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REVIEW

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Ranching in the Rockies



Ranchers and farmers, loggers, miners, sportsmen and vacationers all play roles vital to the economy of western Montana. The economy of this area, located in the northern Rocky Mountains, has many facets, among which agriculture plays the dominant role. And within agriculture, the activities are nearly as varied as they are in the economy of the region as a whole.

The diversity of Montana's Rocky Mountain region agriculture is one of its remarkable features. On the one hand, the area encompasses small cut-over dairy, poultry and general farms and even fruit orchards, while on the other hand, it is an area which contains some of the very largest ranching enterprises found in the Ninth district.

Ranching organization in the Rocky Mountain area

In the total picture of agriculture in this mountain region, ranching looms high as the major activity. In 1958, an estimated 54 percent of the area's farm income was derived from the sale of cattle and calves and 7 percent from sheep and lambs. In contrast, only 25 percent was derived from the sale of crops.

The area's crop farming has developed in the larger, lower lying valleys where the growing seasons are longer and where irrigation water supplies are available. Cattle ranching, however, predominates on the rougher lands surrounding the crop agriculture of the lower lying valleys, and it

is the mainstay of the agriculture of the higher mountain valleys. Cattle ranching operations of the region vary greatly in size, as measured in terms of number of cattle in the breeding herd. Combination cattle and farming operations usually include cow herds of 50 to 100 cows, while the larger operations may encompass 1,000 to 3,000 cows or more.

The forage of public lands forms an integral part of mountain valley cattle ranching, as it provides a significant part of the summer grazing which supplements the spring and fall grazing and hay production of the deeded valley lands.

The irrigated grasslands of these mountain valleys are productive, and they provide a stable feed base for the area's cattle enterprise. However, because the winters are so long and the grazing seasons so short, the winter feeding requirements are high. As a result, the operating costs of mountain valley cattle ranching are somewhat higher than the costs experienced in the plains where the winter feeding requirements are lower. Nevertheless, the stability of feed production in the mountain valleys is a great asset when compared with the "feast and famine" output of the plains.

The heavy production of feed in the mountain valleys is not completely utilized on a seasonal basis because public land summer ranges can support only a limited number of cattle. Thus, in addition to the normal breeding herd operations

The present article discusses ranching in type-of-farming area 9 (see map opposite) and is the second of a series concerning the livestock industry in the western Ninth district. An earlier report, dealing with area 7, the "Range Area," appeared in the September 1960 Monthly Review.

of these mountain valley ranches, many ranchers turn to wintering additional purchased cattle on their available feed supplies.

The breeding herd operation is organized such that calving usually occurs late in the spring on the deeded valley lands. More recently, many ranchers have turned to earlier shed calving to lengthen the pasture season for the purpose of turning out heavier calves in the fall, either to market or to feed during the winter.

The grazing season begins on the deeded valley lands, and in the late spring the cattle are moved up to lower elevations of the pine-bunch grass zone of the public lands. The movement of cattle proceeds on upward through this zone during the summer, followed by a similar movement downward to the lower elevations in September. The cattle are largely back on lower foothills and the valley lands by late September or early October in preparation for winter feeding in the coming months.

Sheep are found in numerous farm flocks of 50 to 200 head flocks in the irrigated valley farming areas, as well as in large 6,000 to 10,000 head ranching operations. The large sheep ranches are nearly all located in the larger, lower valleys where alfalfa hay and some feed grains can be produced. The native hays of the high mountain valleys are less well suited to sheep than to cattle. Early lambing is the common practice in these sheep operations.

Sheep are able to make the best use of the sub-alpine and alpine public pastures at the higher elevations. The lush forage of these ranges will increase the weight of lambs from the 35 to 40

pounds they weigh about July 1, when they go to summer range, to 90 to 95 pounds three months hence.¹ These lambs are sold from summer range as fat slaughter lambs.

The sheep ranching of the Rocky Mountain area, similar to cattle ranching, is more stable than its counterpart in the plains region but also a more costly venture because of the longer winter feeding season. In addition, sheep ranching in this area has been beset by the same problems that have faced the industry in other locations. The industry here experienced the same decline as was experienced throughout the West because of serious labor problems encountered during and following World War II. This, coupled with the developments of competitive textiles, cut sharply into the sheep industry of the entire West. Some comeback in sheep numbers in the area has been noted in the later 1950's under the Wool Incentive Program; the recent expansions, however, have been much more rapid among the farm flocks of the irrigated valleys.

As in any region, the topography, soils, climate and vegetation play the vital roles in determining the possible alternative farming enterprises. A review of these factors therefore aids in understanding the variations in agriculture found throughout the Rocky Mountain area.

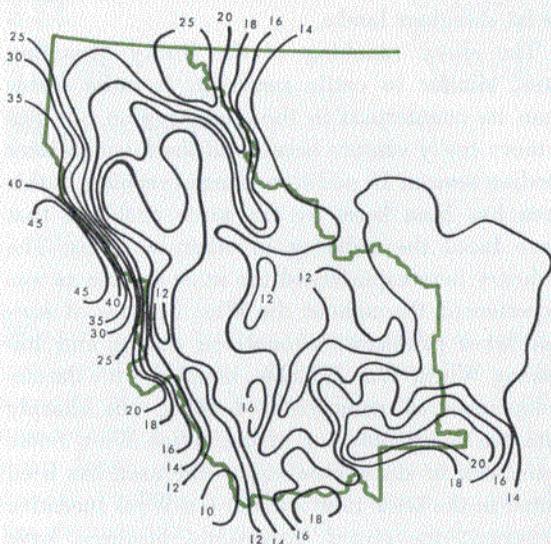
Climate

Rainfall is generally not sufficient to support cultivated crops without irrigation; the region is semiarid with minor exceptions (see map of rainfall zones). Thus, the availability or lack of an adequate supply of irrigation water imposes limitations on the cropping patterns.

The growing season, as measured by the average length of a frost-free period, varies from about 80 to 120 days, with scattered points reporting a killing frost every month. The severe limitations of the short growing season for a

¹ Saunderson, Mont, "Montana Stock and Ranching Opportunities," Montana State College, Agricultural Experiment Station, March 1950, pp. 20-22.

Chart 1—Average annual precipitation in inches, Rocky Mountain area



cultivated crop agriculture are obvious. The lower mountain valleys are those with the longer growing seasons, and where the other environmental factors such as soil types and available water supplies are favorable, the agriculture has become oriented toward an intensified cultivated crop and livestock farming system. The very short growing seasons of the high mountain valleys limit the land use to the production of grasses for hay and pasture. These grass-producing valleys are also irrigated, either by flood irrigation or subterranean irrigation which results from a high water table.

Winters are long and severe; snow arrives early in the fall and may occur quite late in the spring. This variant of the climate adds a substantial cost factor to the livestock enterprises because of the necessary long winter feeding period; five months or more of winter feeding are commonly required in these high mountain valleys.

Soils

The soils of these valleys are as varied as the

other factors of environment. The most productive soils of the region are included in the Chestnut soils group. This is the soils group at the mountain bases and bottomlands of the lower, well developed, irrigated farming valleys. Some of the higher benchlands of this soil type are also used for dryland cropping.

Two other soils groups are found in the region. The first of these is the Gray Brown Podzolic soils group, which occupies the upland bench areas and mountainous areas mainly in the northern part of the region at 3,000 to 5,000 foot elevation levels. Most of these areas are heavily forested and this is their best use. However, the lower lying areas are used to some extent for grain, hay and general farming.

The other major soils group of the region, termed Lithosols, is a stony, poorly structured soil which is found in the large areas of thinly timbered mountains up to about the 8,000 foot elevation level.

Vegetation

The grasslands, which form the basis of the ranching industry in this mountain country, are delineated into natural zones of plant life within a given valley and its environs. These natural zones arise out of variations in climatic factors of temperature, growing season and moisture supply, variations of which are mainly attributable to differences in elevation. These zones of plant life are important in the organization of the region's ranching enterprises.

While the valleys at the lower elevations support a growth of the sod-forming short grasses, bunch grasses are native to the lower reaches of the high mountain valleys and surrounding benchlands up to the elevations where the ponderosa pine growth begins. Bunch grasses grow in tufts as contrasted to the sod-forming grasses of the plains country and lower foothills regions. The more important forage species in the region are tufted hair grass, pine grass, Idaho fescue, bluegrasses, needle grasses and sedges. This range is excellent for

cattle and also for sheep, especially where there exists a good growth of the finer textured bunch grasses such as the Idaho fescue. As cattle range, it provides a spring and fall or a spring, summer and fall range; its carrying capacity for cattle when in good condition approximates two to three acres per animal month. The valley and benchlands up to the elevations where the ponderosa pine growth begins by and large constitute the private land holdings of the region.

Above the bunch grass zone, in the 4,000 to 6,000 foot elevation level, lies the ponderosa pine or western yellow pine zone; this zone is typically in national forest holdings. Bunch grasses of the coarser varieties, shrubs and annuals provide the forage, which because of its coarseness is best suited to cattle. The grazing season in this pine-bunch grass zone extends from late May to late

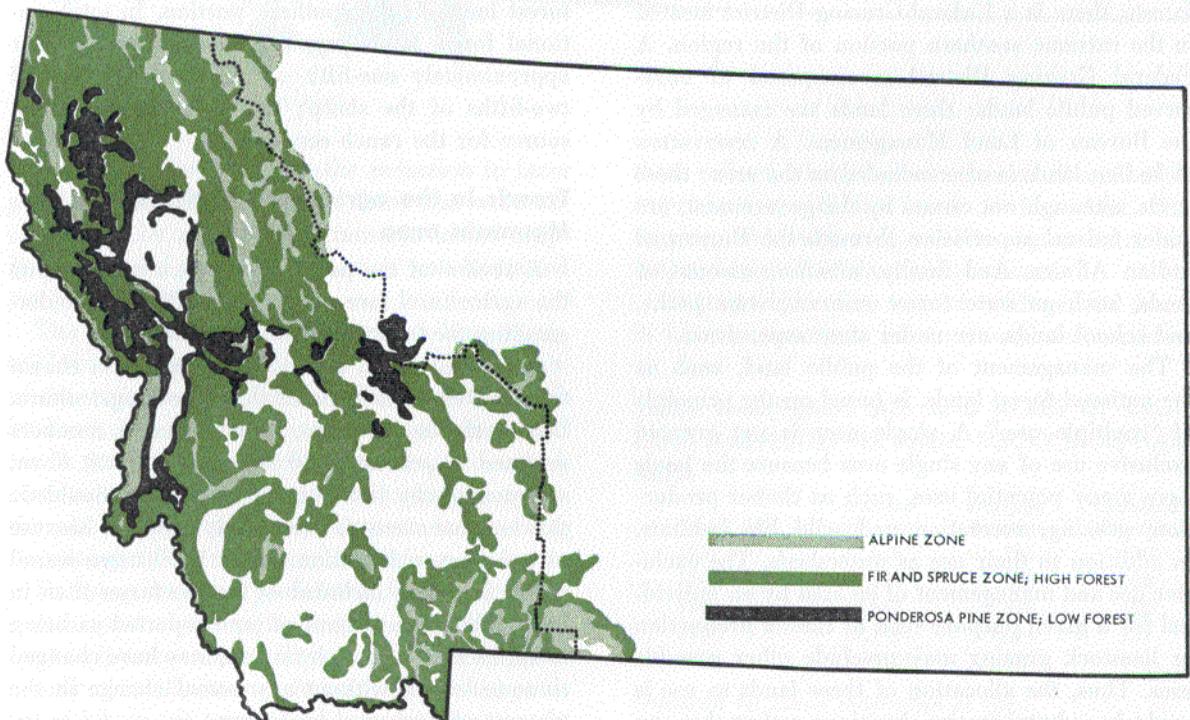
September or early October.

Above the ponderosa pine zone is the fir and spruce zone extending to the 8,000 to 9,000 foot elevation level. Within this zone, which is heavily forested, are found openings among the timber; these are the high mountain meadows which support forage of bunch grasses, shrubs, sedges and weeds. The fir-spruce zone is best suited to sheep but it will provide summer grazing for either sheep or cattle.

Farther up the mountains above the timber is found the alpine country—in this zone the forage includes alpine clovers, fine sedges and bunch grasses, and weeds. The range of the alpine country supports grazing for a very short two- to three-month summer grazing period, and it is best suited to sheep.²

² Saunderson, Mont, *Western Stock Ranching*, pp. 11-13.

Chart 2—Forest types in Rocky Mountain area



Land use

Farmland in the Rocky Mountain area accounts for only 39 percent of the land surface and it is largely oriented toward livestock ranching. Only 17 percent of the farmland is classified as cropland; of this, about one-fifth is pastured and much of it is used for hay production. The remaining 83 percent is classified as follows: 66 percent open pasture, 15 percent woodland, part of which is pastured, and 2 percent in farmsteads, roads and other uses.

The lands of the region from the elevations where timber growth begins and up the mountain slopes are mainly in public ownership. Approximately 17 million acres, or 55 percent, of the land surface of Montana's Rocky Mountain area are federally owned or controlled (see map). National forests encompass the majority of the forested lands in the area; these forest lands provide a substantial additional land base for the livestock ranching industry. In addition to the national forests, there is a Federal Grazing District located in the extreme southern portion of the region. A Federal Grazing District is composed of unreserved public lands; these lands are managed by the Bureau of Land Management. A reservation of Indian lands is also included in the area; these lands, although not owned by the government, are under federal supervision through the Bureau of Indian Affairs. And finally, a minor amount of lands, such as state forest reserves, state parks, and school lands, are under state supervision.

The management of the public land, such as the national forest lands, is based on the principle of "multiple use." A single user is not granted exclusive use of any single area because the lands have many potential uses, such as timber production, grazing, recreation and wild life habitats, in addition to their use as watersheds. The exclusive use and management of an area by an individual for a given purpose such as timber production or livestock grazing may preclude other possible uses. Thus, the allocation of these lands to use is made by administrative decisions rather than on

the basis of competitive pricing. Within the administrative decision the individual user is granted exclusive right to a given practice in an area, but not exclusive right to the area. And the management of the total resource is empowered to limit the extent of a use such as not to jeopardize the other uses. For example, the livestock rancher holding a grazing right can be regulated in the use of that right such that the timber, watershed and recreation uses of the area are maintained.

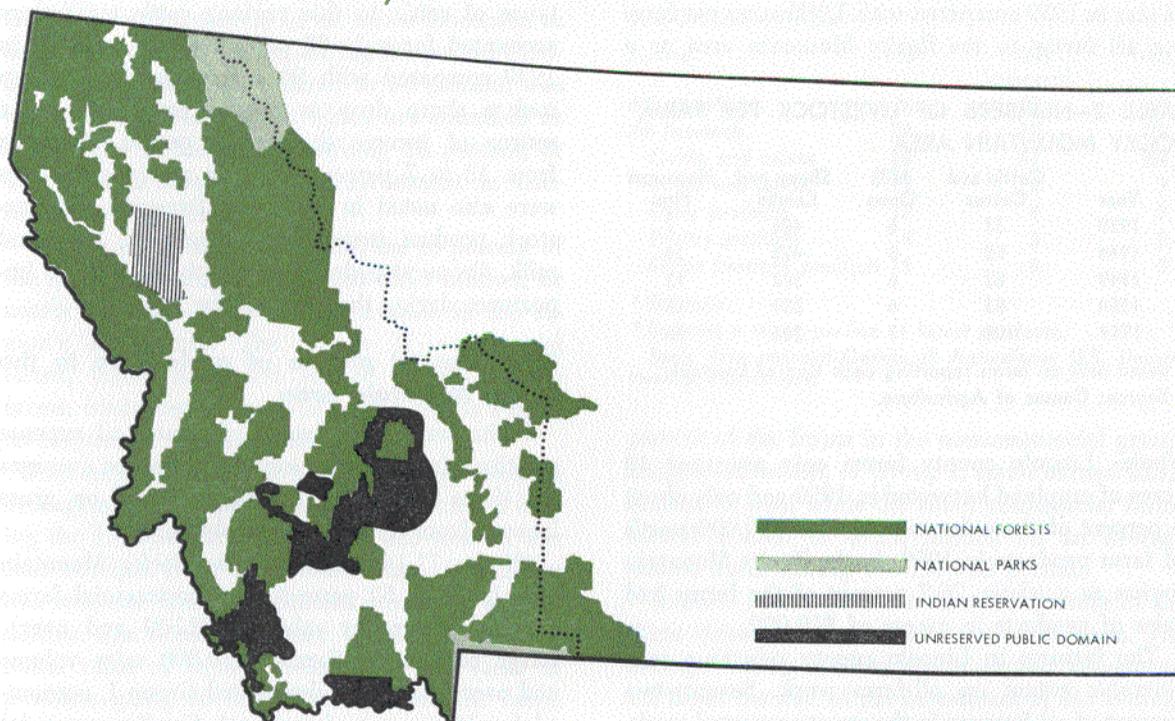
National forest lands, which account for the bulk of the public lands in the region, supported approximately 90,000 head of cattle and horses, and 185,000 head of sheep on a seasonal basis in calendar year 1958. In certain instances, the national forest boundaries do not coincide with the boundaries of the Rocky Mountain area; thus, the number of livestock grazed on the forests was to a minor extent grazed outside of its boundaries. The heavily timbered forests of the northern portion supply less forage for grazing than do the forest lands in the southern portion. In total, national forest lands provided seasonal grazing for approximately one-fifth of the area's cattle and two-fifths of the sheep; this is a significant resource for the ranch economy.

Trends in the agriculture of the Rocky Mountain area

A review of the past trends which have shaped the agricultural face of this area will aid in understanding the future course of the industry.

Farm and ranch size and numbers have shown the same changes as noted throughout agriculture. During the last 20 years, farm and ranch numbers declined 29 percent to 10,510 units in 1959. Farm size during the last two decades nearly doubled; this to some extent is overstated, however, because of a census redefinition. After 1939 more leased public land was included as land in farms than in 1939. Thus, the amount of land reported as being in farms and in turn, farm size, may have changed to some extent without any actual change in the amount of land used by farmers.

Chart 3—Public lands in Rocky Mountain area¹



¹ Various state lands not included.

During the last 20 years the reduction in farm numbers and the increase in farm size were accompanied by a 58 percent increase in the cropland harvested per farm; 140 acres were harvested per farm in 1959.

The number of cattle and calves per farm nearly tripled in the last two decades. This is a reflection of the expansion in the size of the average farm business. In contrast, the number of sheep and lambs per farm dropped by two-fifths. This represents to some extent a decline in large sheep operations in the area, and equally important, it reflects the growth in the number of small farm flocks.

Dairying and hog production form a less important part of the region's agriculture, but there exist in the area some valleys which are composed mainly of small, cut-over farms where dairy, poultry and hogs are important sources of income. In

these valleys, where the farms are small and rather unproductive, off-farm work is important. The logging and lumbering of the region form the major basis of off-farm employment.

Characteristic of an area of small general farms is Lincoln county in extreme northwestern Mon-

TABLE 1—AVERAGE SIZE AND ACRES OF CROPLAND HARVESTED PER FARM, ROCKY MOUNTAIN AREA

| Year | Number of farms | Average Acreage | Cropland Harvested |
|------|---------------------|-----------------|--------------------|
| 1939 | 13,615 | 726 | 88 |
| 1944 | 12,540 | 920 | 106 |
| 1949 | 11,642 | 975 | 109 |
| 1954 | 11,144 | 1,074 | 121 |
| 1959 | 10,510 ¹ | 1,385 | 140 |

¹Adjusted for census redefinition of farm.
Source: **Census of Agriculture.**

tana. The farms in this county averaged 507 acres in size in 1959 compared with 1,385 acres per farm for all farms in the Rocky Mountain area as a

TABLE 2—NUMBERS OF LIVESTOCK PER FARM,¹ ROCKY MOUNTAIN AREA

| Year | Cattle and Calves | Milk Cows | Sheep and Lambs | Hogs and Pigs |
|------|-------------------|-----------|-----------------|---------------|
| 1939 | 37 | 6 | 486 | 7 |
| 1944 | 58 | 6 | 473 | 14 |
| 1949 | 63 | 6 | 382 | 13 |
| 1954 | 83 | 6 | 259 | 15 |
| 1959 | 108 | 7 | 286 | 26 |

¹ Based only on farms reporting each kind of livestock.
Source: Census of Agriculture.

whole. Lincoln county farms only averaged 49 acres of cropland harvested in 1959 and only about 5 percent of these farms sold over \$10,000 worth of farm products in 1959. In the Rocky Mountain region as a whole, 26.7 percent of the farms had sales of products in excess of \$10,000.

The farmers in Lincoln county rely to a considerable extent on off-farm work. Seventy-two percent of all farmers in the county reported working off the farm in 1959, while 63 percent of these farmers received off-farm income greater than income from sales of farm products.

The contrast in size between the small general farms of Lincoln county and the large 1,000 to 3,000 cow or larger ranching spreads found in the Big Hole, Madison and Beaverhead valleys in the southern portion indicates the great variety found in the organization of the agriculture in the Rocky Mountain area.

Marketings

Agricultural product marketings from the Rocky Mountain area totaled \$104 million in 1958, 75 percent of which was accounted for by livestock and livestock products. The sales of cattle and calves alone amounted to \$56 million, or 54 percent of the total, while sheep and lambs brought in a little over \$7 million.

The major shifts in the pattern of cash receipts

over the last 20 years indicate the growing importance of cattle to this region; cattle marketings accounted for only 28 percent of the receipts in 1939 compared with 54 percent in 1959. Sheep took a sharp drop in relative importance as a source of income during the period, dropping from 13 to 7 percent of gross receipts. Declines were also noted in the minor livestock and livestock product items, such as poultry, hogs and milk. Crops also dropped slightly in relative importance during the period. (See Table 4.)

The financial picture of agriculture in the Rocky Mountain area

Estimates of the capital, income and expense positions for the area were compiled as averages for three size groups of farms based on gross income from the sales of products.

Of the 11,144 farms in the Rocky Mountain area in 1954, 52 percent were commercial farms (reporting product sales of \$2,500 and over). Large commercial farms (\$10,000 sales volume and over), hereafter designated Group I, accounted for 16 percent of the total. Small commercial farms (those reporting product sales of \$2,500 to \$9,999), hereafter designated Group II, made up 36 percent of the total number of farms. In addition to the commercial farms, the noncommercial farms (those reporting less than \$2,500 product sales) accounted for 48 percent of all farms in the area.

TABLE 3—DISTRIBUTION OF FARMS BY ECONOMIC CLASS, ROCKY MOUNTAIN AREA

| | 1949 | 1954 (percent) | 1959 |
|-----------------------------|-------|-------------------|-------|
| All Farms | 100.0 | 100.0 | 100.0 |
| All Commercial ¹ | 50.9 | 51.8 | 58.0 |
| Large ² | 15.3 | 15.9 | 26.7 |
| Small ³ | 35.6 | 35.9 | 31.3 |
| Noncommercial ⁴ | 49.1 | 48.2 | 42.0 |

¹ Farms with a gross cash income of \$2,500 or more.

² Farms with a gross cash income of \$10,000 or more.

³ Farms with a gross cash income of \$2,500 to \$9,999.

⁴ Farms with a gross cash income of less than \$2,500.

Basic data source: Census of Agriculture.

The total capital investment in land, buildings, livestock and machinery of all farms amounted to an estimated \$510 million during the period 1954-58. Of this total, \$427 million, or 84 percent, was invested in the 52 percent which are classified as commercial farms. The remaining 16 percent, or \$83 million, represented the investment in non-commercial agriculture.

Among the commercial farms, the 16 percent of the farms in Group I controlled \$253 million, or nearly one-half of the capital invested in the region's agriculture. The Group II commercial farms, which accounted for 36 percent of the farms, controlled 34 percent of the region's capital investment in agriculture.

Incomewise, the region's agriculture grossed an average annual dollar volume of \$95 million during the 1954-58 period, of which \$85 million was cash receipts from farm marketings, \$2 million was received from government payments, and \$8 million was noncash income which included the rental value of farm dwellings and the value of products going to family living from the farm. Of the total \$95 million income, Group I farmers received \$55 million, or 58 percent, Group II farmers received \$30 million, or 31 percent, and non-commercial farmers received the balance \$10 million, or 11 percent.

Production expenses cut into the 1954-58 annual average income stream to the extent of \$59 million, of which \$47 million was cash production expenses and \$12 million was accounted for by depreciation expense. Expenses for the Group I farms aggregated \$32 million or 54 percent, of the total; Group II farms spent \$18 million, or 31 percent, of all monies spent for farm production items. The noncommercial farms incurred \$9 million of production expenses, or 15 percent, of the total production expenses.

Net incomes of all farms in the Rocky Mountain area during the period 1954-58 annually averaged \$36.5 million; \$35.3 million accrued to the 52 percent of the farms in the commercial farm group, while \$1.2 million was earned by the 42

TABLE 4—CASH RECEIPTS BY SOURCE, ROCKY MOUNTAIN AREA

| Source | 1939 | 1949 (percent) | 1958 ¹ |
|--------------------------|------|-------------------|-------------------|
| All crops ² | 28 | 25 | 25 |
| All livestock | 72 | 75 | 75 |
| Cattle and calves | 28 | 47 | 54 |
| Sheep and lambs | 13 | 8 | 7 |
| Dairy products | 12 | 9 | 7 |
| Poultry products | 4 | 3 | 2 |
| Other livestock products | 15 | 8 | 5 |

¹ Estimate.

² Includes a minor portion of forest products.

Basic data sources: **Census of Agriculture, U.S. Department of Agriculture.**

percent of the farms in the noncommercial group. Large commercial, or Group I, farms earned \$23.1 million in total while the small commercial farms earned a total of \$12.2 million on an average annual basis during the 1954-58 period.

Table 5 summarizes the financial picture of the three classes of farms on a per farm basis. The average Group I farm had a capital investment 3.2 times the size of the investment of the average Group II farm during this 1954-58 period. However, the annual average net income accruing to the Group I farm was 4.3 times the net income of the Group II farm.

In an attempt to more clearly interpret the relative positions of the Group I and Group II farms, nominal charges were made for the factors not accounted for in the annual production expenses. Specifically, these other factors include the operator's labor and the capital used in the farm operation. The dollar values placed on the annual use of these two factors represent an estimate of the alternative return each of the factors could earn if they were used in some other line. An annual charge of 5 percent was made for the use of capital and an annual charge of \$2,360 was made for the operator's labor contribution (see table 6). The \$2,360 represents a weighted average farm wage rate for the period.

The average Group I farm received an estimated \$3,500 as a residual to management, while the

TABLE 5—CAPITAL INVESTMENT, INCOME, EXPENSE, AND NET INCOMES PER FARM, LARGE, SMALL AND NONCOMMERCIAL FARMS, ROCKY MOUNTAIN AREA, 1954-58

| Average size (acres) | Group I 3,949 | Group II 1,019 | Noncom- mercial 196 |
|---|------------------|------------------------|---------------------------|
| | | (thousands of dollars) | |
| Total capital invested | \$ 142.9 | \$ 43.8 | \$ 15.4 |
| Real estate | 102.9 | 31.5 | 11.5 |
| Livestock | 25.8 | 5.8 | 1.3 |
| Machinery | 14.2 | 6.5 | 2.6 |
| Gross farm income | \$ 31.2 | \$ 7.6 | \$ 1.8 |
| Cash receipts from farm marketings | 29.6 | 6.8 | 1.1 |
| Crops | 8.1 | 1.8 | .2 |
| Livestock and livestock products | 21.2 | 4.9 | .9 |
| Forest products | .3 | .1 | — |
| Government payments | .7 | .1 | — |
| Noncash income | .9 | .7 | .7 |
| Gross production expense | \$ 18.2 | \$ 4.6 | \$ 1.6 |
| Cash production expense | 15.6 | 3.4 | 1.1 |
| Depreciation | 2.6 | 1.2 | .5 |
| Net farm income (return to operator, family labor and capital) | \$ 13.0 | \$ 3.0 | \$.2 |

average Group II farm incurred a loss of \$1,600 when charges were made for the use of capital and the operator's labor. Thus, the Group II farms were not earning a sufficient income to cover a 5 percent charge for the use of capital and a modest charge for labor. This indicates the average Group II operator would have been better off, strictly in terms of dollar returns, to have invested the capital at 5 percent and to have his labor employed at a wage rate equal to the hired farm labor rate. However, the nonmonetary rewards obviously in the picture cannot be accounted for and these are very important in the making of an individual's decisions.

The per farm net income of the average non-commercial farm averaged only \$200 per year during the 1954-58 period. These farmers are largely dependent upon off-farm work for the major portion of their income. Nearly two-thirds of the noncommercial farmers in the area received a greater gross income from off-farm work than they did from the sales of farm products. In con-

trast, only 9 percent of the commercial farmers worked off the farm to this extent.

Summary and conclusions

The economy of this mountainous region, diverse as it is, places its largest dependence upon agriculture, and principally upon livestock ranching. The production of cattle, calves, sheep and lambs accounted for \$63 million, or 61 percent of total cash receipts from farming in 1958.

Climatic factors influenced to a great extent by

TABLE 6—PER FARM NET INCOMES, ALTERNATIVE CAPITAL AND LABOR COSTS, AND MANAGEMENT RESIDUALS, GROUP I AND GROUP II FARMS, ROCKY MOUNTAIN AREA, 1954-58

| | Group I (thousands of dollars) | Group II (thousands of dollars) |
|--------------------------------|-----------------------------------|------------------------------------|
| Net farm income (from Table 5) | \$ 13.0 | \$ 3.0 |
| Less capital cost | 7.1 | 2.2 |
| Less operator labor charge | 2.4 | 2.4 |
| Total capital and labor charge | \$ 9.5 | \$ 4.6 |
| Residual to management | \$ 3.5 | —\$ 1.6 |

variations in elevation preclude a crop agriculture in most of this area; the short growing seasons and cool nights of the high mountain valleys limit the use of the valley lands to the production of grass. Throughout this semiarid region, irrigation is an essential element to crop production.

Combining the high proportion of farmland which is turned to hay and pasture uses with the substantial public rangeland base, the reasons for the livestock ranching orientation become obvious.

Ranching in the Rocky Mountain area is founded on a more stable base than its counterpart in the plains, largely because the mountain valley region has a substantial irrigated base for the production of grass. Thus, the "feast and famine" cycle of feed production experienced in ranching in the plains does not so sharply affect ranching operations here.

Factors of climate, however, such as a short grazing season and heavy snow both early and late, extend the winter feeding to five or more months. This injects a substantial cost factor in mountain valley ranching as compared with plains ranching, where feeding is largely a short supplemental period in conjunction with year-long grazing.

Since 1939, the organization of agriculture in the region has shifted to fewer and larger farm units; farm numbers dropped 29 percent and farm size doubled. Part of the expansion in farm size can be accounted for by an increase in the land base reported as land in farms.

Investment, cost and returns data compiled for commercial farms and noncommercial farms for the period 1954-58 indicate that 52 percent of all farms were classed as commercial farms (sales of product exceeding \$2,500), while 48 percent of the farms were classed as noncommercial farms

(sales of product of less than \$2,500).

The large commercial, Group I, farms had an average annual net farm income of \$13,000 during 1954-58 compared with a \$3,000 average for the Group II, small commercial farms. Deducting charges for the use of capital (5 percent per annum) and the use of the operator's labor (at the hired farm labor wage rate), the Group I farms realized an average residual to management of \$3,500 per farm, while the average Group II unit experienced a \$1,600 deficit.

The favorable incomes of the Group I units in contrast with the low incomes of the small Group II units, combined with the advantage of greater efficiencies in the use of capital and labor on the large units, are the underlying factors behind the continual shift to larger farms.

Although a share of the acreage in the Group II farm units may not accommodate combinations into large units, such as in areas where the farms are made up of noncontiguous cut-over acreages, much of the acreage in Group II units could be consolidated. The acreage held in Group II farms accounts for 25.9 percent of the area's farmland; thus, there remains a substantial acreage which provides a basis for a continuation of the trend toward consolidating farms into fewer but more efficient, higher income units.

The incentives for continuing operations among the noncommercial farmers are obviously not farm income, but possibly the nonmonetary income they derive from country living. The bulk of their income is derived from off-farm sources. And, these noncommercial farms will likely change in character and number with changes in off-farm work opportunities or in other factors which lie outside of agriculture.

—ARVID KNUDTSON

Current conditions . . .

Although fairly general precipitation occurred in early September, rainfall over much of the Ninth district was scarce and spotty during August and offered no relief from the drouth which has persisted since early summer. In addition to the lack of moisture, hot weather contributed to further deterioration in the range and pasture conditions over a good portion of the Dakotas and Montana during August. Livestock feed has been reported short in many areas and stock water supplies are only partially replenished by September rains. With poor prospects for winter feed, it is no surprise that the movement of livestock from the effected areas accelerated as the season developed. In contrast to generally poor crops in the western areas of the district, the corn and soybean crops in the southern half of Minnesota and in southeastern South Dakota are reported excellent in both yield and quality.

Personal income in the Ninth district in July was at a seasonally adjusted annual rate of \$11.2 billion, only \$13 million over the preceding month, but \$308 million, or 2.8 percent, above the July 1960 level. This compares with a 4.2 percent increase in total U. S. personal income. The decrease in the rate of gain in the district personal income in July over its year-earlier level reflected a falling farm income mainly due to poorer 1961 grain crops. Total district non-farm personal income actually increased by 4.1 percent in July from the year-earlier level, but a 6.5 percent decrease in net farm income reduced the gain in total personal income to 2.8 percent.

Total district employment in nonagricultural establishments increased in July by 0.4 percent

from June, with greatest gains registered in construction (up 8.5 percent) and in manufacturing (up 3 percent). In August, however, according to preliminary reports, employment remained substantially unchanged. Moreover, the outlook for new employment was only moderately optimistic. In a report dated August 26, the Minnesota Department of Employment and Security forecast (on the basis of a survey of employers) a rise of only 5,500 jobs between July and November 1961 in the Twin Cities metropolitan area. This is a much smaller increase than in comparative periods of previous business recoveries.

Due to the lagging expansion in employment, the unemployment rate in the district increased again. The number of initial claims during July for insured unemployment increased by 14.6 percent from June and 20.4 percent from July 1960. Insured unemployment was up 76.4 percent from a year earlier, with the heaviest rate continuing in the Lake Superior iron ore mining regions. The persistence of the difficulties facing the district iron ore mining industry was also indicated by a continuing low level of iron ore shipments. For the first seven months of this year total shipments from the district were 43 percent below the same period last year. For July they were still 18 percent below a year ago.

Among the financial developments in the district, most noteworthy was the July decline in member bank loans, the largest decrease in any July since the war. Moreover, the percentage growth in total loans of both city and country banks was smaller during the first seven months of 1961 than in most other years since 1947.