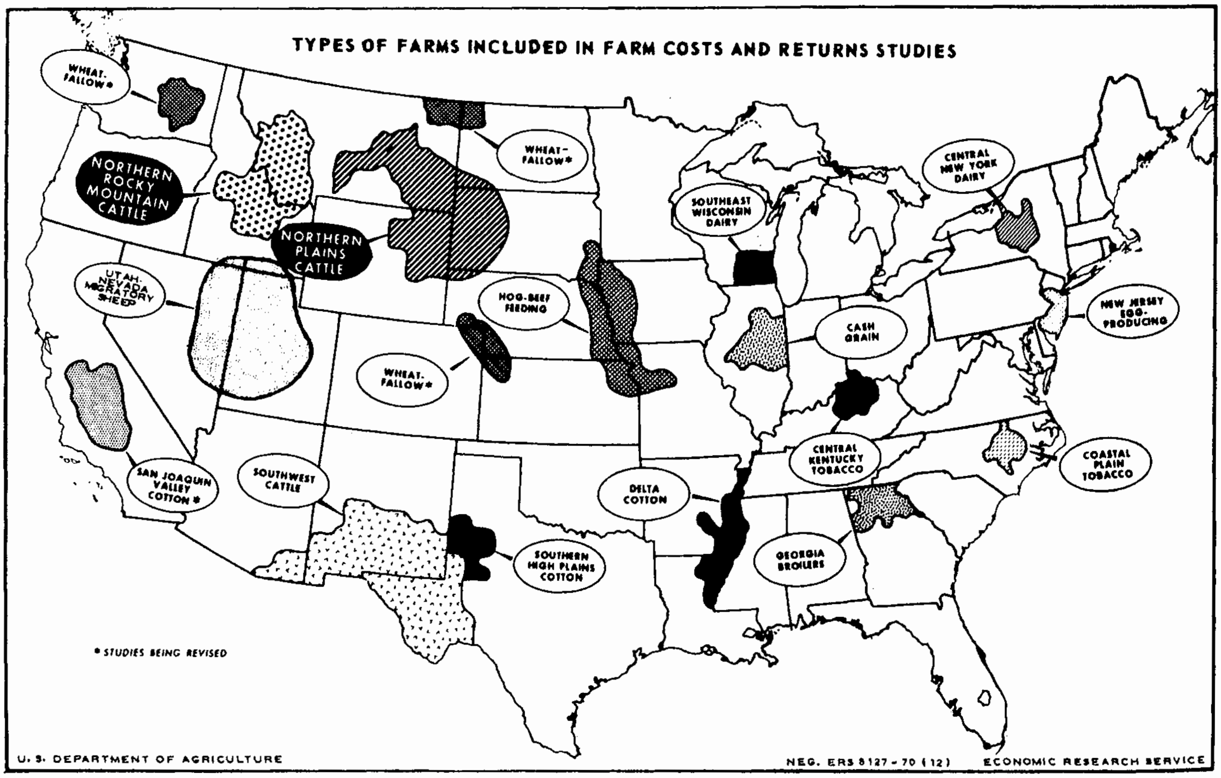

Figure 1

COSTS AND RETURNS NORTHWEST CATTLE RANCHES, 1970

By

Wylie D. Goodsell and Macie J. Belfield[1]

INTRODUCTION

This report presents estimates of costs and returns in 1970 on commercial cattle ranches in the Northern Plains and in the Northern Rocky Mountain areas. Operators of these specialized cow-calf ranches produce calves for sale to cattle feeders in the Midwest and other areas. They derive most of their ranch income from the sale of calves from an average herd typically of about 300 high-quality Hereford or Angus cows. Calving rates average better than 90 percent, much higher than in the East and Southwest. Most grazing west of 100th meridian is extensive. Each animal unit (cow and suckling calf) requires about 30 acres of grazing land. Consequently, viable commercial cattle ranches are relatively large, averaging several sections of land. This is particularly true where grazing is almost exclusively on private land.

Herd size on these units varies a little from year to year. Operators cull more lightly or add a few more heifers when economic prospects brighten. The number of cows kept has moved up a little on the Rocky Mountain ranches during the last 10 years. Ranches in the Rocky Mountain area are less subject to droughts and winter weather hazards than ranches in the Plains. Their stock is winter fed, and summer rainfall is generally ample for good grazing in the mountains.

Stock losses occasionally are disastrous in severe winters in the Plains. In recent years, however, breeding herds have held near the 300-head level in both areas. Ranges have been reasonably good the last few years and Plains ranchers have held back more calves to be sold early in winter or later as yearlings. In recent years, their inventories averaged around 470 animals, compared with 410 on Rocky Mountain ranches.

The Northern Plains livestock area comprises 40 counties in southeastern Montana, northeastern Wyoming, and western South Dakota (fig. 1) which account for approximately 14 percent of all brood cows and heifers in the 11 western states. The area produces about a fifth fewer cattle than the State of Montana, but more than any other western State except California.

Nearly 90 percent of farms in the area have brood cows. About two-thirds of the farms have less than 100 brood cows, and produce less than a third of the cattle. Ranches with 200 to 500 brood cows, which are represented by this study, produce about 35 percent of the area's cattle.

Ranchers use an average of 2 sections of public grazing land. A relatively small amount of it is available. Ranchers who border the public range fence and graze it extensively.

When the snowpack is light or there is sufficient moisture to soften the matured grass and browse, feeding of hay and supplements is minimal. In most years, some grazing is done in every month. Only light winter feeding is generally required. Around 1,300 pounds of hay normally meets the winter feed requirements for a cow or yearling. This is less than half the hay required per animal in the Rocky Mountain area.

Northern Rocky Mountain area range operations are characterized by extensive winter feeding and by heavy grazing on public lands.[2] The area comprises the greater parts of 19 counties in southwestern Montana and east-central Idaho (figs. 1 and 2). These counties have more brood cows than either Nevada, Utah, or Arizona.

About four-fifths of the farms in this area have brood cows, but about three-fourths of these farms have less than 100 brood cows and heifers and produce less than 30 percent of the area's cattle. Ranches carrying 200 to 500 cows and heifers account for around one-third of the area's beef production.

Fewer yearlings are carried on these ranches than on cow-calf ranches in the Northern Plains because of heavy reliance on public grazing on a permit basis during the summer, the relatively high cost of winter feeding, and

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[2] Federal lands in the public domain and in the National Forest System.

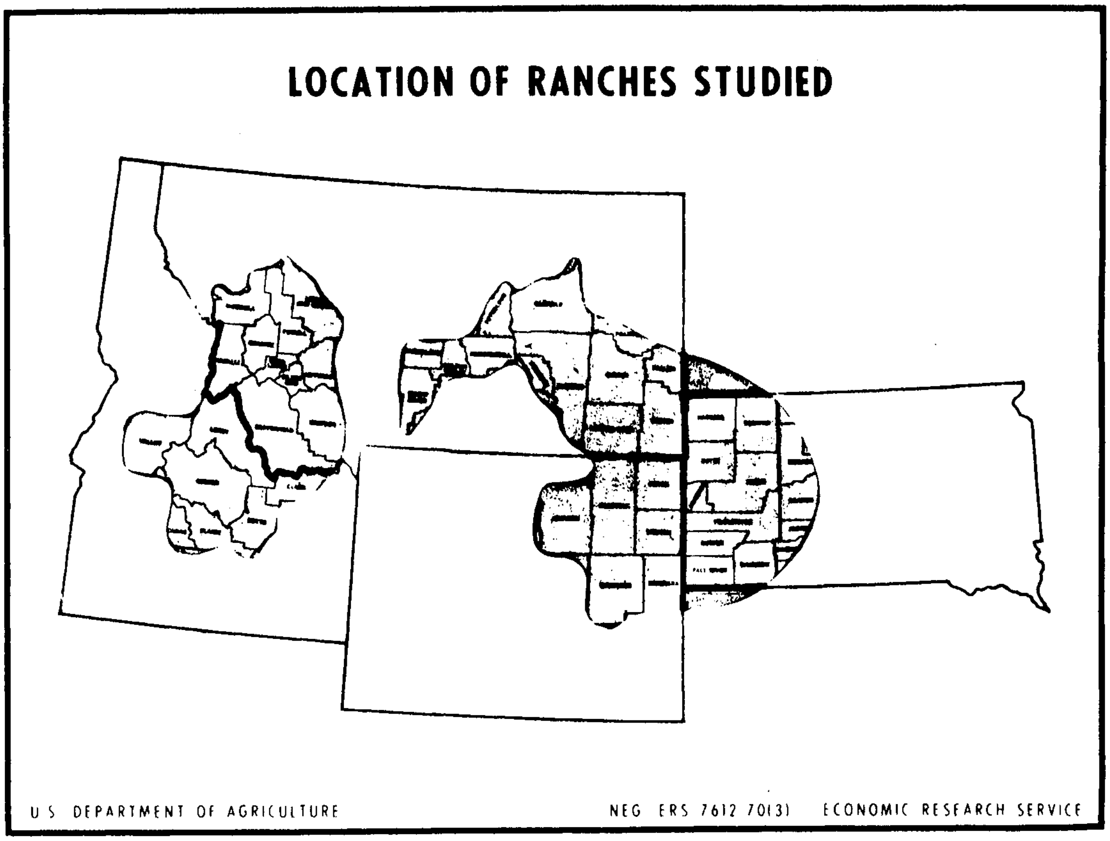

Figure 2

the economy of grazing a cow and her calf at the same cost as one yearling. Otherwise, the cattle enterprises are on much the same scale.

In the Rocky Mountain area the grazing season is shorter and cows are bred to calve a little earlier than in the Plains area. Around 5 months of relatively heavy winter feeding are required, making hay requirements per animal more than double those in the Plains. Thus Rocky Mountain ranchers must either buy a considerable quantity of hay or have relatively high-priced land on which to produce hay. Their records show that they make greater outlays for feed, and also have relatively more high-priced cropland, than Northern Plains ranchers.

In both areas, range-carrying capacity is about the same, 30 acres per animal unit. But the Rocky Mountain rancher summer grazes nearly all of his brood animals and calves on public lands. The number of animals a given rancher is permitted to graze on these lands remains rather fixed from year to year. Because of wide use of public grazing land, the Rocky Mountain cattle rancher has less deeded or private lands than the Northern Plains rancher.

The main grazing season in the Rocky Mountain area is much shorter than in the Northern Plains. The summer range in the Rocky Mountain area is mostly on high elevations in the national forests. This usually productive range is not available until late June or early July and terminates in September or early October. Stock must then be moved to lower private grounds. Feeding usually begins in December.

The calves are generally marketed a little earlier than in the Plains area. But calves in the Rocky Mountain area are slightly heavier at marketing time because of slightly earlier calving dates and better summer grazing.

COSTS AND RETURNS

Northern Plains Cattle Ranches

Net returns in 1970 to the operator and unpaid members of his family, and to total capital, averaged about $25,600 per ranch (table 1). This was a record high, up 13 percent from a year earlier and more than double the 1960-64 average.

Several factors contributed to this record income. Prices received for cattle and calves, the most important single factor, averaged about 6 percent above a year earlier and about 35 percent above 1960-64 levels. Prices received for calves delivered in the fall of 1970 averaged $35.30 per hundredweight, a record high. Prices received in 1969 averaged $33.60 per hundredweight and in 1960-64 $25.90. Steer and heifer prices averaged $28.60

Table 1.—Costs and returns, Northern Plains cattle ranches

Item	Unit	Average 1960-64	1969	1970[1]
Total land operated[2]	Acre	11,500	11,500	11,500
Land owned	do.	8,940	8,940	8,940
Livestock on ranch:				
All cattle	Number	432	468	468
Cows and heifers, 2 years old and over	do.	292	309	303
Calf crop	Percent	91	93	92
Total ranch capital, Jan. 1[3]	Dollar	293,290	429,160	448,710
Land and buildings	do.	207,560	324,800	333,400
Livestock	do.	67,950	80,510	90,330
Machinery and equipment	do.	14,840	19,120	20,060
Crops	do.	2,940	4,730	4,920
Total cash receipts	do.	30,217	44,362	44,389
Calves	do.	15,722	21,883	21,957
Steers and heifers	do.	7,578	12,668	12,441
Other cattle	do.	6,917	9,811	9,991
Value of perquisites	do.	967	1,126	1,148
Inventory change:				
Livestock	do.	696	-375	3,080
Crops	do.	90	-249	745
Gross ranch income	do.	31,970	44,864	49,362
Total operating expense	do.	19,466	22,260	23,741
Feed and grazing fees	do.	3,698	1,879	2,100
Livestock purchased	do.	1,533	1,565	1,656
Other livestock expense	do.	648	850	864
Crop expense	do.	403	547	570
Machinery purchased	do.	2,321	2,990	3,170
Other machinery expense	do.	2,254	2,849	3,000
Ranch buildings and fences	do.	1,472	1,755	1,805
Labor hired	do.	4,204	5,692	6,160
Taxes	do.	2,322	3,290	3,520
Other	do.	611	843	896
Return to operator labor and management, and total capital	do.	12,504	22,604	25,621
Interest paid	do.	NA	NA	6,652
Return to operator labor and management and equity capital	do	---	---	18,969
Charge for operator's equity capital @ 5.6 percent	do	---	---	18,888
Operator labor and management return	do	---	---	81
Ranch production and price indexes (1960-64 = 100)				
Net ranch production	---	100	118	123
Range condition	---	100	103	106
Prices received for products sold	---	100	127	135
Prices paid, including wages to hired labor	---	100	123	129

[1] Preliminary. [2] Land rented is grazing land. Some of it is rented on an animal unit month basis and some on an acre basis. These charges are included in expenditures for feed and grazing fees. Thus the value of this land rented is not included in ranch capital, and no real estate tax or related cost is included in the ranch expenditures. [3] Does not include estimated value of rented land.

per hundredweight in 1970, $27.60 in 1969 and $22.40 in 1960-64. Thus calf prices have risen faster than steer and heifer prices. Calf sales comprise about half of total sales on these ranches.

Because of prospects for continued strong demand for feeder calves, ranchers increased their breeding herds slightly during 1970. Also because of a relatively good crop year in 1970, feed supplies built up. Consequently, gross income (cash receipts plus inventory increases) was up 10 percent from a year earlier, and a record high.

Net ranch production in 1970 was record-high, nearly a fourth greater than in 1960-64 and about 4 percent above 1969. Although the percentage calf crop (number of calves marked and branded per 100 brood cows and heifers) was slightly lower in 1970 than for the year earlier, death loss of calves was the lowest since 1961. Thus the number of calves carried to roundup time was about the same in 1969 and 1970.

Range conditions were slightly improved from those in 1969, and market weights of calves were a record high, nearly 4 percent above 1969 weights. Only part of the increase in market weights of calves can be attributed to improved range conditions. Crossbreeding has been increasing on these ranches and crossbred calves reach heavier market weights than do "straightline" calves. Steers and heifers were sold at about the same weights in 1970 as in 1969. Death loss of cattle was a record low.

Total operating expenses continued to increase in 1970 with increases in every major expense group. Ranch operating expenses were between 6 and 7 percent greater than in 1969, and prices paid for items used in production increased at about the same rate. Thus the increase from 1969 in operating expenses was due to increases in prices paid and not to increases in quantities purchased. The ratio of prices received to prices paid improved from 1969 to 1970.

There appears to be a slight slowdown in rising land values on these ranches. The average per-acre increase in 1970 was less than half the rate of the previous year and less than in any year since 1962. Total real estate value per ranch increased about 2.7 percent from 1969 to 1970, compared with nearly 6 percent from 1968 to 1969. Value of livestock increased slightly more than 12 percent from 1969 to 1970 and around 6.3 percent from 1968 to 1969.

According to a survey in 1970, nearly all ranchers carried debt averaging around $81,000 in real estate debt per ranch and $25,500 in debt on chattels. The average rate of interest paid was 5.6 percent on real estate mortgages and 8.3 percent on operating loans. After a deduction of $6,652 is made for interest paid in 1970 on real estate loans and on borrowed operating capital, the return to the operator for his labor and management and his equity capital amounted to approximately $18,970 per ranch. After a charge of $18,888 for operator's equity capital, at interest rates on loans outstanding in 1970, the return to operator's labor and management was only $81, (table 1).

Northern Rocky Mountain Cattle Ranches

In 1970, returns to operator labor and management and total capital averaged about $26,900 per ranch on Northern Rocky Mountain cattle ranches (table 2). This was a record high but less than 2 percent above the year-earlier return. It represented the smallest annual increase in net returns to resources in 6 years. However, 1970 returns were more than double the 1960-64 average. Operators built up herds slightly during 1970 in expectation of another good year in 1971.

Contributing to the record-high returns in 1970 were record prices received, a record calf crop, near record-low calf losses and record-low death loss of cattle. Calving rates on these ranches are probably the highest for any major cattle-producing area in the United States. The brood animals have relatively good summer range high in nutrients, are winter fed, and generally calve in protected areas. The number of calves marked and branded per 100 brood cows usually averages around 92. In 1968, 1969 and 1970 it averaged 93, 94 and 95 percent, respectively. An increase of 1 percent in calf crop on these ranches makes a substantial improvement in net returns. In 1970 an increase in percentage calf crop from 94 to 95 percent increased net ranch income nearly 5 percent.

Prices received in 1970 for cattle and calves were a record high. Calves from these ranches brought an average of $35.40 per hundredweight in 1970. This was $2.50 per hundredweight higher than in 1969, and $10.00 per hundredweight above the 1960-64 average. Prices received for steers and heifers and culled cows were only slightly higher in 1970 than in 1969. Around 60 percent of cash receipts are from the sale of calves, so a change in prices received for calves has a substantial effect on ranch income. Gross ranch income was record high, combining record cash receipts from livestock sales, a slight buildup in the breeding herd, and a modest improvement in crop production and feed inventories.

The slower rate of increase from 1969 to 1970 in net returns to resources on these ranches stems mostly from less favorable range conditions and lighter market weights of animals sold. However, there were other deterrents, such as higher prices paid for nearly all production inputs and greater outlays for feed. Because of relatively lower feed-crop yields, production, and carryover in 1969, considerably more hay was purchased in early 1970.

Range conditions, particularly in midsummer of 1970, were less favorable than those a year earlier. Estimated output of ranges during the critical grazing period was about 3 percent below a year earlier. This resulted in lighter market weights in 1970 for all classes of livestock sold. Market weights of calves were down an average of 4 percent below those of 1969, steers and heifers were down 5 percent, and culled cow weights were down slightly. The combined effect was the first

Table 2.–Costs and returns, Northern Rocky Mountain cattle ranches

Item	Unit	Average 1960-64	1969	1970[1]
Total land operated[2]	Acre	5,900	5,900	5,900
Land owned	do.	4,000	4,000	4,000
Livestock on ranch:				
All cattle	Number	363	411	423
Cows and heifers, 2 years old and over	do.	277	307	312
Calf crop	Percent	93	94	95
Total ranch capital, Jan. 1[3]	Dollar	234,470	311,680	337,650
Land and buildings	do.	154,720	213,850	222,410
Livestock	do.	57,820	70,000	85,990
Machinery and equipment	do.	14,200	18,180	19,050
Crops	do.	7,730	9,650	10,200
Total cash receipts	do.	29,756	43,735	47,510
Calves	do.	18,664	25,991	27,612
Steers and heifers	do.	4,287	7,148	8,914
Other cattle	do.	6,805	10,596	10,984
Value of perquisites	do.	996	1,156	1,179
Inventory change:				
Livestock	do.	582	1,900	1,375
Crops	do.	186	-198	395
Gross ranch income	do.	31,520	46,593	50,459
Total operating expense	do.	18,430	20,139	23,576
Feed and grazing fees	do.	4,153	1,902	4,067
Livestock purchased	do.	1,534	1,566	1,657
Other livestock expense	do.	610	829	889
Crop expense	do.	770	1,089	1,160
Machinery purchased	do.	2,290	2,916	3,083
Other machinery expense	do.	2,166	2,686	2,817
Ranch buildings and fences	do.	614	720	725
Labor hired	do.	4,053	5,402	5,834
Taxes	do.	1,679	2,240	2,497
Other	do.	561	789	847
Return to operator labor and management, and total capital	do.	13,090	26,454	26,883
Interest paid	do.	NA	NA	6,771
Return to operator labor and management and equity capital	do.	---	---	20,112
Charge for operator's equity capital @ 5.7 percent	do.	---	---	12,565
Operator labor and management return	do.	---	---	7,547
Ranch production and price indexes (1960-64 = 100)				
Net ranch production	---	100	124	120
Range condition	---	100	103	100
Prices received for products sold	---	100	132	139
Prices paid, including wages to hired labor	---	100	120	125

[1] Preliminary. [2] Land rented is grazing land. Some of it is rented on an AUM basis and some on an acre basis. These charges are included in expenditures for feed and grazing fees. Thus the value of this land rented is not included in ranch capital, and no real estate tax or related cost are included in ranch expenditures. [3] Does not include estimated value of grazing permits or rented land.

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decline in net ranch production in about 7 years, although 1970 production was still a fifth greater than in 1960-64.

Gross and net returns on these ranches are not far different from those on Northern Plains cattle ranches. In recent years the number of brood animals per ranch has remained near the same in both areas. However, the number of yearlings carried per ranch differs substantially. Ranchers in the Northern Rocky Mountain area carry fewer yearlings. This is mostly because Rocky Mountain ranchers rely heavily on public lands for summer grazing, which they rent on an animal unit basis. The cost to graze a cow and her suckling calf (an animal unit) is the same as for a yearling. Thus ranchers often graze cows and calves on public land and graze other stock on private ground.

Because of extensive use of public grazing land by operators of Rocky Mountain ranches, acreage of private land is less than for Northern Plains ranchers for the same size herd, and real estate value is about two-thirds as much. Also, because Rocky Mountain ranchers carry fewer yearlings, their livestock inventory values are lower, generally about 85 percent of that for Northern Plains ranchers.

A 1970 survey showed most Northern Rocky Mountain cattle ranchers to be in debt. For most ranches real estate debt averaged about 38 percent of the value of real estate or about $83,000 per ranch. Operating loans averaged about 23 percent of the value of livestock, machinery and equipment, or about $24,000 per ranch. Interest rates charged averaged about 5.7 percent on real estate loans and 8.5 percent on operating loans. After an interest charge of $6,771 per ranch is subtracted from net returns to operator labor and management and total capital, net returns in 1970 per operator for his labor and management and his equity capital amounted to $20,112 per ranch. After a charge of $12,565 for operator's equity capital, at interest rates outstanding in 1970, the return to operator's labor and management was around $7,547 (table 2). This is much higher than for Northern Plains cattle ranchers whose equity capital is about 50 percent greater.