Bulletin No. 300 - A Study of Farm Organization by Type of Farm in Sanpete and Sevier Counties

W. Preston Thomas
George T. Blanch
Edith Hayball

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A Study of Farm Organization by Type of Farm in Sanpete and Sevier Counties

by W. Preston Thomas
George T. Blanch
Edith Hayball

Bulletin 300

AGRICULTURAL EXPERIMENT STATION
UTAH STATE AGRICULTURAL COLLEGE
Logan, Utah

November, 1941
ACKNOWLEDGMENTS

ACKNOWLEDGMENT is made to Paul Huefner for statistical assistance; to County Agents Lew Mar Price and Elmer Gibson for assistance in collecting data and for checking manuscript; to members of the staff of the Department of Agricultural Economics, Utah Agricultural Experiment Station, for assistance and advice on the study; to some 300 farmers in Sanpete and Sevier Counties whose willingness to cooperate made this study possible; and to the Agricultural Adjustment Administration and Division of Farm Management and Costs, United States Department of Agriculture, for cooperating on the preliminary part of this study.
SANPETE and Sevier counties are advantageously located with respect to use of national forest and public domain for grazing. There is a close relationship between irrigated farms and grazing in these and four adjacent counties—Juab, Piute, Millard and Beaver.

As a result of the available grazing and farm-feed resources, livestock production is the major farm enterprise in the area.

Because of being able to make more efficient use of range resources, sheep and lamb-feeding farms were found to be the most profitable type of farming in the area. General irrigated farms where some livestock were kept and cash crops were grown were more profitable than beef-cattle and part-time farms.

Factors closely related to success of the farm business were: type of farming, size of farm business, efficiency in use of capital and labor, and rates of production.

Availability in use of resources, size of the operating unit, and rates of production were favorable to sheep production. Of the total feed used in sheep production, 81 percent came from grazing, or sheep were grazed 9.7 months out of the year.

Farms where lamb feeding was a major enterprise had larger and higher crop yields and larger returns than the general irrigated farms of the area. Farms growing cash crops in addition to feed crops and feeding lambs were more profitable.

The small size of the business on general irrigated farms was the major factor affecting farm income. These farms required but slightly more than one man's time to care for the crops and livestock. The low income from these farms could be increased by enlarging the size of farm business, either through obtaining the use of additional acreage of farm and range land or through more intensification.

The relatively low income on beef-cattle farms was the result of producing beef cattle on irrigated farms under conditions where, because of lack of range resources, cost of production was high. This high cost was the result of a relatively long feeding period, operation of a small sized unit, and inefficiency in production. Income was considerably higher on the group of farms where cash crops were grown.

Part-time farms were less intensively cultivated than the full-time general irrigated farms. To place these farms on a paying basis or obtain sufficient income to support a family, the size of the farm unit, rates of production, and labor efficiency should be increased. The reorganization of farm business is also needed in order to provide more intensification and a better balance between feed, cash crops, and livestock production.
CONTENTS

Introduction ................................................................................................................. 5
Scope and organization ................................................................................................. 5

Part I

General description of area ......................................................................................... 6
  Number of farms by size groups ................................................................................. 7
Transportation .............................................................................................................. 7
Markets ......................................................................................................................... 8
Climatological data ..................................................................................................... 8
  Elevation .................................................................................................................. 8
  Precipitation ........................................................................................................... 8
Growing season ........................................................................................................... 9
Irrigation ....................................................................................................................... 11
Land ownership .......................................................................................................... 13
Major land use .......................................................................................................... 16
Crop acreage and acre yields ..................................................................................... 18
Number of livestock ................................................................................................... 19
Measurement of feed resources for the area ............................................................. 21
  Feed resources in relation to number of animals ....................................................... 21
  Grazing obtained in adjacent counties ...................................................................... 23
The price situation ...................................................................................................... 25
Explanation of terms .................................................................................................. 27

Part II

Farm business analysis ............................................................................................... 28
  Division A—Farm business analysis by counties ....................................................... 29
    Land resources ....................................................................................................... 29
    Capital invested .................................................................................................... 29
    Indebtedness ......................................................................................................... 30
    Number of livestock ............................................................................................... 31
    Land values ............................................................................................................ 31
    Crop acreage ......................................................................................................... 32
    Crop yields ............................................................................................................. 33
    Cash income ......................................................................................................... 33
    Total farm receipts ............................................................................................... 34
    Farm expenses ....................................................................................................... 35
      Current cash expenses ......................................................................................... 35
      Total expenses ..................................................................................................... 35
      Measures of farm success .................................................................................... 37
  Division B—Analysis by types of farming ................................................................. 37
    Comparison of five major types ............................................................................. 37
      Land resources ..................................................................................................... 38
      Number of livestock ............................................................................................. 38
      Number of animal units ....................................................................................... 39
      Capital investment ............................................................................................... 40
      Farm indebtedness .............................................................................................. 40
      Crop acreage ....................................................................................................... 41
      Crop yields .......................................................................................................... 42
      Feed received from grazing ............................................................................... 43
      Feed fed to livestock ......................................................................................... 43
CONTENTS—Part II
(Continued)

Farm receipts ........................................ 45
Cash farm receipts .................................. 45
Livestock sales ....................................... 46
Total receipts ........................................ 47
Farm expenses ........................................ 48
Measures of farm success ............................ 49
Financial returns .................................... 49
Variation of labor income by farm type .......... 50
Farm privileges and labor earnings ............. 50
Family income ........................................ 51
Factors affecting financial success of the farm business ........................................... 51
Types of farming ..................................... 51
Analysis of factors affecting success of each farm type ............................................. 52
General irrigated farms ............................... 52
Variation of labor income ........................... 52
Size of farm .......................................... 53
Rates of production .................................. 55
Comparison of most profitable and least profitable farms .......................................... 55
Summary of factors affecting general irrigated farms .................................................. 56
Beef-cattle farms ..................................... 56
Variation of labor income ........................... 56
Size of farm unit ...................................... 58
Number of beef cows ................................ 58
Appreciation per beef cattle unit ............... 59
Relation of feed fed beef cattle to income .... 60
Rates of production .................................. 61
Calf crop ............................................... 61
Crop yields ............................................ 62
Major factors affecting farm income on beef cattle farms ......................................... 62
Sheep ranches ......................................... 63
Variation of labor income ........................... 64
Range in labor income ............................... 64
Size of unit .......................................... 64
Rates of production .................................. 65
Pounds of wool per head ............................ 65
Percentage lamb crop ................................ 66
Amount of grazing and hand feeding on sheep ranches ............................................. 66
Major factors affecting farm income on sheep ranches ............................................. 67
Lamb feeding farms ................................... 68
Major factors affecting lamb feeding farms .................................................. 68
Part-time farms ....................................... 69
Major factors affecting part-time farms ......... 69
Economic analysis of part-time farms ......... 70
Summary .................................................. 70
A STUDY OF FARM ORGANIZATION BY TYPE OF FARM IN SANPETE AND SEVIER COUNTIES, UTAH

By W. Preston Thomas, George T. Blanch, and Edith Hayball

This study is one of a series being conducted by the Department of Agricultural Economics which are designed to furnish a general description and a detailed analysis of the type of farming in various parts of Utah. The specific purpose of the general state-wide study is to: (1) locate and delineate the major type-of-farming areas of the state; (2) analyze and describe the major and some minor types of farming within each area; and (3) indicate the fundamental reasons for the principal differences which exist within and among these type-of-farming areas.

Upon the completion of the first part of the state-wide study, that of locating and delineating the major type-of-farming areas of the state, a more detailed analysis was begun of each of the nine different type-of-farming areas, of which Sanpete and Sevier Counties were designated as one.

SCOPE AND ORGANIZATION

This study presents a description and use of agricultural resources in Sanpete and Sevier Counties and adjacent grazing areas, and a farm business analysis of 270 farms in these counties for the year 1936. This report is divided into two major parts:

Part I—A description and use of agricultural resources of the area.

Part II—A farm business analysis of 270 farms which is divided as follows:

Division A—Analysis of 187 general irrigated farms classified on a county basis.

Division B—Analysis of the 5 prevailing types of farming practiced in the area.

1. General irrigated farms
2. Beef-cattle ranches
3. Sheep ranches
4. Lamb-feeding enterprises
5. Part-time farms

1 Contribution of Department of Agricultural Economics, Utah Agricultural Experiment Station. Report on Project 149, Purnell.
2 Research professor, research associate professor, and former research assistant, respectively.
3 The first part of this state-wide study, a general description of type of farming in Utah, was published in Utah Station Bulletin no. 275.
PART I

GENERAL DESCRIPTION OF THE AREA

Sanpete and Sevier Counties are near the center of the State of Utah and are advantageously located with respect to use of national forests and public domain for grazing. There is a close relationship between irrigated farming in these counties and grazing in these and the four adjacent counties, Juab, Piute, Millard, and Beaver.

The home ranches of many livestock men operating in this area are located in Sanpete and Sevier Counties. Summer grazing is adjacent to the farm lands in these two counties both on the east and west, while winter grazing lands are principally in counties to the west. The spring-fall grazing areas are located in parts of all six counties.

Land settlement in Utah was based on a definite plan which was developed before the pioneers reached Utah in 1847. This plan was carefully followed in the settlement of each community throughout the state. The general program was: first, settlement by communities, people living in villages with farming land outside and adjacent to the town; secondly, settlement was based on a policy of small farm units of cultivated land; and thirdly, use of public range land in conjunction with cultivated land.

Sanpete and Sevier Counties generally followed the Utah plan in the settlement of their communities, and most of the farm families live in villages. These 2 counties were among the first to be settled in this area. Because of this early settlement, the livestock men were able to obtain grazing rights in adjacent counties in addition to those within the two counties. Use of this grazing land is an important factor in the farm economy of the area.

Sanpete and Sevier Counties have 10 percent of the farms and produce 12 percent of the agricultural income of the state. These counties have large tracts of good soil. However, some of the farming lands are gravelly bench land, while some soils in the bottom of the valleys are poorly drained or high in salt content.

The crops grown on irrigated land are mainly general field crops: alfalfa, grain, sugar beets and potatoes. Crop yields are relatively high, yields in Sevier are higher than in Sanpete County. This is accounted for by a larger percentage of good land and more adequate water supply in Sevier County.

*Nelson Lowry. The Mormon village, a study in social agriculture. Utah Acad. Sci.,
A large number of farmers have permits to graze livestock on national forests and public domain. Because of need for use of grazing lands to supplement the irrigated farms, and urgent demand of local people on federal agencies controlling these lands, grazing privileges have, in the main, been divided among a large number of permittees, allowing on the average only a small number of livestock for each.

**NUMBER OF FARMS BY SIZE GROUPS**

According to the 1935 census there were 1,742 farms in Sanpete and 1,054 farms in Sevier County, or a total of 2,796 farms (table 1). Forty-three percent of the farms were under 50 acres, while about one-fourth were from 100 to 500 acres. There were only 6 percent larger than 500 acres. The acreage included in these farms covered range lands and farm pasture as well as cultivated land.

**TRANSPORTATION**

Transportation facilities to outside markets are provided by a branch railroad line from the Denver and Rio Grande main line. Federal Highway 89, which is a hard-surfaced road, extends through the farming area of both counties. This main highway is kept open throughout the year, providing transportation facilities for moving farm products by truck to outside markets, as well as the chief means of travel for people of the counties.

There is considerable tourist travel through this area because Highway 89 is a through highway to the national parks, located in the southern part of the state, and to the west coast.
MARKETS

The principal agricultural products exported are lambs, wool, beef cattle, dairy products, eggs, sugar, canning peas, and potatoes. Lambs are chiefly sold as feeders to Colorado and corn belt farms for finishing. When fat, they are sold to midwestern and eastern markets. Some lambs are finished in Sevier County when feed is available. Beef cattle likewise are largely sold as feeders. Like lambs, some beef cattle are fattened in areas where there is surplus feed. Most of the feeder cattle are marketed in the Midwest with some going to Pacific coast markets. The cattle that are fattened in the local areas are mainly sold on the Pacific coast or local markets. Dairy products are sold on Salt Lake City and Los Angeles markets, while eggs go mainly to New York City although some are shipped to west coast markets. Turkeys are sold principally on eastern markets.

Sugar beets and canning peas are processed in the counties and are sold in intermountain and middle western markets. Potatoes move to Utah, Los Angeles and Arizona markets. Practically all of the hay and grain grown is fed to livestock; however, a small amount from Sevier County is exported during years when there is a surplus.

CLIMATOLOGICAL DATA

Elevation

The elevation of Manti, in about the center of the Sanpete farming area, is 5,575 feet, while the elevation at Richfield, in the center of the farming section of Sevier County, is 5,350 feet.

Precipitation

Average precipitation in Sanpete County, as shown by the Manti station located in this county, is 12.06 inches as compared to 7.89 inches at the Richfield station in Sevier County (table 2 and fig. 1).

Location with respect to mountain ranges and wind movements causes the difference in the amount of precipitation in the two counties. Storms in the central portion of the state move in a west to east direction and as moisture is carried by winds the major portion is deposited on the western slopes or on top of the mountain ranges.

Richfield is located on the eastern side of the Pahvant Mountain Range, which explains the relatively low rainfall received in this section. Sanpete County is on the western slope of the Wasatch Plateau, hence receives a greater amount of rainfall.
Sevier has a fairly ample water supply; however, the area is somewhat handicapped because of low rainfall during the spring when in some years it becomes necessary to irrigate the land either before or immediately after seeding, in order to germinate the seed.

**Growing Season**

The average growing season for the 2 counties is 124 days. However, what has been determined as a safe growing season, that is, safe for production of crops 4 out of 5 years, averages 95 days for Sanpete County and 98 days for Sevier County. The length of growing season, however, varies with location in each area. It is sufficient to permit maturing of all field crops grown in Utah and most vegetables. However, few fruits or vegetables subject to early frost can be grown to any extent.

There is a wide range in the amount of precipitation in various sections of these and adjacent counties (table 3). Only 2.8 per-

<table>
<thead>
<tr>
<th>Amount of rainfall</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>Juab</th>
<th>Piute</th>
<th>Millard</th>
<th>Beaver</th>
<th>Total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 20 inches</td>
<td>13.9</td>
<td>7.7</td>
<td>10.5</td>
<td>.....</td>
<td>3.9</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>15 to 20 inches</td>
<td>28.1</td>
<td>16.2</td>
<td>21.6</td>
<td>9.2</td>
<td>12.3</td>
<td>4.7</td>
<td>3.4</td>
</tr>
<tr>
<td>10 to 15 inches</td>
<td>58.0</td>
<td>39.5</td>
<td>47.8</td>
<td>37.3</td>
<td>20.9</td>
<td>13.3</td>
<td>31.3</td>
</tr>
<tr>
<td>5 to 10 inches</td>
<td>.....</td>
<td>36.6</td>
<td>20.1</td>
<td>47.6</td>
<td>66.8</td>
<td>82.0</td>
<td>61.4</td>
</tr>
<tr>
<td>Under 5 inches</td>
<td>.....</td>
<td>.....</td>
<td>5.9</td>
<td>.....</td>
<td>.....</td>
<td>.....</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Compiled from U. S. Weather Bureau reports.
Figure 1

PRECIPITATION MAP
OF
SANPETE AND SEVIER COUNTIES
AND ADJACENT GRAZING AREAS

SCALE IN MILES
0 5 10 20

LEGEND
CULTIVATED AREAS
IRRIGATED LAND
DRY FARM LAND

PRECIPITATION AREAS
OVER 20 INCHES
15-20 INCHES
10-15 INCHES
5-10 INCHES
UNDER 5 INCHES

SOURCE MAPS AND DATA OF
U.S. WEATHER BUREAU
PREPARED BY DEPT OF AGRI ECON
UTAH AGRI EXPERIMENT STATION
cent of the area in Sanpete, Sevier, Juab, Piute, Millard and Beaver Counties receives over 20 inches of rainfall, while only 9.3 percent receives between 15 and 20 inches. Fifty-nine percent receives less than 10 inches. However, only 20.1 percent of the land area in Sanpete and Sevier Counties receives less than 10 inches of rainfall as compared to 82 percent in Millard County and 66.8 percent in Piute County. Most of the land in these latter two counties is desert and therefore is used largely for winter grazing of livestock, principally sheep.

IRRIGATION

According to the 1930 census, there were 89,126 acres of land in Sanpete and 65,626 acres in Sevier County under irrigation. Sevier County has a better water supply than Sanpete. This difference in available water for crop production is because the source of the water supply for Sevier County lands is Sevier River which has a large drainage basin and has available reservoirs for storage of water for late use. The Sanpete County water supply for irrigation is limited because the drainage basins for the large number of streams that supply water for crop production are small and, also, the drainage area has a high gradient which permits water to run off quickly following the melting of snow, making storage impracticable.

In general, direct water diversions from the San Pitch River to the canals and ditches are used, but there is also a relatively small amount of water diverted from the Colorado River drainage basin. The amount so diverted is estimated to be from 5,000 to 8,000 acre-feet annually.

Except during the wettest years, practically all of the flood waters of the San Pitch River are diverted for irrigation and the water entering the Sevier River at Gunnison, an average of 21,812 acre-feet per year during the years 1911 to 1917, consists mostly of return flow and peak flood flow. Spring runoff usually begins during the latter part of April and reaches a peak during the first half of May, after which time the streams drop off gradually, reaching a low stage about July 1.

Using snow-cover records, the Bureau of Agricultural Economics estimated that the total annual surface runoff to the San Pitch River amounts to approximately 92,500 acre-feet per

---

5This section on irrigation is largely the contribution of Dr. O. W. Israelsen, research professor of irrigation and drainage, Utah Agricultural Experiment Station.


year. For an irrigated area of 65,626 acres the total annual runoff to the river is therefore 1.4 acre-feet per acre. Water supply for the year 1936, based on snow surveys, was about 50 percent above average for the period 1930-1935.8

There are 9 reservoirs in the area, having a combined storage capacity of 28,052 acre-feet. These reservoirs have the following capacities: Gunnison, 20,000 acre-feet; Gunnison Highland, 3,500 acre-feet; Upper Gooseberry, 2,200 acre-feet; Silver Creek (Wales), 1,200 acre-feet; Funk’s Lake, 607 acre-feet; and five reservoirs of Chester Reservoir Company with a total capacity of 545 acre-feet.

The average amount of water in storage on May 1 for the past 4 years (1937 to 1940, inclusive) has been 17,500 acre-feet in the Gunnison Reservoir. Similar records of May 1 storage for the other small reservoirs in Sanpete County are not available.

Sevier County receives its water from short local streams similar to those feeding the San Pitch River in Sanpete County, together with water from the Sevier River which heads in the high mountains within Zion National Park.

The water from 2 large reservoirs located at the lower end of Piute County is used mainly in Sevier County. The Otter Creek Reservoir has a storage capacity of 52,600 acre-feet and Piute Reservoir nearly 90,000 acre-feet. In addition to these 2 large reservoirs there are 3 smaller ones with a combined capacity of 6,573 acre-feet plus 4 or more other small ones whose capacities are not available. This gives a total available storage of about 149,000 acre-feet to supply Sevier County, or over 5 times the total storage in Sanpete County.

The average storage water available in the 2 large reservoirs on May 1, for the 4-year period, 1937 to 1940 inclusive, was 108,700 acre-feet, which is over 6 times the amount available to Sanpete County from storage in the Gunnison Reservoir, and also is considerably more than the 92,500 acre-feet which the Bureau of Agricultural Economics estimated as the total annual runoff of the Sanpete area. In addition to this water, the Sevier County area has local runoff which should be nearly as much as that for Sanpete County.

Only 32 percent of the irrigated land in Sanpete County has a full water supply as compared to nearly 58 percent in Sevier County. Eighty-five percent of the irrigated land in Sevier County has first or second class water rights, while only 37 percent of the land in Sanpete County has such water rights.

Sevier County has less loss from drought, and acre yields are higher than in Sanpete County.\(^9\)

**LAND OWNERSHIP**

The total land area in the 2 counties comprises 2,286,977 acres. Of the total, 801,042 acres, or 35 percent, are patented lands and 1,485,935 acres, or 65 percent, are federal lands (table 4 and figs. 2 and 3).

<table>
<thead>
<tr>
<th>Class</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>Total Sevier-Sanpete</th>
<th>Piute, Juab, Millard &amp; Beaver</th>
<th>Total area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patented lands:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm and range lands</td>
<td>471,610</td>
<td>258,317</td>
<td>729,927</td>
<td>1,382,093</td>
<td>2,112,020</td>
</tr>
<tr>
<td>Mineral lands</td>
<td>1,600</td>
<td></td>
<td>1,600</td>
<td>10,770</td>
<td>12,370</td>
</tr>
<tr>
<td>State owned</td>
<td>22,760</td>
<td>46,755</td>
<td>69,515</td>
<td>433,002</td>
<td>502,517</td>
</tr>
<tr>
<td>Total patented lands</td>
<td>495,970</td>
<td>305,072</td>
<td>801,042</td>
<td>1,825,865</td>
<td>2,626,907</td>
</tr>
<tr>
<td>Federal lands:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National forests</td>
<td>384,748</td>
<td>701,226</td>
<td>1,085,974</td>
<td>718,780</td>
<td>1,804,754</td>
</tr>
<tr>
<td>Misc. gov't lands*</td>
<td>30,670</td>
<td>33,804</td>
<td>64,474</td>
<td>481,286</td>
<td>545,760</td>
</tr>
<tr>
<td>Public domain</td>
<td>120,341</td>
<td>215,146</td>
<td>335,487</td>
<td>5,530,069</td>
<td>5,865,556</td>
</tr>
<tr>
<td>Total federal lands</td>
<td>535,759</td>
<td>950,176</td>
<td>1,485,935</td>
<td>6,730,135</td>
<td>8,216,070</td>
</tr>
<tr>
<td>Total†</td>
<td>1,031,729</td>
<td>1,255,248</td>
<td>2,286,977</td>
<td>8,556,000</td>
<td>10,842,977</td>
</tr>
</tbody>
</table>

*National parks, national monuments, stock driveways, Indian reservations, bird refuges, military reservations, etc.
†Sum of total surveyed area and estimated area of unsurveyed land included within county boundaries on detailed land ownership maps. Based on special compilation of data from original records of Federal Land Office, State Land Board, and U. S. Forest Service.

Sanpete County has approximately 500,000 acres of patented land, or 48 percent of the total land area, compared with 300,000, or 24 percent of the total, in Sevier County. Sanpete County has approximately 536,000 acres of federal land, or 52 percent, as compared to 950,000 acres, or 76 percent, in Sevier County.

Of the 1,485,935 acres of federal land in these 2 counties, more than a million acres are included in national forest, while only 335,487 acres are classed as public domain.

The total land area for the 6 counties making up the grazing area of this section is 10,842,977 acres, 24 percent of which is patented lands and 76 percent federal lands. More than three-

\(^9\)Clawson, loc. cit.
SANPETE COUNTY

LANDS CLASSIFIED BY TYPE OF OWNERSHIP AND ENTRY

SCALE IN MILES

LEGEND

- PRIVATE LAND
- STATE LAND
- VALID, INCOMPLETE HOMESTEAD AND OTHER ENTRIES
- STOCK DRIVEWAYS
- NATIONAL FORESTS
- PUBLIC DOMAIN
- PATENTED MINERAL LAND

PREPARED BY DEPT. OF AGRICULTURAL ECONOMICS, UTAH EXPERIMENT STATION, 1935

Figure 2
fourths of the land, other than Sanpete and Sevier Counties, is federal land.

The national forest lands which comprise the major acreage of federal owned lands in Sevier County are located both east and west of the cultivated area. The forest lands in Sanpete County are principally east of the cultivated lands which lie between the lower meadow lands adjoining the San Pitch River and the low foothills of the Wasatch Mountains.

The public domain in these 2 counties is scattered throughout the area. Federal lands in the adjacent grazing area are located principally in the western part of the 4 counties and are made up mainly of public domain. The federal owned lands provide year-long grazing for livestock most of which are owned in this area. The number of livestock grazing on these lands and the relation of grazing to the economy of the area are discussed later in this report.

MAJOR LAND USE

For the purpose of analysis, the land was classified as crop-land and grazing land. The grazing land was classified as summer, winter, spring-fall, or year-long range land.

In Sanpete and Sevier Counties most of the cultivated land is irrigated—only a small amount of dry-land crops is produced (table 5 and fig. 4). In Sanpete County 97,000 acres, or 9.4 percent, of the area is classified as cropland, 39.0 percent as

Table 5. Major uses of agricultural land: acreage in various classes*

<table>
<thead>
<tr>
<th>Use of land</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>Total Sanpete &amp; Sevier</th>
<th>Piute, Juab, Millard &amp; Beaver</th>
<th>Total area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
</tr>
<tr>
<td>Total cropped land†</td>
<td>97</td>
<td>53</td>
<td>150</td>
<td>204</td>
<td>354</td>
</tr>
<tr>
<td>Range land:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>403</td>
<td>751</td>
<td>1,154</td>
<td>712</td>
<td>1,866</td>
</tr>
<tr>
<td>Winter</td>
<td>-------</td>
<td>14</td>
<td>14</td>
<td>5,604</td>
<td>5,618</td>
</tr>
<tr>
<td>Year-long</td>
<td>-------</td>
<td>------</td>
<td></td>
<td>473</td>
<td>473</td>
</tr>
<tr>
<td>Spring-fall</td>
<td>534</td>
<td>448</td>
<td>982</td>
<td>1,573</td>
<td>2,555</td>
</tr>
<tr>
<td>Total range land</td>
<td>937</td>
<td>1,213</td>
<td>2,150</td>
<td>8,362</td>
<td>10,512</td>
</tr>
<tr>
<td>Total land</td>
<td>1,034</td>
<td>1,266</td>
<td>2,300</td>
<td>8,566</td>
<td>10,866</td>
</tr>
</tbody>
</table>

†Acres of total cropped land and acres of land under irrigation reported in the Census of Agriculture for 1929 differ slightly. This variation resulted from the fact that data on cropped land were obtained from farm survey schedules and data on irrigated land from reports of irrigation companies.
Figure 4

MAJOR LAND USE MAP
OF
SANPETE AND SEVIER COUNTIES
AND ADJACENT GRAZING AREAS

LEGEND
- IRRIGATED LAND
- DRY FARM LAND
- SUMMER RANGE
- WINTER RANGE
- SPRING-FALL RANGE
- YEAR-LONG RANGE MOSTLY CATTLE
- UNUSED LAND

PREPARED BY DEPT. OF AGR. ECON.
UTAH AGR. EXPERIMENT STATION
summer range and 51.6 percent as spring-fall range. In Sevier County, 53,000 acres, or only 4.2 percent, of the total area is cropped, with 59.3 percent as summer range, 35.4 percent as spring-fall and 1.1 percent as winter range. In the 2 counties only 6.5 percent is cropped land while 93.5 percent is range land, mostly summer and spring-fall, with practically no winter range in this area. In order to balance out the year-round grazing program most of the sheep from these counties are grazed during the winter months on winter ranges of adjacent counties to the west. In this adjacent grazing area of Piute, Juab, Millard and Beaver Counties, more than 65 percent of the land is winter range.

Of the total area in Sanpete, Sevier, Piute, Juab, Millard, and Beaver Counties, 3.3 percent of the land is cropped, 17.2 percent summer range, 51.7 percent winter range, and 23.5 percent spring-fall range. Although there is year-round grazing, there is a shortage of grazing during the spring and fall seasons.

The major summer grazing areas are in the national forest. Permits are issued to graze livestock on this land during the grazing season. The average number of livestock per ranch permitted to graze on forest lands in this area is small compared to permits granted on the national forests as a whole.

The public domain is largely winter range with some spring-fall range. These ranges have been divided into various grazing units, and grazing licenses have been issued by the Grazing Service to livestock men of the area based on past use of these lands and farm commensurability. As a result of general use prior to federal control in 1934, some of the public domain lands have been overgrazed.

CROP ACREAGE AND ACRE YIELDS

In 1929, Sanpete County had 96,994 acres of cultivated land (table 6). Of the total acres planted in 1929, 22.6 percent was in grain and 57.5 percent in hay, principally alfalfa, or a total of 80.1 percent of cropped land planted to hay and grain. For the same year in Sevier County, 20.7 percent of the 52,862 acres of cropped land was planted to grain, and 66.2 percent to hay crops, or a total of 86.9 percent of the total cultivated area planted to hay and grain.

Crop yields in Sevier County in 1929 were higher for most crops than in Sanpete County.

Table 6. Crop acreage and acre yields, 1929

<table>
<thead>
<tr>
<th>Crop</th>
<th>Sanpete County</th>
<th>Sevier County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres*</td>
<td>Acre*</td>
</tr>
<tr>
<td></td>
<td>number: percent</td>
<td>yield</td>
</tr>
<tr>
<td>Grain crops:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat—threshed</td>
<td>12,492</td>
<td>12.9</td>
</tr>
<tr>
<td>Oats—threshed</td>
<td>5,751</td>
<td>5.9</td>
</tr>
<tr>
<td>Barley—threshed</td>
<td>2,797</td>
<td>2.9</td>
</tr>
<tr>
<td>Rye—threshed</td>
<td>418</td>
<td>0.4</td>
</tr>
<tr>
<td>Corn—threshed</td>
<td>52</td>
<td>0.1</td>
</tr>
<tr>
<td>Corn for silage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed grains</td>
<td>433</td>
<td>0.4</td>
</tr>
<tr>
<td>Hay crops:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfalfa</td>
<td>47,401</td>
<td>48.9</td>
</tr>
<tr>
<td>Other hay</td>
<td>8,385</td>
<td>8.6</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>1,630</td>
<td>1.7</td>
</tr>
<tr>
<td>Potatoes</td>
<td>297</td>
<td>0.3</td>
</tr>
<tr>
<td>Alfalfa seed</td>
<td>988</td>
<td>1.0</td>
</tr>
<tr>
<td>Vegetables harvested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for sale</td>
<td>1,393</td>
<td>1.4</td>
</tr>
<tr>
<td>Fruit</td>
<td>248</td>
<td>0.3</td>
</tr>
<tr>
<td>All other cropland</td>
<td>14,709</td>
<td>15.2</td>
</tr>
<tr>
<td>Total cropland</td>
<td>96,994</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*1929 Census report. Data on crop production in 1929 was considered more nearly normal than 1934 because drought conditions in 1934 reduced both crop acreage and yields.

In both counties, the acreage planted to more intensive crops, such as sugar beets, potatoes, vegetables and fruit, was small, representing in Sanpete County only 3.7 percent of the total and in Sevier County only 5.8 percent.

NUMBER OF LIVESTOCK

In 1935 there were 94,258 animal units owned in the 2 counties. Of these, 60,841 or approximately two-thirds were owned in Sanpete County with 33,417 in Sevier. In Sanpete County nearly two-thirds of the livestock animal units were sheep and about one-third cattle, while in Sevier County they were about equally divided between cattle and sheep (table 7).

In Sanpete County there were only about 5,000 dairy cows and in Sevier about 4,000. Most of the cattle owned in the 2 counties were beef cattle. Hogs were of minor importance. The production of eggs was an important enterprise on some farms in both counties. Large numbers of turkeys have been raised during recent years, especially in Sanpete County, the estimated number in this county in 1939 being 300,000.
Table 7. Numbers of livestock on farms, 1935

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>Sanpete County</th>
<th>Sevier County</th>
<th>Sanpete &amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of live-</td>
<td>Number of live-</td>
<td>Number of live-</td>
</tr>
<tr>
<td></td>
<td>stock units</td>
<td>stock units</td>
<td>stock units</td>
</tr>
<tr>
<td>All cattle, Jan. 1, 1935*</td>
<td>18,097</td>
<td>15,021</td>
<td>17,077</td>
</tr>
<tr>
<td>All cows milked in 1934</td>
<td>5,391</td>
<td>3,981</td>
<td>9,372</td>
</tr>
<tr>
<td>Sheep and lambs all ages, Jan. 1, 1935</td>
<td>197,723</td>
<td>39,545</td>
<td>75,014</td>
</tr>
<tr>
<td>Swine of all ages, Jan. 1, 1935</td>
<td>2,822</td>
<td>470</td>
<td>2,490</td>
</tr>
<tr>
<td>Chickens over 3 months old, Jan. 1, 1935</td>
<td>102,396</td>
<td>1,024</td>
<td>61,489</td>
</tr>
<tr>
<td>Total animal units</td>
<td>60,841</td>
<td>33,417</td>
<td>94,258</td>
</tr>
</tbody>
</table>

*Including all cows milked.

Table 8. Feed resources from grazing, 1937

<table>
<thead>
<tr>
<th>Item</th>
<th>Animal unit months*</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete</td>
<td>Sevier</td>
</tr>
<tr>
<td></td>
<td>months</td>
<td>months</td>
</tr>
<tr>
<td>Range land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National forest**</td>
<td>96,192</td>
<td>80,604</td>
</tr>
<tr>
<td>Public domain†</td>
<td>32,580</td>
<td>31,044</td>
</tr>
<tr>
<td>Private range‡</td>
<td>95,328</td>
<td>63,708</td>
</tr>
<tr>
<td>Total range land</td>
<td>224,100</td>
<td>175,356</td>
</tr>
<tr>
<td>Farm pastures &amp; fields§</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm pastures</td>
<td>9,504</td>
<td>8,904</td>
</tr>
<tr>
<td>Farm field pastures</td>
<td>22,740</td>
<td>15,768</td>
</tr>
<tr>
<td>Total farm pastures and fields</td>
<td>32,244</td>
<td>24,672</td>
</tr>
<tr>
<td>Total animal unit months of grazing</td>
<td>256,344</td>
<td>200,028</td>
</tr>
</tbody>
</table>

*Grazing of one animal unit for one month.
**Based on surface acres needed per animal unit month on the Fishlake and Manti Forests. U. S. Forest Service, Region 4, Ogden, Utah. Rept. 1937.
†Based on grazing permits issued to livestock men by U. S. Grazing Service, 1937.
‡Based on range survey of 71,239 acres of privately owned range land in Sanpete County with year-long carrying capacity of 49.3 acres for grazing one animal unit for one year; in Sevier County of 29,189 acres with a year-long carrying capacity of 46.4. These surveys were made in 1937 by U. S. Agricultural Adjustment Administration to determine the basis for payment under the Agricultural Conservation Act.
MEASUREMENT OF FEED RESOURCES

Complete detailed data on feed resources were not available. It is not intended, therefore, that this analysis will give a detailed report on feed resources and use. The data presented are based on reported production of feed on cultivated lands and use by livestock of range land.

As shown by surveys made in 1935, and by the number of permits issued to livestock men in 1937 on public lands, there were 456,372 animal unit months of grazing on range land, farm pastures, and fields in the 2 counties (table 8). Of the total grazing resources, 87.5 percent came from range lands and 12.5 percent from farm pastures and fields. Farm pastures were of minor importance, only 4.0 percent of the total grazing coming from this source.

Of the 456,372 animal-unit months of grazing, 38.7 percent was from national forest lands, 34.9 percent from private range lands, and only 13.9 percent from public domain. In terms of percentage of the total, there was less grazing from national forest lands in Sanpete County than in Sevier County, but a higher percentage came from privately owned lands.

Feed Resources in Relation to Number of Animals

In order to present a general picture of the feed resources of the grazing area in relation to numbers of livestock, feed resources from range and cut forage were calculated on the basis of number of animal units of livestock that could be supported from range, pasture and cut forage. To the total animal-unit months of grazing was added the number of animal units that could be supported from cut forage.

Table 9. Numbers of cattle, sheep and horses owned, 1935

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>Sanpete County</th>
<th>Sevier County</th>
<th>Sanpete and Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of live-stock</td>
<td>Animal units</td>
<td>Number of live-stock</td>
</tr>
<tr>
<td>All cattle, Jan. 1, 1935*</td>
<td>18,097</td>
<td>15,021</td>
<td>17,077</td>
</tr>
<tr>
<td>All cows milked in 1934</td>
<td>5,391</td>
<td>3,981</td>
<td></td>
</tr>
<tr>
<td>Sheep &amp; lambs of all ages, Jan. 1, 1935</td>
<td>197,723</td>
<td>39,545</td>
<td>75,014</td>
</tr>
<tr>
<td>Horses, mules &amp; colts of all ages, Jan. 1, 1935</td>
<td>5,121</td>
<td>4,781</td>
<td>3,426</td>
</tr>
<tr>
<td>Total animal units</td>
<td>59,347</td>
<td>32,400</td>
<td></td>
</tr>
</tbody>
</table>

*Including all cows milked.
Compiled from U. S. Census report, 1935.
Table 10. Feed resources from grazing and cut forage

<table>
<thead>
<tr>
<th>Feed resources</th>
<th>Animal-unit months</th>
<th>Sanpete</th>
<th>Sanpete</th>
<th>Sanpete</th>
<th>Sanpete</th>
<th>Sanpete &amp; Sevier</th>
<th>Sanpete &amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>Total grazing*</td>
<td></td>
<td>256,344</td>
<td>200,028</td>
<td>456,372</td>
<td>45</td>
<td>42</td>
<td>44</td>
</tr>
<tr>
<td>Cut forage**</td>
<td></td>
<td>311,268</td>
<td>270,720</td>
<td>581,988</td>
<td>55</td>
<td>58</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>567,612</td>
<td>470,748</td>
<td>1,038,360</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*From table 8.

**Number of animal units supported from cut forage was obtained by dividing the total tons of cut forage produced in the 2 counties by 4.25 tons of hay required to support an animal unit for 1 year, or 0.354 for 1 month.

could be supported from cut forage on the basis of 4.25 tons required to feed one animal unit for a year.

According to the 1935 Census report of livestock numbers there were 91,747 animal units of cattle, sheep, and horses in the 2 counties (table 9). Of the total, 59 percent were sheep, 32 percent cattle, and 9 percent horses and mules. Sixty-five percent of the total animal units were reported from Sanpete County and 67 percent of these were sheep.

Of the 1,038,360 animal-unit months of feed from forage in both counties, 56 percent was supplied from cut forage and 44 percent from grazing (table 10). In other words, feed resources provided about 1,038,360 animal-unit months of feed.

Balancing the feed resources against the number of animal units for each county shows that Sanpete County required 144,552 more animal unit months of feed than were available (table 11). On the other hand, Sevier County had available 81,948 animal unit months of feed more than were required. For the 2 counties, there was a deficiency of 62,604 animal unit months of feed resources. This difference was made up by grazing obtained from outside the 2 counties. The yearly fluctuation in feed production, and in livestock numbers, may offset this small difference.

Table 11. Relation of feed resources and number of cattle, sheep and horses

<table>
<thead>
<tr>
<th>Item</th>
<th>Sanpete County</th>
<th>Sevier County</th>
<th>Sanpete &amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed resources in terms of animal units months*</td>
<td>567,612</td>
<td>470,748</td>
<td>1,038,360</td>
</tr>
<tr>
<td>Number of animal-unit months required**</td>
<td>712,164</td>
<td>388,800</td>
<td>1,100,964</td>
</tr>
<tr>
<td>Difference</td>
<td>-144,552</td>
<td>81,948</td>
<td>-62,604</td>
</tr>
</tbody>
</table>

*From table 10.

**Calculated from table 9.
Grazing Obtained in Adjacent Counties

Many of the livestock owned in Sanpete and Sevier Counties are grazed on federally owned lands in adjacent counties. In order to determine the extent of such grazing, data on the animal-unit months of grazing permitted to livestock men in these counties on the national forest and public domain in that grazing area, were obtained from Region 4 of United States Forest Service, and from the Grazing Service in Salt Lake City, Utah (fig. 5).

According to this data, livestock men of the 2 counties have licenses to graze 420,328 animal-unit months on public domain in the area (table 12). The Forest Service has issued to livestock men of these 2 counties permits for 210,091 animal-unit months of grazing on national forest in that area (table 13). The total grazing permits issued are for 630,419 animal-unit months of grazing (table 14).

There are 176,796 animal-unit months of grazing on national forests in Sanpete and Sevier Counties alone (table 14). Livestock men of these counties have permits to graze 210,091 animal-unit months on national forest, or 33,295 more than are available

Table 12. Animal-unit months granted to livestock men living in Sanpete and Sevier Counties on public domain in Juab, Piute, Beaver, Millard, Sanpete and Sevier Counties

<table>
<thead>
<tr>
<th>Public domain grazing district</th>
<th>Cattle</th>
<th>Horses and sheep &amp; goats</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a.u.mo.</td>
<td>a.u.mo.</td>
<td>a.u.mo.</td>
</tr>
<tr>
<td>District No. 2</td>
<td>282</td>
<td>58</td>
<td>27,309</td>
</tr>
<tr>
<td>District No. 3</td>
<td>19,416</td>
<td>213</td>
<td>310,327</td>
</tr>
<tr>
<td>District No. 5</td>
<td>4,779</td>
<td>501</td>
<td>24,222</td>
</tr>
<tr>
<td>District No. 7</td>
<td>3,500</td>
<td>340</td>
<td>29,381</td>
</tr>
<tr>
<td>Total all districts</td>
<td>27,977</td>
<td>1,112</td>
<td>391,239</td>
</tr>
</tbody>
</table>

Compiled from data on permits granted to livestock men to graze on public domain by the U. S. Grazing Service, 1937-38.

Table 13. National forest grazing permits granted to operators living in Sanpete and Sevier Counties, 1936

<table>
<thead>
<tr>
<th>National forest</th>
<th>Cattle</th>
<th>Horses</th>
<th>Sheep &amp; goats</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animal-</td>
<td>Animal-</td>
<td>Animal-</td>
<td>Animal-</td>
</tr>
<tr>
<td></td>
<td>unit months</td>
<td>unit months</td>
<td>unit months</td>
<td>unit months</td>
</tr>
<tr>
<td>Fishlake</td>
<td>45,220</td>
<td>37,533</td>
<td>740</td>
<td>740</td>
</tr>
<tr>
<td>Manti</td>
<td>31,533</td>
<td>26,173</td>
<td>1,128</td>
<td>1,128</td>
</tr>
<tr>
<td>Uinta</td>
<td>4,338</td>
<td>3,600</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>81,091</td>
<td>67,306</td>
<td>1,873</td>
<td>1,873</td>
</tr>
</tbody>
</table>

Compiled from data from U. S. Forest Service, Region 4, 1938.
Figure 5
Table 14. Balance between grazing available in Sanpete and Sevier Counties and total permits granted to livestock men in these counties, on federal lands in the six counties of the area

<table>
<thead>
<tr>
<th>Item</th>
<th>Animal-unit months of grazing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National forest</td>
</tr>
<tr>
<td>Total permits granted</td>
<td>210,091*</td>
</tr>
<tr>
<td>Total grazing on federal lands in Sanpete and Sevier Counties</td>
<td>176,796</td>
</tr>
<tr>
<td>Net difference</td>
<td>33,295</td>
</tr>
</tbody>
</table>

*From table 13.  
**From table 12.

in the counties. Some livestock owned in this area are grazed on the forest in other counties. Of the 420,328 animal-unit months permitted for grazing on public domain, 356,704 were in adjacent counties. The net differences between grazing available in Sanpete and Sevier Counties on public lands, and permits granted to livestock men of these counties was 389,999 animal-unit months. This amount of grazing is a net gain to these livestock men.

Of the total net grazing obtained from adjacent counties, 91.5 percent was from public domain. This extra grazing provided some surplus cut forage in Sanpete and Sevier Counties for intensive feeding and for sale to livestock men in other areas. This surplus feed is principally in Sevier County and is used chiefly to fatten lambs.

This net difference, or favorable balance of feed resources is a decided advantage to the prosperity of the area. The farmers directly benefiting by the use of these outside resources, are the livestock men. Indirectly, business men and operators of non-livestock farms also benefit.

The purpose of the foregoing general description of the resources is to evaluate more fully the results presented in the study of farm organization by types of farming in the area.

**THE PRICE SITUATION**

A part of the economic problem of Sanpete and Sevier Counties is the result of the unfavorable price situation which began in 1930. However, considerable improvement in prices received for agricultural products has taken place since the low point in 1933. Livestock prices have improved more than prices paid for crops. Prices paid farmers in Utah for major agricultural
commodities produced in Sanpete and Sevier Counties, together with index numbers of these prices and their purchasing power, are shown in tables 15 and 16.

Table 15. *Prices paid farmers in Utah for major agricultural commodities produced in Sanpete and Sevier Counties*

<table>
<thead>
<tr>
<th>Year</th>
<th>Lambs</th>
<th>Wool</th>
<th>Beef</th>
<th>Butter-fat</th>
<th>Sugar</th>
<th>All hay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dollars per 100 pounds</td>
<td>cents per pound</td>
<td>dollars per 100 pounds</td>
<td>cents per pound</td>
<td>dollars per ton</td>
<td>dollars per ton</td>
</tr>
<tr>
<td>Average</td>
<td>6.17</td>
<td>15.1</td>
<td>5.29</td>
<td>28.95</td>
<td>4.79</td>
<td>8.97</td>
</tr>
<tr>
<td>1915-20</td>
<td>11.02</td>
<td>38.4</td>
<td>7.77</td>
<td>40.4</td>
<td>8.45</td>
<td>15.64</td>
</tr>
<tr>
<td>1921-29</td>
<td>10.55</td>
<td>33.8</td>
<td>6.37</td>
<td>41.4</td>
<td>6.97</td>
<td>9.66</td>
</tr>
<tr>
<td>1930</td>
<td>7.77</td>
<td>20.5</td>
<td>7.19</td>
<td>35.6</td>
<td>7.00</td>
<td>8.89</td>
</tr>
<tr>
<td>1931</td>
<td>5.58</td>
<td>14.1</td>
<td>5.00</td>
<td>26.4</td>
<td>6.00</td>
<td>9.73</td>
</tr>
<tr>
<td>1932</td>
<td>4.19</td>
<td>8.5</td>
<td>3.84</td>
<td>19.1</td>
<td>4.77</td>
<td>8.88</td>
</tr>
<tr>
<td>1933</td>
<td>4.72</td>
<td>16.0</td>
<td>3.32</td>
<td>18.0</td>
<td>4.80</td>
<td>5.63</td>
</tr>
<tr>
<td>1934</td>
<td>5.52</td>
<td>19.6</td>
<td>3.41</td>
<td>22.0</td>
<td>4.40</td>
<td>9.37</td>
</tr>
<tr>
<td>1935</td>
<td>6.52</td>
<td>17.2</td>
<td>5.65</td>
<td>29.8</td>
<td>5.08</td>
<td>9.90</td>
</tr>
<tr>
<td>1936</td>
<td>7.67</td>
<td>25.1</td>
<td>5.57</td>
<td>34.4</td>
<td>5.90</td>
<td>6.97</td>
</tr>
<tr>
<td>1937</td>
<td>8.20</td>
<td>29.1</td>
<td>6.30</td>
<td>35.7</td>
<td>6.50</td>
<td>8.17</td>
</tr>
<tr>
<td>1938</td>
<td>6.57</td>
<td>17.9</td>
<td>5.70</td>
<td>28.2</td>
<td>6.18</td>
<td>7.42</td>
</tr>
<tr>
<td>1939</td>
<td>7.23</td>
<td>20.7</td>
<td>6.48</td>
<td>27.3</td>
<td>6.06</td>
<td>8.27</td>
</tr>
</tbody>
</table>


Table 16. *Index numbers of prices paid farmers in Utah for the major agricultural commodities produced in Sanpete and Sevier Counties, and United States retail prices of goods farmers buy, 1910 to 1939 (1910-14=100)*

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. retail farm prices of goods</th>
<th>Utah farm prices of goods</th>
<th>Lambs</th>
<th>Wool</th>
<th>Beef</th>
<th>Butter-fat</th>
<th>Sugar</th>
<th>All hay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1915-20</td>
<td>162</td>
<td>170</td>
<td>179</td>
<td>254</td>
<td>147</td>
<td>140</td>
<td>176</td>
<td>174</td>
</tr>
<tr>
<td>1921-29</td>
<td>155</td>
<td>139</td>
<td>171</td>
<td>224</td>
<td>120</td>
<td>143</td>
<td>146</td>
<td>108</td>
</tr>
<tr>
<td>1930</td>
<td>147</td>
<td>121</td>
<td>126</td>
<td>136</td>
<td>136</td>
<td>123</td>
<td>146</td>
<td>99</td>
</tr>
<tr>
<td>1931</td>
<td>127</td>
<td>92</td>
<td>91</td>
<td>93</td>
<td>94</td>
<td>91</td>
<td>125</td>
<td>108</td>
</tr>
<tr>
<td>1932</td>
<td>110</td>
<td>73</td>
<td>68</td>
<td>56</td>
<td>73</td>
<td>66</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>1933</td>
<td>108</td>
<td>73</td>
<td>77</td>
<td>106</td>
<td>63</td>
<td>62</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td>1934</td>
<td>123</td>
<td>89</td>
<td>90</td>
<td>130</td>
<td>64</td>
<td>76</td>
<td>92</td>
<td>104</td>
</tr>
<tr>
<td>1935</td>
<td>125</td>
<td>104</td>
<td>106</td>
<td>114</td>
<td>107</td>
<td>103</td>
<td>106</td>
<td>110</td>
</tr>
<tr>
<td>1936</td>
<td>124</td>
<td>111</td>
<td>124</td>
<td>166</td>
<td>105</td>
<td>119</td>
<td>123</td>
<td>78</td>
</tr>
<tr>
<td>1937</td>
<td>131</td>
<td>123</td>
<td>133</td>
<td>193</td>
<td>119</td>
<td>123</td>
<td>136</td>
<td>91</td>
</tr>
<tr>
<td>1938</td>
<td>123</td>
<td>103</td>
<td>107</td>
<td>119</td>
<td>108</td>
<td>97</td>
<td>129</td>
<td>82</td>
</tr>
<tr>
<td>1939</td>
<td>121</td>
<td>104</td>
<td>117</td>
<td>137</td>
<td>122</td>
<td>94</td>
<td>127</td>
<td>92</td>
</tr>
</tbody>
</table>

In 1936, when this study was made, the index of Utah prices of all farm commodities was 111, or 11 percent above the 1910-1914 average. The price indexes of lambs, butterfat and sugar beets, 3 of the major commodities sold by farmers in these counties, were about equal to prices of goods the farmers buy. In other words, these commodities had a purchasing power of about 100 in 1936. However, the indexes of prices received for hay and for beef cattle were somewhat below the index of goods purchased by farmers, while the index for wool was considerably above. Although farmers were still faced with the problem of financial adjustments as a result of the very low price received following 1930, prices of agricultural products in 1936 had improved to a point where the price situation was more favorable than it had been during previous years. In interpreting the farm management data in the analysis of the farm business by types of farm, the price situation should be kept in mind.

**EXPLANATION OF TERMS**

*Animal unit* is a common unit of measure of all kinds of livestock. One mature range cow is considered as the standard, or as 1 animal unit, and all other livestock are equated to this. For example, 5 sheep are considered as equal to 1 cow and, hence, are equal to 1 animal unit. Similarly, 1 yearling beef heifer is the equivalent of 0.6 of an animal unit.

*Cash receipts* are receipts from sale of crops, livestock and livestock products and miscellaneous items such as road work. They do not include receipts from sale of land, machinery or other items classed as fixed investment.

*Crop yield index* is a percentage, the base of which is the average yields for the State of Utah for the 6-year period, 1926-1931. Crops were weighted by acres grown, productive man-work-units, and gross value of the crop per acre.

*Current expense* includes all cash expenditures for farm purposes, minus an allowance for that part of expenditures which is in the nature of a capital outlay. Interest on borrowed capital and rental paid for land are excluded.

*A farm* is the total land and livestock operated as one unit; rented land or livestock is included in the farm of the man who operates it.

*Farm income* is the difference between total receipts and total expenditures. This represents the return for the use of the farm capital, and the labor and management of the operator.

*Farm privileges* are the value at the farm of farm products used in the farm household plus rental value of the house calculated at 10 percent of inventory.

*Farm type* is a classification of farms according to the most important enterprise of the farm, based on amount of labor required and amount of income received.

*Indebtedness* is the average of the operator's indebtedness at the beginning and end of the year.

*Labor earnings* are labor income plus farm privileges.

---

Labor income equals farm income minus interest on investment. This is the return to the farm operator for his year's labor and management. In addition to this he receives a house in which to live and the farm produce used in his household.

Man equivalent is the total months of all labor used on the farm, including operator, divided by 12. The labor of boys is reduced to equivalent of man time.

Man-work-unit is the equivalent of 10 hours of labor at productive farm work for the average farmer and farm laborer in Utah.

Operator's capital is the average value of opening and closing inventories of the property used in the farming operations which is owned by the operator. It includes the value of the farm home if owned by the operator, but does not include value of any rented land, buildings, or livestock.

Operator's equity is the operator's capital less his average indebtedness.

The Sanpete-Sevier Area in this study includes Sanpete and Sevier Counties. It has been classified as 1 of the 9 type-of-farming areas in the State of Utah.

Sanpete-Sevier grazing area includes Sanpete and Sevier Counties and the four adjacent counties of Juab, Piute, Millard, and Beaver, which form the natural grazing area for the livestock of this section.

Total capital is the average value of opening and closing inventories of all property, including the farm home, used in the farming operations, whether owned by operator or landlord.

Total expenditures equal current expense plus livestock purchases, plus net inventory decreases, plus unpaid family labor.

Total receipts are cash receipts plus net inventory increases. They do not include value of farm privileges.

Value of unpaid labor is the imputed value of unpaid family labor as estimated by the farmer on basis of current wages of farm labor.

PART II

FARM BUSINESS ANALYSIS

During the late fall of 1936, farm business records for the crop year 1936 were obtained by the survey method on 270 farms in Sanpete and Sevier Counties. While farms on which records were obtained were selected at random, an effort was made to obtain a proportional number of records by type of farming for each subarea.

The report on the farm business analysis includes: (1) an analysis of the farm business for the general irrigated farms in each county and for the area as a whole; and (2) an analysis of the five predominant types of farming practiced in the area: general irrigated farms, beef-cattle farms, sheep ranches, lamb-feeding, and part-time farms. There were not sufficient schedules obtained on beef-cattle ranches to warrant a report on the type of farming where beef cattle were run in large numbers. On the beef-cattle farms reported, the cattle were run in conjunction with crop farming, and small numbers were kept per farm.
DIVISION A

FARM BUSINESS ANALYSIS BY COUNTIES

An analysis was made of 187 records taken on the general irrigated farms, the purpose of which was to measure any significant difference in the farm organization and available resources between the 2 counties. There were 69 records taken in Sevier and 118 in Sanpete County.

Land Resources

The total land resources of the general irrigated farms in Sanpete County in 1936 averaged 127.2 acres per farm, while in Sevier County there were 69.4 acres (table 17). The difference between farms of the 2 counties was largely in the amount of grazing land, as the Sanpete County farms actually contained only 2 acres more of irrigated cropland. Sevier County general irrigated farms had no range land, whereas those in Sanpete County averaged 35.7 acres per farm.

Table 17. Land resources per farm for general irrigated farms, 1936

<table>
<thead>
<tr>
<th>Class of land</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>Sanpete &amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
</tr>
<tr>
<td>Fruit land</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Irrigated cropland</td>
<td>48.2</td>
<td>46.2</td>
<td>47.5</td>
</tr>
<tr>
<td>Dry farm</td>
<td>2.7</td>
<td>0.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Fallow crop</td>
<td>6.0</td>
<td>0.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Idle crop</td>
<td>3.3</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Irrigated pasture:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plowable</td>
<td>1.9</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Non-plowable</td>
<td>7.6</td>
<td>2.1</td>
<td>5.6</td>
</tr>
<tr>
<td>Dry pasture</td>
<td>16.4</td>
<td>8.7</td>
<td>13.5</td>
</tr>
<tr>
<td>Range</td>
<td>35.7</td>
<td></td>
<td>22.5</td>
</tr>
<tr>
<td>Farmstead</td>
<td>1.5</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Other</td>
<td>3.8</td>
<td>5.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Total land</td>
<td>127.2</td>
<td>69.4</td>
<td>105.8</td>
</tr>
</tbody>
</table>

Capital Invested

The total capital invested per farm on general irrigated farms was $8,343 in Sanpete and $9,523 in Sevier County (table 18). Sanpete farms had a larger investment in livestock but a smaller investment in land, machinery, and feed and supplies. The
percentage difference in distribution of capital in the 2 counties was slight.

Table 18. *Capital invested per farm for general irrigated farms, 1936*

<table>
<thead>
<tr>
<th>Capital</th>
<th>Capital invested</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete</td>
<td>Sevier</td>
</tr>
<tr>
<td></td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Real estate</td>
<td>6,586</td>
<td>7,678</td>
</tr>
<tr>
<td>Livestock</td>
<td>938</td>
<td>860</td>
</tr>
<tr>
<td>Machinery</td>
<td>371</td>
<td>470</td>
</tr>
<tr>
<td>Feed and supplies</td>
<td>448</td>
<td>515</td>
</tr>
<tr>
<td>Total capital</td>
<td>8,343</td>
<td>9,523</td>
</tr>
</tbody>
</table>

**Indebtedness**

Average indebtedness on general irrigated farms was $1,625 (table 19). Seventy-two percent of the farmers reported having some indebtedness. The percentage reporting debt was slightly higher in Sevier than in Sanpete County. Average indebtedness for all farms was only 19 percent of total capital, and 24 percent of the capital owned by the operator, while ratio of debt to capital was about the same for both counties. Although a large percentage of farmers reported being in debt, average indebtedness per farm was not large in comparison with total capital. This favorable ratio of capital to indebtedness indicates that farmers operating general irrigated farms in this area have maintained their equity even during a period of low prices of farm products.
A STUDY OF FARM ORGANIZATION BY TYPE OF FARM  31

Number of Livestock

The numbers of livestock kept on general irrigated farms in 1936 were much the same for both counties (table 20). They con-

Table 20. Average number of different kinds of livestock per farm on general irrigated farms*

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>&amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cows</td>
<td>4.1</td>
<td>4.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Other dairy cattle</td>
<td>3.2</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>3.1</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Sheep</td>
<td>14.5</td>
<td>10.8</td>
<td>13.1</td>
</tr>
<tr>
<td>Horses</td>
<td>2.9</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Colts</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Hogs</td>
<td>4.0</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td>Hens</td>
<td>69.0</td>
<td>36.0</td>
<td>57.0</td>
</tr>
<tr>
<td>Turkeys</td>
<td>12.0</td>
<td>24.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Total animal units</td>
<td>15.4</td>
<td>14.9</td>
<td>15.2</td>
</tr>
</tbody>
</table>

*Number of livestock is the average of the opening and closing inventory numbers together with adjustments where livestock were kept only part of the year.

sisted of enough horses to do the farm work, farm flocks of chickens, and a few more than enough dairy cows, hogs, sheep, and other meat animals to provide for family needs.

Land Values

With the exception of unplowable irrigated pasture (natural meadow pasture), Sevier County land had a higher acre value

Table 21. Value per acre of land of various classes for general irrigated farms

<table>
<thead>
<tr>
<th>Class of land</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>&amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Fruit land</td>
<td>90</td>
<td>100</td>
<td>92</td>
</tr>
<tr>
<td>Cropped land (irrigated)</td>
<td>83</td>
<td>117</td>
<td>95</td>
</tr>
<tr>
<td>Fallow cropland</td>
<td>55</td>
<td>122</td>
<td>59</td>
</tr>
<tr>
<td>Idle cropland</td>
<td>37</td>
<td>81</td>
<td>51</td>
</tr>
<tr>
<td>Irrigated pasture: Plowable</td>
<td>62</td>
<td>84</td>
<td>63</td>
</tr>
<tr>
<td>Non-plowable</td>
<td>45</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>Dry pasture</td>
<td>10</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Range</td>
<td>3.86</td>
<td>......</td>
<td>3.86</td>
</tr>
<tr>
<td>Farmstead</td>
<td>79</td>
<td>128</td>
<td>95</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Total land</td>
<td>43</td>
<td>91</td>
<td>54</td>
</tr>
</tbody>
</table>
than the land in Sanpete County. The irrigated cropped land of Sevier County was valued at $117 per acre while this class of land in Sanpete County was valued at $83 (table 21). These values include water rights. The higher value of land in Sevier County is no doubt a result of higher productivity, adaptability to more intensive use, and a more adequate water supply. Range land in Sanpete County was valued at $3.86 per acre. There was no range land reported by farmers operating irrigated farms in Sevier County. This explains why the average value of all land was $91 per acre in Sevier as compared to $43 in Sanpete County.

**Crop Acreage**

In 1936 the acreage of crops grown per farm averaged 51.2 for Sanpete County and 46.3 for Sevier. There was an average of 26.8 and 23.7 acres of alfalfa per farm on general irrigated farms of Sanpete and Sevier Counties, respectively (table 22).

<table>
<thead>
<tr>
<th>Kind of crop</th>
<th>Sanpete</th>
<th>Sevier</th>
<th>Sanpete &amp; Sevier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>26.8</td>
<td>23.7</td>
<td>25.6</td>
</tr>
<tr>
<td>Other hay</td>
<td>3.7</td>
<td>0.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Wheat</td>
<td>10.3</td>
<td>7.7</td>
<td>9.4</td>
</tr>
<tr>
<td>Oats</td>
<td>3.3</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Barley</td>
<td>3.1</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Corn fodder</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Corn silage</td>
<td>....</td>
<td>0.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>2.3</td>
<td>6.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.2</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Peas</td>
<td>0.7</td>
<td>....</td>
<td>0.5</td>
</tr>
<tr>
<td>Other, including garden</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>51.2*</td>
<td>46.3</td>
<td>49.4</td>
</tr>
</tbody>
</table>

*The difference between this figure and the acreages given in table 17 is owing to double cropping.

In each case this represented slightly more than 50 percent of total acreage of crops. Sevier County farmers grew relatively more sugar beets but less grain and hay other than alfalfa. No peas were grown in Sevier County while Sanpete County farms averaged 0.7 acres per farm.

The smaller acreage of sugar beets and larger acreage of hay and grain being grown per farm in Sanpete County was largely a result of shortage of late water. Grain and one cutting of alfalfa can be grown even where there is only flood water available.
Crop Yields

Average crop yields on general irrigated farms in 1936 were higher for every crop grown in Sevier County than in Sanpete County. Alfalfa, the major crop in both counties, yielded 2.8 tons in Sevier and 2.3 tons in Sanpete County (table 23). Sugar beets yielded 14.6 tons in Sevier and 11.0 tons in Sanpete. The best measure of relative crop yields, however, is the all-crop yield index. This was 89 for Sanpete County, or 11 percent below average state yields, while for Sevier it was 115, or 15 percent above average yields for the state. In other words, the crop-yield index for Sevier County was, in 1936, 29 percent above Sanpete County.

In areas where yields are relatively low, a larger acreage per farm must be cultivated in order to obtain income from crops comparable with areas where yields are higher. The acreage of crops grown per farm in Sanpete County was only 4.9 acres more than that in Sevier County. This small additional acreage was not sufficient to offset the difference in crop yields. Therefore, returns from crop production in Sevier were larger than in Sanpete.

Cash Income

Average cash receipts from various sources for general irrigated farms of the 2 counties for 1936 were $1,341 (table 24). Crop sales were $650, income from livestock $599, and miscellaneous receipts $92. The cash income per farm for Sanpete County was $1,150 as compared with $1,668 for Sevier County.
Table 24. *Cash receipts from crops and livestock on general irrigated farms, 1936*

<table>
<thead>
<tr>
<th>Source of receipts</th>
<th>Value cash receipts</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete dollars</td>
<td>Sevier dollars</td>
</tr>
<tr>
<td>Crop sales:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay</td>
<td>108</td>
<td>136</td>
</tr>
<tr>
<td>Wheat</td>
<td>92</td>
<td>101</td>
</tr>
<tr>
<td>Oats</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Barley</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>153</td>
<td>561</td>
</tr>
<tr>
<td>Potatoes</td>
<td>14</td>
<td>71</td>
</tr>
<tr>
<td>Peas</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Other crops</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total crops sales</td>
<td>472</td>
<td>954</td>
</tr>
<tr>
<td>Livestock:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy cattle sales</td>
<td>44</td>
<td>70</td>
</tr>
<tr>
<td>Dairy products</td>
<td>186</td>
<td>199</td>
</tr>
<tr>
<td>Sheep sales</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Wool</td>
<td>29</td>
<td>20</td>
</tr>
<tr>
<td>Poultry sales</td>
<td>46</td>
<td>66</td>
</tr>
<tr>
<td>Eggs</td>
<td>135</td>
<td>58</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>31</td>
<td>139</td>
</tr>
<tr>
<td>Other livestock</td>
<td>76</td>
<td>44</td>
</tr>
<tr>
<td>Total livestock receipts</td>
<td>586</td>
<td>621</td>
</tr>
<tr>
<td>Total crops and livestock</td>
<td>1,058</td>
<td>1,575</td>
</tr>
<tr>
<td>Miscellaneous receipts</td>
<td>92</td>
<td>93</td>
</tr>
<tr>
<td>Total cash receipts</td>
<td>1,150</td>
<td>1,668</td>
</tr>
</tbody>
</table>

In Sanpete County, crop income was $472, while in Sevier County it was $954.

In both counties cash income from sugar beets was larger than from any other crop, making up 13.3 percent of total cash income in Sanpete and 33.6 percent in Sevier County. The major income from livestock and livestock products was from dairy and poultry enterprises, representing 35.8 percent of the income in Sanpete and 23.6 percent in Sevier County.

**Total Farm Receipts**

Total receipts per farm averaged $1,449 on general irrigated farms in Sanpete and $1,846 in Sevier County (table 25). Of these totals, $1,150 in Sanpete and $1,668 in Sevier were cash receipts. The balance was in the form of net increases in inventories.
Table 25. Receipts per farm from various sources for general irrigated farms, 1936

<table>
<thead>
<tr>
<th>Source of income</th>
<th>Value of income</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete dollars</td>
<td>Sanpete &amp; Sevier dollars</td>
</tr>
<tr>
<td>Cash receipts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop sales</td>
<td>472</td>
<td>954</td>
</tr>
<tr>
<td>Livestock sales</td>
<td>213</td>
<td>339</td>
</tr>
<tr>
<td>Livestock products sold</td>
<td>373</td>
<td>282</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>92</td>
<td>93</td>
</tr>
<tr>
<td>Total cash receipts</td>
<td>1,150</td>
<td>1,668</td>
</tr>
<tr>
<td>Inventory increases:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock</td>
<td>193</td>
<td>105</td>
</tr>
<tr>
<td>Feed and supplies</td>
<td>106</td>
<td>73</td>
</tr>
<tr>
<td>Total receipts</td>
<td>1,449</td>
<td>1,846</td>
</tr>
</tbody>
</table>

Operators of general irrigated farms in Sanpete County received only 33 percent of their total receipts from sale of crops, while crop sales contributed 52 percent of the receipts on similar farms in Sevier. Sales of livestock products from the Sanpete County farms contributed 26 percent of total receipts, while in Sevier they amounted to 15 percent.

Farm Expenses

Current Cash Expenses

The purposes for which the cash farm expenses were incurred are shown in table 26. The total for farms in Sanpete County averaged $551 and in Sevier County $675. The percentage that each type of current cash expense was of the total was not greatly different between farms of the 2 counties. Hired labor, taxes and livestock feed were the major items of expense. These items represented 55 percent of total cash expenses. All other items of expense ranged from 1 to 9 percent of the total.

Total Expenses

Average total expenses per farm for general irrigated farms in 1936 were $860 in Sanpete and $1,067 in Sevier County (table 27). This includes all cash expenses for farm purposes, except interest paid on borrowed capital and cash rent. It also includes net decreases in inventories, and value of all unpaid labor of the operator's family, but does not include value of the operator's labor.

Of the total farm expenses incurred, 78 percent were cash
Table 26. Current farm expenses per farm for general irrigated farms, 1936

<table>
<thead>
<tr>
<th>Items of expense</th>
<th>Current farm expense</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete dollars</td>
<td>Sevier dollars</td>
</tr>
<tr>
<td>Hired labor</td>
<td>94</td>
<td>144</td>
</tr>
<tr>
<td>Custom work*</td>
<td>55</td>
<td>53</td>
</tr>
<tr>
<td>Feeds</td>
<td>102</td>
<td>96</td>
</tr>
<tr>
<td>Seeds and plants</td>
<td>29</td>
<td>38</td>
</tr>
<tr>
<td>Water rent</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>State, county, and special taxes</td>
<td>99</td>
<td>138</td>
</tr>
<tr>
<td>Water taxes</td>
<td>35</td>
<td>47</td>
</tr>
<tr>
<td>Building and machinery expense</td>
<td>44</td>
<td>41</td>
</tr>
<tr>
<td>Supplies and services</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Fees and stock pasture</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Auto—farm share</td>
<td>22</td>
<td>33</td>
</tr>
<tr>
<td>Truck and tractor</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Total current expense</td>
<td>551</td>
<td>675</td>
</tr>
</tbody>
</table>

*Custom work consisted largely of binding and threshing grain.

expenses. Value of unpaid labor amounted to 15 percent and was the most important non-cash expense. Although total expense on Sevier County farms was considerably higher than on Sanpete County farms, the percentage distribution between different classes of cash and non-cash expenses was very nearly the same.

Table 27. Expense per farm for general irrigated farms, 1936

<table>
<thead>
<tr>
<th>Nature of expense</th>
<th>Expense per farm</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanpete dollars</td>
<td>Sevier dollars</td>
</tr>
<tr>
<td>Cash expenses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>551</td>
<td>675</td>
</tr>
<tr>
<td>Livestock</td>
<td>111</td>
<td>170</td>
</tr>
<tr>
<td>Total cash expense</td>
<td>662</td>
<td>845</td>
</tr>
<tr>
<td>Decreases in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>Real estate</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Unpaid labor</td>
<td>133</td>
<td>154</td>
</tr>
<tr>
<td>Total expenses</td>
<td>860</td>
<td>1,067</td>
</tr>
</tbody>
</table>
Measures of Farm Success

General irrigated farms in Sevier County on the average were slightly more successful than the same class of farms in Sanpete County, when measured by any one of several standards (table 28). Labor income was $303 for Sevier County farms as compared to an average of $172 for Sanpete County farms. The value of farm privileges added to the labor income gave the operators in Sanpete County average labor earnings of $457, and those of Sevier County, $635.

A more detailed analysis of other factors affecting the success of general irrigated farms is made in the next section of the report.

DIVISION B
ANALYSIS OF TYPES OF FARMING

Comparison of Five Major Types

The analysis by farm type will be presented in a similar form to that used in discussing the results of the study on a county basis. The discussion of farm resources, income, expenses, and measurement of success of farm in this section will be in accordance with farm type, while analysis of the farm business in Division A of Part II was by counties.

The records of the 270 farms used in this study were divided into 5 groups on the basis of type of farm organization. The largest group was general irrigated farms containing 187 records, previously discussed in the analysis of irrigated farms by counties. The next largest group, containing 32 records, was specialized range-sheep ranches. In the next group were 28 farms where
beef cattle was the major enterprise. The lamb-feeding group contained records of those general crop farms to which a lamb-feeding enterprise had been added. There were 10 records in this group. Another group was part-time farms and contained 13 records. These were the farms that furnished only half-time or less employment for the operator. In most cases work away from the farm was more important as a source of income than the farm.

While the small number of records in the lamb-feeding and part-time farming groups does not warrant drawing definite conclusions, the findings indicate the general situation, and the farms included are representative of these types of farming in the area.

Land Resources

Average land resources per farm for these types of farms varied from 47.7 acres for part-time farms to 2,655.1 acres for sheep ranches (table 29), most of which acreage was range land. However, sheep ranches also had the largest acreage of irrigated cropland, with 90.3. Part-time farms had an average of only 14.8 acres.

Number of Livestock

Nearly all kinds of livestock were represented on each type of farm. However, on specialized types, as sheep and lamb-feeding, sheep accounted for most of the animal units. The sheep ranches had an average of 1,639 sheep, and lamb-feeding farms,
A STUDY OF FARM ORGANIZATION BY TYPE OF FARM

673 (table 30). Beef-cattle farms averaged 67 head of beef cattle per farm and 46 head of sheep. Dairy cattle were reported by all types of farms; however, the largest number was found on general irrigated farms with a total of 7.4 head. While egg pro-

Table 30. Number of different kinds of livestock per farm for farms of different types*

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>Dairy cows</td>
<td>4.2</td>
<td>4.0</td>
<td>2.7</td>
<td>3.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Other dairy cattle</td>
<td>3.2</td>
<td>2.0</td>
<td>1.5</td>
<td>2.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Beef cows</td>
<td>0.8</td>
<td>26.1</td>
<td>16.1</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Other beef cattle</td>
<td>2.4</td>
<td>41.0</td>
<td>18.4</td>
<td>2.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Sheep</td>
<td>13.1</td>
<td>46.3</td>
<td>1,639.1</td>
<td>673.0**</td>
<td>0.6</td>
</tr>
<tr>
<td>Horses</td>
<td>3.0</td>
<td>4.9</td>
<td>8.7</td>
<td>4.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Colts</td>
<td>0.5</td>
<td>0.8</td>
<td>0.7</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td>4.1</td>
<td>11.1</td>
<td>2.3</td>
<td>5.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Hens</td>
<td>57.0</td>
<td>47.4</td>
<td>16.8</td>
<td>14.0</td>
<td>31.0</td>
</tr>
<tr>
<td>Turkeys</td>
<td>16.0</td>
<td>6.0</td>
<td>0.8</td>
<td>1.0</td>
<td>6.15</td>
</tr>
</tbody>
</table>

*For explanation of method of calculating numbers see table 20.
**These were chiefly feeder lambs.

duction on commercial poultry farms in the area was an important enterprise, the number of such farms was small when compared to total number of farms. The average number of turkeys per farm was also small. No records were obtained from commercial turkey farms. Turkey production has greatly increased since 1936, when this survey was made.

Number of Animal Units

The total number of animal units per farm varied from 362.8 for sheep ranches to 7.4 for part-time farms (table 31).

Table 31. Number of animal units per farm for farms of different types, 1936

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. u.</td>
<td>a. u.</td>
<td>a. u.</td>
<td>a. u.</td>
<td>a. u.</td>
</tr>
<tr>
<td>Animal units in:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy cattle</td>
<td>5.7</td>
<td>4.8</td>
<td>3.3</td>
<td>4.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>2.0</td>
<td>50.2</td>
<td>26.1</td>
<td>1.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Sheep</td>
<td>2.5</td>
<td>9.3</td>
<td>323.6</td>
<td>76.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Chickens</td>
<td>0.9</td>
<td>0.6</td>
<td>0.3</td>
<td>0.2</td>
<td>0.6</td>
</tr>
<tr>
<td>Turkeys</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Other productive livestock</td>
<td>1.0</td>
<td>1.6</td>
<td>0.8</td>
<td>1.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Horses</td>
<td>2.9</td>
<td>4.8</td>
<td>8.7</td>
<td>4.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Total animal units</td>
<td>15.2</td>
<td>71.4</td>
<td>362.8</td>
<td>88.0</td>
<td>7.4</td>
</tr>
</tbody>
</table>
In the calculation of number of animal units on farms having lamb- or beef-feeding enterprises, adjustments were made for the actual period of time that the feeder stock was on the farm, so that the number is the animal-unit equivalent on a year-long basis.

**Capital Investment**

The total capital invested per farm on sheep ranches was $42,255, which was more than twice as much as for any other type (table 32). General farms averaged less than $9,000 capital and part-time farms less than $4,000. The livestock farms had more capital in every class of investment.

The percentage of the total capital that was invested in livestock was highest for sheep ranches and lowest for general farms, being 33 and 10, respectively. This was offset by a correspondingly lower percentage in land on sheep farms. This is a result of the fact that sheep men were using federal lands for grazing purposes, for which no capital investment is shown.

**Farm Indebtedness**

Average indebtedness per farm ranged from $901 for part-time farms to $9,560 for sheep ranches (table 33). The percentage that indebtedness was of total capital ranged from 19 for general irrigated farms to 25 for farms where lamb feeding was the major enterprise, while the percentage that indebtedness was of the capital owned by the operator ranged from 21 for beef-cattle farms to 29 for part-time farms.

The percentage that indebtedness was of total capital for those having debt was 23 for beef-cattle farms, 25 for general irrigated, lamb-feeding, and part-time farms; and 29 for sheep ranches.

The percentage of farmers who reported indebtedness ranged from 72 for general irrigated farms to 90 for lamb-feeding farms.
Table 33. Indebtedness and operator's equity on farms

<table>
<thead>
<tr>
<th>Item</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Total capital*</td>
<td>8,778</td>
<td>18,815</td>
<td>42,255</td>
<td>18,648</td>
<td>3,798</td>
</tr>
<tr>
<td>Operator's capital</td>
<td>6,663</td>
<td>17,736</td>
<td>37,419</td>
<td>16,325</td>
<td>3,147</td>
</tr>
<tr>
<td>Indebtedness**</td>
<td>1,625</td>
<td>3,686</td>
<td>9,560</td>
<td>4,584</td>
<td>901</td>
</tr>
<tr>
<td>Operator's equity</td>
<td>5,038</td>
<td>14,050</td>
<td>27,859</td>
<td>11,741</td>
<td>2,246</td>
</tr>
<tr>
<td>Percentage debt was of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total capital</td>
<td>19</td>
<td>20</td>
<td>23</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Percentage debt was of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>operator's capital</td>
<td>24</td>
<td>21</td>
<td>26</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Percentage having</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>indebtedness</td>
<td>72</td>
<td>89</td>
<td>84</td>
<td>90</td>
<td>85</td>
</tr>
</tbody>
</table>

*Total capital used in operation of the farm business, whether owned by operator or by landlord.
**All indebtedness over $100 included.

The amount of indebtedness per farmer, however, was not high in relation to his capital or equity. The high percentage of farmers who were in debt is partially a result of low purchasing power of farm products and to the drought conditions that have prevailed during the past decade.

Crop Acreage

The average acreage of crops grown per farm ranged from 15.2 on part-time farms to 102.1 on sheep ranches (table 34). On every type of farm, except part-time farms, alfalfa made up 50 percent or more of the crop acreage. Most of the remaining

Table 34. Acreage of different crops grown per farm on farms of different types

<table>
<thead>
<tr>
<th>Crop</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
<td>acres</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>25.6</td>
<td>41.9</td>
<td>57.9</td>
<td>45.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Other hay</td>
<td>2.5</td>
<td>14.6</td>
<td>27.5</td>
<td>0.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Wheat</td>
<td>9.4</td>
<td>11.6</td>
<td>6.3</td>
<td>5.1</td>
<td>2.6</td>
</tr>
<tr>
<td>Oats</td>
<td>3.1</td>
<td>6.6</td>
<td>3.5</td>
<td>2.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Barley</td>
<td>3.3</td>
<td>3.2</td>
<td>5.5</td>
<td>10.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Corn fodder</td>
<td>0.1</td>
<td>...</td>
<td>0.5</td>
<td>0.1</td>
<td>...</td>
</tr>
<tr>
<td>Corn silage</td>
<td>0.2</td>
<td>0.2</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>3.8</td>
<td>5.7</td>
<td>...</td>
<td>3.2</td>
<td>0.8</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.4</td>
<td>0.4</td>
<td>0.1</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Peas</td>
<td>0.4</td>
<td>0.3</td>
<td>0.3</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Other—including garden</td>
<td>0.6</td>
<td>1.3</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Total*</td>
<td>49.4</td>
<td>85.8</td>
<td>102.1</td>
<td>67.0</td>
<td>15.2</td>
</tr>
</tbody>
</table>

*Includes a small acreage of land double cropped.
acreage was other hay (mostly wild or meadow hay) and feed grains. Sugar beets, canning peas and potatoes were the only cultivated cash crops grown. Sugar beets were of importance on all farms except sheep ranches while peas were grown on all types except part-time and lamb-feeding farms. The average acreage of both peas and potatoes was small on all types of farms.

**Crop Yields**

The all-crop-yield index was highest for the lamb-feeding farms, being 125 (tables 35 and 36). These farms had crop yields considerably higher than average for alfalfa, barley and potatoes. Most of these farms were located in the most fertile section of Sevier County around Monroe and Elsinore just south of Richfield. Additional fertilizer available from lamb-feeding operations was also a factor influencing crop yields on these farms.

**Table 35. Acre yields of crops for farms of different types**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Unit</th>
<th>Farm type</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>tons</td>
<td>2.5</td>
<td>2.6</td>
<td>1.6</td>
<td>3.5</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Other hay</td>
<td>tons</td>
<td>1.4</td>
<td>1.3</td>
<td>1.1</td>
<td>1.4</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>bu.</td>
<td>25.0</td>
<td>29.0</td>
<td>23.0</td>
<td>25.0</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td>bu.</td>
<td>44.0</td>
<td>33.0</td>
<td>46.0</td>
<td>40.0</td>
<td>36.0</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>bu.</td>
<td>44.0</td>
<td>47.0</td>
<td>46.0</td>
<td>58.0</td>
<td>38.0</td>
<td></td>
</tr>
<tr>
<td>Corn fodder</td>
<td>tons</td>
<td>6.0</td>
<td></td>
<td>10.0</td>
<td>7.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn silage</td>
<td>tons</td>
<td>10.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar beets</td>
<td>tons</td>
<td>13.2</td>
<td>12.0</td>
<td></td>
<td>12.3</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>bu.</td>
<td>164.0</td>
<td>88.0</td>
<td>194.0</td>
<td>270.0</td>
<td>130.0</td>
<td></td>
</tr>
<tr>
<td>Peas</td>
<td>tons</td>
<td>1.4</td>
<td>1.1</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 36. Crop yield index for farms of different types**

(Average crop yields for Utah for period 1926-1931=100)

<table>
<thead>
<tr>
<th>Crop</th>
<th>State average yield</th>
<th>Crop yield index by farm types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General index</td>
<td>Beef-cattle index</td>
</tr>
<tr>
<td>Alfalfa—tons</td>
<td>2.5</td>
<td>100</td>
</tr>
<tr>
<td>Other hay—tons</td>
<td>1.6</td>
<td>88</td>
</tr>
<tr>
<td>Wheat—bu. (irrigated)</td>
<td>30.0</td>
<td>83</td>
</tr>
<tr>
<td>Oats—bu.</td>
<td>39.0</td>
<td>113</td>
</tr>
<tr>
<td>Barley—bu.</td>
<td>40.0</td>
<td>110</td>
</tr>
<tr>
<td>Sugar beets—tons</td>
<td>11.4</td>
<td>116</td>
</tr>
<tr>
<td>Potatoes—bu.</td>
<td>150.0</td>
<td>109</td>
</tr>
<tr>
<td>Peas—tons</td>
<td>1.2</td>
<td>117</td>
</tr>
<tr>
<td>All crop index</td>
<td>100</td>
<td>98</td>
</tr>
</tbody>
</table>

Based on table 35.
Feed Received from Grazing

Data were obtained from farmers pertaining to the length of time that each class of livestock received full sustenance from grazing on different classes of grazing land. These data were transferred into animal-unit equivalents and the average number of months of full sustenance from grazing per farm was calculated (table 37). Livestock on sheep ranches received by far the largest amount of feed from grazing, both in total and in animal-unit equivalent. The total amounted to 3,511.5 animal-unit months of sustenance, which was equal to 9.68 months per animal unit for all livestock on the farm. The average length of time that the livestock on beef-cattle farms grazed was 6.48 months, and on general farms, 4.21 months. These data are not included for lamb-feeding farms as the livestock on these farms is heavily weighted by lambs which were kept only a short time and fed intensively; hence these are not comparable to other farms.

Feed Fed to Livestock

The total amount of feed fed to all classes of livestock was calculated in terms of alfalfa-hay equivalent. The average amount fed per farm varied from 27.52 tons on part-time farms to 140.14 tons on beef ranches (table 38). With the exception of part-time farms more than 70 percent of the total feed was hay. The general and part-time farms did more feeding in relation to the amount of livestock on the farms than other farm types. They fed an average of 3.61 and 3.72 tons, respectively, of alfalfa-hay equivalent per animal unit. The sheep ranches fed 0.38 tons of hay

Table 37. Number of animal months of grazing by livestock on different classes of land per farm for different types of farms

<table>
<thead>
<tr>
<th>Item</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. u. mo.</td>
<td>a. u. mo.</td>
<td>a. u. mo.</td>
<td>a. u. mo.</td>
</tr>
<tr>
<td>Private range</td>
<td>2.96</td>
<td>37.73</td>
<td>765.72</td>
<td>4.61</td>
</tr>
<tr>
<td>Farm pasture</td>
<td>26.98</td>
<td>98.08</td>
<td>141.03</td>
<td>14.08</td>
</tr>
<tr>
<td>Public domain</td>
<td>1.63</td>
<td>42.03</td>
<td>1,759.06</td>
<td></td>
</tr>
<tr>
<td>National forest</td>
<td>11.55</td>
<td>172.44</td>
<td>717.78</td>
<td></td>
</tr>
<tr>
<td>Farm fields</td>
<td>20.87</td>
<td>112.66</td>
<td>127.91</td>
<td>12.69</td>
</tr>
<tr>
<td>Total animal-unit</td>
<td>63.99</td>
<td>462.94</td>
<td>3,511.50</td>
<td>31.38</td>
</tr>
<tr>
<td>months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total animal units</td>
<td>15.18</td>
<td>71.42</td>
<td>362.75</td>
<td>7.40</td>
</tr>
<tr>
<td>Animal-unit months</td>
<td>4.21</td>
<td>6.48</td>
<td>9.68</td>
<td>4.24</td>
</tr>
<tr>
<td>per animal unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 38. Quantity of feed fed per farm in terms of alfalfa hay equivalent*

<table>
<thead>
<tr>
<th>Kind of feed</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tons</td>
<td>tons</td>
<td>tons</td>
<td>tons</td>
</tr>
<tr>
<td>Hay</td>
<td>40.33</td>
<td>106.19</td>
<td>111.55</td>
<td>13.77</td>
</tr>
<tr>
<td>Wheat</td>
<td>4.85</td>
<td>6.96</td>
<td>4.70</td>
<td>4.33</td>
</tr>
<tr>
<td>Oats</td>
<td>1.36</td>
<td>3.88</td>
<td>4.82</td>
<td>0.52</td>
</tr>
<tr>
<td>Barley</td>
<td>2.26</td>
<td>5.75</td>
<td>7.22</td>
<td>1.68</td>
</tr>
<tr>
<td>Corn</td>
<td>0.02</td>
<td>0.04</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Prepared feed</td>
<td>0.71</td>
<td></td>
<td>4.71</td>
<td>0.73</td>
</tr>
<tr>
<td>Mash</td>
<td>3.11</td>
<td>1.38</td>
<td>0.73</td>
<td>4.80</td>
</tr>
<tr>
<td>Straw</td>
<td>0.64</td>
<td>3.03</td>
<td>1.91</td>
<td>0.19</td>
</tr>
<tr>
<td>Corn silage</td>
<td>0.68</td>
<td>1.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beet pulp</td>
<td>0.14</td>
<td>8.11</td>
<td></td>
<td>0.31</td>
</tr>
<tr>
<td>Beet molasses</td>
<td>0.24</td>
<td>3.28</td>
<td>0.63</td>
<td>0.08</td>
</tr>
<tr>
<td>Other</td>
<td>0.42</td>
<td>0.26</td>
<td>0.12</td>
<td>1.11</td>
</tr>
<tr>
<td>Total hay equivalent</td>
<td>54.76</td>
<td>140.14</td>
<td>136.79</td>
<td>27.52</td>
</tr>
<tr>
<td>Total animal units</td>
<td>15.18</td>
<td>71.42</td>
<td>362.75</td>
<td>7.40</td>
</tr>
<tr>
<td>Hay equivalent per animal unit</td>
<td>3.61</td>
<td>1.96</td>
<td>0.38</td>
<td>3.72</td>
</tr>
<tr>
<td>Hay equivalent per animal unit fed to beef cattle on beef-cattle farms</td>
<td></td>
<td>1.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay equivalent per animal unit fed to sheep on sheep ranches</td>
<td></td>
<td></td>
<td>0.23</td>
<td></td>
</tr>
</tbody>
</table>

*Quantity of feed fed equated to tons of alfalfa, on basis of net energy, total digestible nutrients and values.

The difference between the total animal-unit months of livestock feed derived from grazing and the total required was assumed to have been received from hand feeding. The amount of this varied from 841 animal-unit months for sheep ranches to 58 for part-time farms (table 39). The amount of alfalfa-hay equivalent fed per animal unit per month was calculated by dividing the hay equivalent by the animal-unit months of feed derived from cut forage or hand feeding. The amount of this varied from 0.15 tons for the sheep ranches to about 0.40 tons for the other farm types. The livestock on sheep ranches received 81 percent of the year's feed from grazing, and on beef-cattle farms 54 percent, while the livestock on general and part-time farms received only 35 percent of the year's feed from grazing.

On beef-cattle farms, both the total amount of feed per animal unit and length of the feeding period were higher than for other
A STUDY OF FARM ORGANIZATION BY TYPE OF FARM 45

Table 39. Summary of grazing and feeding for all livestock for each type of farm

<table>
<thead>
<tr>
<th>Factors</th>
<th>Farm type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General</td>
</tr>
<tr>
<td>Total animal units livestock*</td>
<td>15.18</td>
</tr>
<tr>
<td>Total animal-unit months of feed needed</td>
<td>182</td>
</tr>
<tr>
<td>Total animal-unit months of feed from grazing</td>
<td>64</td>
</tr>
<tr>
<td>Total animal-unit months of feed from hand feeding</td>
<td>118</td>
</tr>
<tr>
<td>Total tons of alfalfa hay equivalent fed*</td>
<td>54.8</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit*</td>
<td>3.61</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit per month fed</td>
<td>0.46</td>
</tr>
<tr>
<td>Percent of year’s feed from hand feeding</td>
<td>65</td>
</tr>
<tr>
<td>Percent of year’s feed from grazing</td>
<td>35</td>
</tr>
<tr>
<td>Months grazed**</td>
<td>4.2</td>
</tr>
<tr>
<td>Months hand feeding</td>
<td>7.8</td>
</tr>
</tbody>
</table>

*From table 38.
**From table 37.

farm types. The ratio of amount of grazing to feeding requirements is one of the important factors in the profitableness of beef cattle.

Farm Receipts

Cash Farm Receipts

For the different farm types, cash receipts varied from $453 for part-time farms to $7,328 for sheep ranches (table 40). General irrigated farms, which represent the largest number of farms in this area, had only $1,341 cash receipts. This was about one-half as much as on beef-cattle farms, about one-fourth as much as on lamb-feeding farms, and about one-fifth as much as on sheep ranches.

Crop receipts from general irrigated farms were $650, while those from sheep ranches were only $82. Sale of sugar beets was the major crop income for all farm types except sheep ranches.

On general irrigated farms, dairy receipts represented 40.9 percent and poultry 26.5 percent of total cash livestock receipts. On beef-cattle farms, beef-cattle sales comprised 72.4 percent of livestock receipts, while on sheep and lamb-feeding farms
Table 40. Cash receipts from crops and livestock, by farm type

<table>
<thead>
<tr>
<th>Source of receipts</th>
<th>Farm type</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General</td>
<td>Beef-</td>
<td>Sheep</td>
<td>Lamb-</td>
<td>Part-</td>
</tr>
<tr>
<td></td>
<td>dollars</td>
<td>cattle</td>
<td>dollars</td>
<td>feeding</td>
<td>time</td>
</tr>
<tr>
<td><strong>Crop sales:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay</td>
<td>120</td>
<td>26</td>
<td>37</td>
<td>85</td>
<td>33</td>
</tr>
<tr>
<td>Wheat</td>
<td>95</td>
<td>97</td>
<td>19</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Oats</td>
<td>25</td>
<td>13</td>
<td>2</td>
<td>7</td>
<td>....</td>
</tr>
<tr>
<td>Barley</td>
<td>40</td>
<td>25</td>
<td>2</td>
<td>....</td>
<td>14</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>303</td>
<td>404</td>
<td>....</td>
<td>226</td>
<td>41</td>
</tr>
<tr>
<td>Potatoes</td>
<td>35</td>
<td>12</td>
<td>10</td>
<td>7</td>
<td>....</td>
</tr>
<tr>
<td>Peas</td>
<td>25</td>
<td>17</td>
<td>12</td>
<td>....</td>
<td>6</td>
</tr>
<tr>
<td>Other crops</td>
<td>7</td>
<td>2</td>
<td>....</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total crop sales</strong></td>
<td>650</td>
<td>596</td>
<td>82</td>
<td>332</td>
<td>97</td>
</tr>
<tr>
<td><strong>Livestock Sales:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy cattle</td>
<td>54</td>
<td>49</td>
<td>23</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Dairy products</td>
<td>191</td>
<td>136</td>
<td>83</td>
<td>116</td>
<td>67</td>
</tr>
<tr>
<td>Sheep</td>
<td>34</td>
<td>62</td>
<td>2,857</td>
<td>4,306</td>
<td>....</td>
</tr>
<tr>
<td>Wool</td>
<td>26</td>
<td>103</td>
<td>3,827</td>
<td>171</td>
<td>1</td>
</tr>
<tr>
<td>Poultry sales</td>
<td>53</td>
<td>24</td>
<td>5</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Eggs</td>
<td>106</td>
<td>55</td>
<td>7</td>
<td>8</td>
<td>59</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>71</td>
<td>1,327</td>
<td>312</td>
<td>314</td>
<td>16</td>
</tr>
<tr>
<td>Other livestock</td>
<td>64</td>
<td>77</td>
<td>69</td>
<td>72</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total livestock</strong></td>
<td>599</td>
<td>1,833</td>
<td>7,183</td>
<td>5,019</td>
<td>205</td>
</tr>
<tr>
<td><strong>Total crops and livestock</strong></td>
<td>1,249</td>
<td>2,429</td>
<td>7,265</td>
<td>5,351</td>
<td>302</td>
</tr>
<tr>
<td><strong>Miscellaneous receipts</strong></td>
<td>92</td>
<td>58</td>
<td>63</td>
<td>277</td>
<td>151</td>
</tr>
<tr>
<td><strong>Total cash receipts</strong></td>
<td>1,341</td>
<td>2,487</td>
<td>7,328</td>
<td>5,628</td>
<td>453</td>
</tr>
</tbody>
</table>

receipts from sheep and wool made up approximately 90 percent of total cash receipts from livestock.

**Livestock Sales**

An average of 548 sheep were sold from the farms in the lamb-feeding group (table 41). Practically all of these were sold

Table 41. Number of different kinds of livestock sold per farm for farms of different types

<table>
<thead>
<tr>
<th>Kind of livestock</th>
<th>Farm type</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General</td>
<td>Beef-</td>
<td>Sheep</td>
<td>Lamb-</td>
<td>Part-</td>
</tr>
<tr>
<td></td>
<td>number</td>
<td>cattle</td>
<td>number</td>
<td>feeding</td>
<td>time</td>
</tr>
<tr>
<td>Dairy cattle other than calves</td>
<td>0.88</td>
<td>0.82</td>
<td>0.31</td>
<td>0.40</td>
<td>0.23</td>
</tr>
<tr>
<td>Dairy calves</td>
<td>1.12</td>
<td>0.50</td>
<td>0.75</td>
<td>1.20</td>
<td>0.69</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>1.65</td>
<td>28.25</td>
<td>6.15</td>
<td>6.40</td>
<td>0.54</td>
</tr>
<tr>
<td>Sheep</td>
<td>5.68</td>
<td>10.11</td>
<td>515.38</td>
<td>548.50</td>
<td>....</td>
</tr>
<tr>
<td>Horses</td>
<td>0.10</td>
<td>0.39</td>
<td>0.12</td>
<td>0.30</td>
<td>0.15</td>
</tr>
<tr>
<td>Hogs of all ages</td>
<td>3.99</td>
<td>4.66</td>
<td>2.06</td>
<td>1.63</td>
<td>1.38</td>
</tr>
<tr>
<td>Chickens</td>
<td>43.76</td>
<td>34.64</td>
<td>11.44</td>
<td>6.50</td>
<td>65.38</td>
</tr>
<tr>
<td>Turkeys</td>
<td>13.50</td>
<td>3.60</td>
<td>....</td>
<td>....</td>
<td>0.25</td>
</tr>
</tbody>
</table>
as fat lambs. The sheep ranches sold an average of 515 sheep. Of these only 35 were old ewes. This indicates that little culling was done. The small number of lambs sold per ranch was because most of the ewe lambs were kept for replacement and also because a few ranchers were holding their lambs for fattening. Beef-cattle farms sold an average of 28 head of beef cattle and 10 head of sheep. The sales of any one kind of livestock were not important on general or part-time farms.

**Total Receipts**

In 1936, all types of farms in this area increased their farm inventories. The greatest increase was for sheep ranches. This increase resulted principally from retaining larger numbers of livestock for replacement and from increased feed supplies (table 42).

Table 42. Receipts per farm from various sources for different farm types

<table>
<thead>
<tr>
<th>Source of income</th>
<th>General (dollars)</th>
<th>Beef-cattle (dollars)</th>
<th>Sheep (dollars)</th>
<th>Lamb-feeding (dollars)</th>
<th>Part-time (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash receipts:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop sales</td>
<td>650</td>
<td>596</td>
<td>82</td>
<td>332</td>
<td>97</td>
</tr>
<tr>
<td>Livestock sales</td>
<td>260</td>
<td>1,523</td>
<td>3,218</td>
<td>4,712</td>
<td>78</td>
</tr>
<tr>
<td>Livestock products sold</td>
<td>339</td>
<td>310</td>
<td>3,965</td>
<td>307</td>
<td>127</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>92</td>
<td>58</td>
<td>63</td>
<td>277</td>
<td>151</td>
</tr>
<tr>
<td>Total cash</td>
<td>1,341</td>
<td>2,487</td>
<td>7,328</td>
<td>5,628</td>
<td>453</td>
</tr>
</tbody>
</table>

| Inventory increases:   |                  |                       |                |                        |                   |
| Livestock              | 160              | 146                   | 1,328          | ...                    | 261               |
| Feed and supplies      | 93               | 170                   | 364            | 229                    | 14                |
| Total farm receipts    | 1,594            | 2,803                 | 9,020          | 5,857                  | 728               |

For 1936 the yearly farm-price index for lambs in Utah was 124 and for wool 166. Weighting price indexes for lambs and wool by relative income from each gave a combined price index of 138. The all-commodity price index for Utah for 1936 was 111, and for crops, 107. Reducing the income of $6,684 received for lambs and wool on sheep ranches to the basis of the all-commodity index of 111, the income from these two items would be $5,116 or a reduction of $1,568. With this adjustment, the farm income would be $2,242, still the highest income for any farm type. The difference in size of farm business on various types of farms explains a part of the variation in income between farm types studied. By comparing size of farm business by number of productive man-work-units required to operate the business for each type, sheep ranches were 3.5 times larger than general
irrigated farms, 2.3 times larger than beef-cattle farms, and 6.3 times larger than part-time farms.

The income from increased inventories was 11 percent of total receipts for beef-cattle farms; 16 percent for the general irrigated farms; and 38 percent for the part-time farms.

**Farm Expenses**

The current cash expenses of sheep ranches ($4,003) were more than 3 times larger than for any other type of farm (table 43). However, the purchase of feeder lambs by lamb-feeding farms increased cash expense of this group to $4,010.

The types of farms with the largest expenses had the highest expenses.

## Table 43. Expense per farm for various types of farms

<table>
<thead>
<tr>
<th>Nature of expense</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td><strong>Cash expenses:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>596</td>
<td>1,200</td>
<td>4,003</td>
<td>1,095</td>
<td>407</td>
</tr>
<tr>
<td>Livestock purchases</td>
<td>134</td>
<td>482</td>
<td>757</td>
<td>2,915</td>
<td>61</td>
</tr>
<tr>
<td><strong>Total cash expenses</strong></td>
<td>730</td>
<td>1,682</td>
<td>4,760</td>
<td>4,010</td>
<td>468</td>
</tr>
</tbody>
</table>

| Decreases in:        |         |             |        |              |           |
| Livestock            |         |             |        |              |           |
| Machinery            | 23      | 31          | 98     | 38           | 17        |
| Real estate          | 40      | 60          | 110    | 73           | 41        |
| Unpaid family labor  | 140     | 229         | 242    | 156          | 99        |
| **Total expenses**   | 933     | 2,002       | 5,210  | 4,417        | 625       |

## Table 44. Current expenses per farm for various items for different farm types

<table>
<thead>
<tr>
<th>Items of expense</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Hired labor</td>
<td>112</td>
<td>318</td>
<td>1,497</td>
<td>139</td>
<td>24</td>
</tr>
<tr>
<td>Custom work</td>
<td>55</td>
<td>69</td>
<td>306</td>
<td>64</td>
<td>16</td>
</tr>
<tr>
<td>Feeds</td>
<td>99</td>
<td>155</td>
<td>431</td>
<td>229</td>
<td>224</td>
</tr>
<tr>
<td>Seeds and plants</td>
<td>32</td>
<td>33</td>
<td>18</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>Water rent</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>State and county taxes</td>
<td>114</td>
<td>194</td>
<td>563</td>
<td>210</td>
<td>50</td>
</tr>
<tr>
<td>Water taxes</td>
<td>40</td>
<td>65</td>
<td>47</td>
<td>75</td>
<td>9</td>
</tr>
<tr>
<td>Building and machinery expense</td>
<td>42</td>
<td>95</td>
<td>44</td>
<td>65</td>
<td>15</td>
</tr>
<tr>
<td>Supplies and services</td>
<td>23</td>
<td>42</td>
<td>103</td>
<td>44</td>
<td>10</td>
</tr>
<tr>
<td>Fees and stock pasture</td>
<td>19</td>
<td>86</td>
<td>428</td>
<td>74</td>
<td>10</td>
</tr>
<tr>
<td>Auto—farm share</td>
<td>26</td>
<td>75</td>
<td>88</td>
<td>56</td>
<td>5</td>
</tr>
<tr>
<td>Truck and tractor</td>
<td>10</td>
<td>15</td>
<td>199</td>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
<td>43</td>
<td>277</td>
<td>54</td>
<td>10</td>
</tr>
</tbody>
</table>

**Total current expense** 596 1,200 4,003 1,095 407
percentage of total expenses in the form of cash. This is partly because they were livestock farms and partly because of the larger size. Although the value of unpaid labor on general and part-time farms was less than for other farm types, the percentage that this item was of total expense was considerably higher.

The principal items of expense for all types of farms were hired labor, purchased feeds and taxes (table 44). Cost of hired labor equalled more than one-third of total expenses on sheep ranches; purchased feed was the major item of expense for part-time farms. Taxes varied from 12 percent of total cash expense on part-time farms to 19 percent for general irrigated and lamb-feeding farms.

**Measures of Farm Success**

**Financial Returns**

Farm income, which represents the income after total expenses have been subtracted from total receipts, is the return to the operator for his labor and use of capital. This ranged from $103 for part-time farms to $3,810 for sheep ranches (table 45). Farm income for general irrigated farms, which represent the largest number of farms in this area, averaged $661 per farm.

<table>
<thead>
<tr>
<th>Item</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm receipts</td>
<td>1,594</td>
<td>2,803</td>
<td>9,020</td>
<td>5,857</td>
<td>728</td>
</tr>
<tr>
<td>Total farm expenses</td>
<td>933</td>
<td>2,002</td>
<td>5,210</td>
<td>4,417</td>
<td>625</td>
</tr>
<tr>
<td>Farm income</td>
<td>661</td>
<td>801</td>
<td>3,810</td>
<td>1,440</td>
<td>103</td>
</tr>
<tr>
<td>Interest on capital</td>
<td>439</td>
<td>940</td>
<td>2,113</td>
<td>932</td>
<td>190</td>
</tr>
<tr>
<td>at 5 percent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor income</td>
<td>222</td>
<td>–139</td>
<td>1,697</td>
<td>508</td>
<td>–87*</td>
</tr>
<tr>
<td>Farm privileges</td>
<td>302</td>
<td>410</td>
<td>554</td>
<td>362</td>
<td>228</td>
</tr>
<tr>
<td>Labor earnings</td>
<td>524</td>
<td>271</td>
<td>2,231</td>
<td>870</td>
<td>141</td>
</tr>
<tr>
<td>Labor earnings per</td>
<td>364</td>
<td>147</td>
<td>639</td>
<td>485</td>
<td>133</td>
</tr>
<tr>
<td>man</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage expenses</td>
<td>59</td>
<td>71</td>
<td>58</td>
<td>75</td>
<td>86</td>
</tr>
<tr>
<td>are of receipts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*In addition to labor income from the farm, part-time farmers had a net income from work away from the farm of $153.

Labor income, which is one of the best single measures of financial success of the farm business, ranged from minus $139 for beef-cattle farms to $1,697 for sheep ranches. The average for general irrigated farms was $222, while for part-time farms it was minus $87.
Labor income for part-time farms is not entirely comparable to that for other farm types because the operators on part-time farms were employed on the farm only a part of the year. They received $153 for work away from the farm. This amount plus the labor income from the farm of minus $87, represents the total returns to operators of part-time farms for their year's labor.

Another measure of success of the farm business is the ratio of expenses to income. On part-time farms the expense equaled 86 percent of receipts; on lamb-feeding farms 75 percent; on beef-cattle farms 71 percent; on general farms 59 percent. On sheep ranches the expense was only 58 percent of receipts.

Variation of Labor Income by Farm Type

On general irrigated farms, 33.2 percent of the operators had a minus labor income, and 42.8 percent had an income ranging from $0 to $500; 76 percent of the general irrigated farms in this area had labor incomes under $500 (table 46).

<table>
<thead>
<tr>
<th>Income group</th>
<th>General</th>
<th>Beef-cattle</th>
<th>Sheep</th>
<th>Lamb-feeding</th>
<th>Part-time</th>
<th>All farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>$-500 and less</td>
<td>5.9</td>
<td>25.0</td>
<td>9.4</td>
<td>...</td>
<td>...</td>
<td>7.9</td>
</tr>
<tr>
<td>$-500 to $0</td>
<td>27.3</td>
<td>35.7</td>
<td>9.4</td>
<td>33.4</td>
<td>69.2</td>
<td>27.5</td>
</tr>
<tr>
<td>$0 to $500</td>
<td>42.8</td>
<td>25.0</td>
<td>21.9</td>
<td>22.2</td>
<td>30.8</td>
<td>36.8</td>
</tr>
<tr>
<td>$501 to $1,000</td>
<td>15.0</td>
<td>10.7</td>
<td>12.5</td>
<td>22.2</td>
<td>...</td>
<td>14.6</td>
</tr>
<tr>
<td>Over $1,000</td>
<td>9.0</td>
<td>3.6</td>
<td>46.8</td>
<td>22.2</td>
<td>...</td>
<td>13.2</td>
</tr>
</tbody>
</table>

In the beef-cattle group, 60.7 percent had a minus labor income, 25.0 percent had labor incomes from $0 to $500, or 85.7 percent had less than $500.

On the other hand, 59.3 percent of the operators of sheep ranches had a labor income of more than $500, and 46.8 percent received more than $1,000.

On part-time farms, 69.2 percent had a minus labor income with 30.8 percent showing a labor income of $0 to $500. For all farms included in the study, 35.4 percent had a minus labor income.

Farm Privileges and Labor Earnings

The farm privileges were $228 for the part-time farms and $534 for sheep ranches (table 45). The average for general irrigated farms was $302. The larger number of farm laborers boarded
on sheep ranches partly explains the greater income classed as farm privileges for this group. This income for all farms excepting sheep ranches and lamb-feeding farms was larger than the labor income.

Combined labor income and farm privileges gave labor earnings for part-time farmers of $141 and $524 for general irrigated farms. Labor earnings for sheep ranches were highest with $2,231, while beef-cattle farms had labor earnings of only $271, or the lowest income for any group excepting part-time farms. Labor earnings per man were highest on the sheep ranches and lowest on the part-time farms.

Family Income

In addition to labor earnings of the operator, the farm family income includes interest on the farmer's equity, value of unpaid family labor on the farm, and any income other than that received from the farm. In order to study the efficiency of the business it was necessary to make all farms comparable as to labor costs and use of capital. Therefore the cost of family labor and interest on capital were deducted from the income. Consequently, labor earnings, unpaid family labor, interest on the farmer's equity and income other than farm constitute the family income.

These items of unpaid family labor, interest on equity and income other than the farm are often greater than the labor earnings of the operator. In fact, the farm may show a minus return to the operator, and yet the family may have a fair income from sources other than the earnings of the farm operator.

Using income as a measure of financial success on the farms covered by this study, the operators of sheep ranches were the most successful, while part-time farms were least. Labor earnings for the sheep operators were about 4 times larger than those on general irrigated farms and 8 times larger than on beef-cattle farms.

Factors Affecting Financial Success of the Farm Business

Financial success or failure of the farm business is the result of many factors. Factors such as prices received, climate, and certain plant diseases and pests are largely beyond the control of the individual farmer. Other factors such as type of farming, size of farm business, efficiency in use of capital and labor, rates of production, cropping and marketing practices, are to a large extent within the control of the farmer.

Types of Farming

A detailed analysis of the farm business by types of farming
has been presented in preceding pages. General irrigated farming, which includes both crop and livestock production, was the most prevalent type. However, returns were larger from sheep ranches and lamb-feeding farms.

If sheep ranching was the most profitable, the question arises: Why was not this type the most prevalent in the area? The reason for the smaller number of sheep ranches is explained by the fact that sheep production in these counties is dependent upon use of range lands, which use is largely dependent upon privileges granted by the federal government to graze on the forest and the public domain. These privileges are limited, which in turn limits the number of sheep operators. Although this area is adapted to range-livestock production by the interrelated use of range land and irrigated farm lands, there is not sufficient range land to provide this type of farming for all farms in the area.

The large size of the farm business on sheep ranches was one of the major factors responsible for higher income for this type of farming. These larger farm units also required a larger investment, which prohibited many farmers from entering this type of business.

The prevailing type of farming in these counties, that of irrigated farms, is the result of a number of interrelated factors, the chief of which are: soils, climate (including available water) and location with respect to markets. Soils and climate are generally favorable to production of field crops: alfalfa, grain, sugar beets, potatoes, and some canning peas. Location, which includes transportation facilities, is favorable to marketing of crops as well as livestock and livestock products. Elevation and frost hazards, together with shortage of irrigation water, in some parts of the counties, prohibit production of fruits and some intensive truck crops.

Improvement in the farm income on general irrigated farms, especially part-time farms, will undoubtedly come about through a better combination of farm enterprises, increasing acreage of cash crops, increasing rates of production, and increasing size of the farm unit, rather than through change in type of farming.

Analysis of Factors Affecting Success of each Farm Type

General Irrigated Farms

Variation of Labor Income

In 1936 there was a wide variation in labor income on the general irrigated farms. Of these farms, 33 percent had a minus
labor income and 76 percent had less than $500, with only 24 percent having an income above $500 (table 47). Only 9 percent of the total number of farms had an income above $1,000. The analysis of some of the factors that affect financial success of the farm business will largely explain this wide variation in income.

Table 47. Variation in labor incomes on general irrigated farms

<table>
<thead>
<tr>
<th>Range in labor income</th>
<th>Farms</th>
<th>Percentage of total</th>
<th>Average labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>$—500 and less</td>
<td>11</td>
<td>6</td>
<td>—719</td>
</tr>
<tr>
<td>$—500 to $0</td>
<td>51</td>
<td>27</td>
<td>—189</td>
</tr>
<tr>
<td>$0 to $500</td>
<td>80</td>
<td>43</td>
<td>208</td>
</tr>
<tr>
<td>$501 to $1,000</td>
<td>28</td>
<td>15</td>
<td>689</td>
</tr>
<tr>
<td>Over $1,000</td>
<td>17</td>
<td>9</td>
<td>1,333</td>
</tr>
<tr>
<td>All farms</td>
<td>187</td>
<td>100</td>
<td>222</td>
</tr>
</tbody>
</table>

Size of Farm

Number of man-work-units is considered the best measure of size of farm. Farms with less than 200 man-work-units had a labor income of minus $19, while those with more than 500 had a labor income of $648 (table 48). Farms with less than 200 man-work-units had only about one-third the acreage in crops and in number of animal units as did farms with more than 500.

Table 48. Relation of size of farm to other factors on general irrigated farms

<table>
<thead>
<tr>
<th>Range in number of productive man-work-units</th>
<th>Productive m. w. u.</th>
<th>Total capital</th>
<th>Total receipts</th>
<th>Acres in crops</th>
<th>Crop yield index</th>
<th>Animal units</th>
<th>Labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms</td>
<td>Per man</td>
<td>Per farm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 200</td>
<td>38</td>
<td>168</td>
<td>146</td>
<td>5,313</td>
<td>766</td>
<td>29.7</td>
<td>92</td>
</tr>
<tr>
<td>200 to 299</td>
<td>67</td>
<td>246</td>
<td>202</td>
<td>7,318</td>
<td>1,143</td>
<td>41.2</td>
<td>102</td>
</tr>
<tr>
<td>300 to 399</td>
<td>39</td>
<td>345</td>
<td>254</td>
<td>8,649</td>
<td>1,630</td>
<td>49.5</td>
<td>103</td>
</tr>
<tr>
<td>400 to 499</td>
<td>26</td>
<td>437</td>
<td>265</td>
<td>12,362</td>
<td>2,170</td>
<td>66.1</td>
<td>102</td>
</tr>
<tr>
<td>500 and over</td>
<td>17</td>
<td>641</td>
<td>338</td>
<td>17,973</td>
<td>3,245</td>
<td>91.9</td>
<td>110</td>
</tr>
<tr>
<td>All farms</td>
<td>187</td>
<td>314</td>
<td>222</td>
<td>8,778</td>
<td>1,594</td>
<td>49.4</td>
<td>100</td>
</tr>
</tbody>
</table>

The number of man-work-units per man on the farms varied from 146 per year for farms with less than 200 man-work-units to 338 for farms with more than 500. On the smaller sized farms, the labor was less than 50 percent as efficient as on the larger farms.

Contrary to the opinion of many farmers, the larger farms had the highest crop yields, with a crop-yield index of 110, as compared to 92 for the smaller farms. The small farms had fewer
acres in crops, less animal units, lower rates of production, less labor efficiency and less income than the larger farms.

These data show a close relationship between size of farm unit and labor income.

Since size of farm unit is so closely related to income, the question arises as to what can be done to change the size. Size of unit can be increased by purchasing or renting additional land, by reclaiming land, or by obtaining additional grazing permits, and also by more intensification of the land being farmed. Most farmers find it more practical to enlarge by extending farm acreage or by grazing more livestock on public lands. These methods of enlarging the farm are more successful in areas where crop yields are low and where intensification is not practical, or where the farmer, by training and experience, is more successful in farming on an extensive scale.

In many areas in Utah and some sections in Sanpete and Sevier Counties, it is difficult to increase the size of the farm business by increasing acreage. If additional acreage or grazing privileges is not available, then the second alternative can be followed, that of more intensification. Greater intensification can be obtained by changing the type of farming or by increasing the farm production by better care of crops and livestock. Intensification of crop production in this area might be done through growing more sugar beets, potatoes, and canning peas; and intensification of livestock through increase in number of dairy cows, chickens and turkeys. Dairy cows could partially replace beef cattle that are being kept on irrigated farms. Dairy production is more profitable than beef-cattle production where cattle are kept on the farm most of the time.

On 20 percent of the farms there was an average of only 168 man-work-units, and on 56 percent less than 300. Seventy-seven percent of the farms averaged less than 400 man-work-units; 91 percent averaged less than 500, or the equivalent of 1½ men, and only 9 percent averaged 641 man-work-units, or about the equivalent of two men.

Low labor income on farms with a small number of man-work-units was largely because the farm operator and the family labor available were not fully employed or there was low efficiency in use of this labor. Enlarging the size of farm business is one of the most fruitful ways to increase the farm income where farms are small.

The problem on these small farms is to find more days of productive work. This can be done by extending the farm area,
or by more intensification. The method to follow in the enlargement of the farm business will depend on conditions on each farm, and also on the ability of the individual farmer.

Rates of Production

The farms with a crop-yield-index of 61 percent of the state average yields, had a labor income of minus $62, as compared to $435 for farms where the crop-yield-index was 42 percent above state yields (table 49).

Table 49. Relation of crop index to other factors on general irrigated farms

<table>
<thead>
<tr>
<th>Crop yield index</th>
<th>Farms</th>
<th>Average crop yield index</th>
<th>Acres in crops</th>
<th>Productive man-work units Per farm</th>
<th>Per man</th>
<th>Animal units</th>
<th>Labor income</th>
<th>Labor earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 75</td>
<td>37</td>
<td>61</td>
<td>47.6</td>
<td>264</td>
<td>205</td>
<td>13.5</td>
<td>-62</td>
<td>201</td>
</tr>
<tr>
<td>75 to 99</td>
<td>63</td>
<td>88</td>
<td>56.5</td>
<td>330</td>
<td>230</td>
<td>16.5</td>
<td>114</td>
<td>401</td>
</tr>
<tr>
<td>100 to 124</td>
<td>45</td>
<td>110</td>
<td>49.2</td>
<td>310</td>
<td>219</td>
<td>15.8</td>
<td>399</td>
<td>699</td>
</tr>
<tr>
<td>125 and over</td>
<td>42</td>
<td>142</td>
<td>41.8</td>
<td>327</td>
<td>229</td>
<td>14.3</td>
<td>435</td>
<td>781</td>
</tr>
<tr>
<td>All farms</td>
<td>187</td>
<td>100</td>
<td>49.4</td>
<td>314</td>
<td>222</td>
<td>15.2</td>
<td>222</td>
<td>524</td>
</tr>
</tbody>
</table>

With the exception of the group of farms with crop-yield-index of less than 75, there was not sufficient difference in size of farm unit in the respective classes to greatly influence income. Since the farms with the highest yields were also slightly larger, undoubtedly size of unit affected income to some extent; however, crop yield was the major factor influencing labor income in this classification. High crop yields were closely associated with profitable farming.

Comparison of Most Profitable and Least Profitable Farms

The labor income for the profitable farms averaged $693 as compared to a minus $119 for the less profitable farms (table 50).

Table 50. Comparison of certain factors for general irrigated farms which are above and below average on basis of labor income

<table>
<thead>
<tr>
<th>Labor income</th>
<th>Farms</th>
<th>Average labor income</th>
<th>Productive man-work units</th>
<th>Cultivated land</th>
<th>Crop-yield index</th>
<th>Animal units</th>
<th>Dairy cows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>dollars</td>
<td>number</td>
<td>acres</td>
<td>percent</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>Above average</td>
<td>78</td>
<td>693</td>
<td>348</td>
<td>53.5</td>
<td>112</td>
<td>16.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Below average</td>
<td>109</td>
<td>-119</td>
<td>289</td>
<td>46.8</td>
<td>93</td>
<td>14.5</td>
<td>4.1</td>
</tr>
<tr>
<td>All farms</td>
<td>187</td>
<td>222</td>
<td>314</td>
<td>49.4</td>
<td>100</td>
<td>15.2</td>
<td>4.2</td>
</tr>
</tbody>
</table>
The farms above average income had 20 percent higher crop index, about 2 more animal units, about 7 more acres of cultivated land, and 59 more man-work-units per farm, than did the farms with below average returns. It is evident that higher crop yields, together with a little larger size farm unit are the 2 major factors affecting income.

**Summary of Factors Affecting General Irrigated Farms**

As shown by this study, the income on general irrigated farms was relatively low. The factors affecting income were small size of the farm unit, low labor efficiency, small acreage of cash crops and small number of dairy cows. Rates of production were about average for the state.

To improve greatly the farm income for a large number of these farms may require changes in type of farming or reorganization of the farm business.

**Beef-Cattle Farms**

Beef-cattle farms in Sanpete and Sevier Counties were in reality general irrigated farms with a small-beef cattle enterprise. Although cash crops were produced on these farms, 65 percent or more of the total farm income came from the sale of livestock and livestock products, and 72 percent or more of the livestock income came from the beef-cattle enterprise. The average number of beef cattle per farm was only 67, or 50.2 animal units (tables 30 and 31). The cattle were fed on the farms during the winter months and grazed on public and private grazing lands and farm fields during the rest of the year.

Records of the United States Forest Service show that permits have been issued to 773 livestock men of Sanpete and Sevier Counties to graze beef cattle on the national forest. In 1937, the average number of head for each permittee was only 19.7. Eighty-five percent of the permittees grazed less than 30 head and 97 percent had permits for fewer than 100 head.

This type of farming—that of growing field crops on irrigated land, with a small acreage of cash crops, and using most of the feed produced to support a small unit of beef cattle—was less profitable than other farm types studied in these counties. The analysis of the factors affecting farm income explains some of the reasons for the low income on these farms.

**Variation of Labor Income**

Of the beef-cattle farms, 61 percent had an average labor income of minus $550; 25 percent had labor incomes of $280, and
A STUDY OF FARM ORGANIZATION BY TYPE OF FARM

Table 51. Relation of labor income to various factors on beef-cattle farms

<table>
<thead>
<tr>
<th>Labor income</th>
<th>Farms</th>
<th>Labor income</th>
<th>Man-work units</th>
<th>Man-work units</th>
<th>No. beef cows</th>
<th>Percent calf crop</th>
<th>Beef-cattle increases*</th>
<th>Other livestock &amp; livestock product increases*</th>
<th>Crop sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>number dollars</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>dollars</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Minus labor income</td>
<td>17</td>
<td>$-550</td>
<td>418</td>
<td>230</td>
<td>227</td>
<td>26</td>
<td>56</td>
<td>792</td>
<td>415</td>
</tr>
<tr>
<td>0 to $499</td>
<td>7</td>
<td>$280</td>
<td>499</td>
<td>297</td>
<td>273</td>
<td>27</td>
<td>69</td>
<td>892</td>
<td>774</td>
</tr>
<tr>
<td>$500 and over</td>
<td>4</td>
<td>$870</td>
<td>617</td>
<td>296</td>
<td>359</td>
<td>26</td>
<td>57</td>
<td>1,174</td>
<td>1,232</td>
</tr>
<tr>
<td>All farms</td>
<td>28</td>
<td>$-139</td>
<td>467</td>
<td>256</td>
<td>257</td>
<td>26</td>
<td>59</td>
<td>871</td>
<td>621</td>
</tr>
</tbody>
</table>

*Value of beef cattle and other livestock and livestock product increases is a net figure showing difference in value of opening inventory plus purchases and closing inventory plus sales.

only 14 percent had labor incomes of above $500 (table 51). The average for all beef cattle farms was a minus $139. Why beef cattle farms were less profitable than other types is a question which is of much interest to these operators.

The group of farmers receiving the highest labor incomes had about the same number of beef cows as did the low income group. The high income group, however, had larger farm units, twice as much income from sale of crops and three times as much from sale of livestock, other than beef cattle, and from livestock products. The success of these farms resulted primarily from production of cash crops and income from livestock other than beef cattle. The combining of enterprises, or more intensification of the farm business, enabled the farmer to increase the size of his business without increasing acreage. This resulted in more efficient use of labor and equipment and afforded a better opportunity for crop rotation and use of fertilizers.

The results obtained on farms where there was a combination of enterprises, such as beef cattle, cash crops, and fattening livestock or running some dairy cows, indicated that it would pay farmers with a small unit of beef cattle and with no other enterprises, or where it is not practical to operate an economic unit of beef cattle, to adopt a combination of enterprises in which cash enterprises would be combined with beef-cattle production.

One question that might be raised is that of prices received for beef cattle as compared to prices of other farm commodities. The index for beef cattle for Utah in 1936 was 6 percent below the average for all farm commodities for the state. Also, average price paid producers in Utah at the farm for beef cattle in 1936 was 6.3 percent below the average price received for the five year period 1935 to 1940. If beef-cattle prices had been equal to the average for all farm commodities, income from beef cattle based on $1,327 cash sales would have been increased only $85 per farm,
or if prices had been equal to the average beef-cattle price of 1935-40, the increase would have been only $89. This adjustment in income for price differential, therefore, was not of sufficient importance to make any appreciable change in the average income for these farms.

Size of Farm Unit

On the beef-cattle farms studied, there was no significant relationship between size of farm business and labor income (table 52). The farms that averaged 541 productive man-work-units had a labor income of minus $141, while farms below 300 productive man-work-units had a labor income of minus $135. The average labor income for all farms was minus $139.

Table 52. Relation of size of farm business to labor income and other factors on beef cattle farms

<table>
<thead>
<tr>
<th>Productive man-work units</th>
<th>Farms</th>
<th>Man-work units</th>
<th>Beef cows</th>
<th>Animal units</th>
<th>Calf crop</th>
<th>Crop-yield index</th>
<th>Labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>num-ber</td>
<td>num-ber</td>
<td>num-ber</td>
<td>num-ber</td>
<td>per-cent</td>
<td>per-cent</td>
<td>dollars</td>
</tr>
<tr>
<td>Less than 300</td>
<td>7</td>
<td>246</td>
<td>214</td>
<td>19.4</td>
<td>43</td>
<td>57</td>
<td>90</td>
</tr>
<tr>
<td>More than 300</td>
<td>21</td>
<td>541</td>
<td>270</td>
<td>28.5</td>
<td>53</td>
<td>59</td>
<td>101</td>
</tr>
<tr>
<td>All farms</td>
<td>28</td>
<td>467</td>
<td>256</td>
<td>26.2</td>
<td>50</td>
<td>59</td>
<td>98</td>
</tr>
</tbody>
</table>

The larger farms, as measured by man-work-units, acreage, number of animal units and capital, had a slightly higher crop-yield index and percentage calf crop. They were also more efficient in use of labor with 270 man-work-units per man as compared to 214 for the smaller farms.

Usually larger farms have higher farm income; however, the beef-cattle farms were larger in size than the general irrigated farms, but the incomes were lower. Evidently, the type of farming followed on these farms was more important than size of farm business in determining financial success. On farms where size was increased through more intensification, such as adding cash crops and other livestock enterprises, the income was increased.

Number of Beef Cows

Farms with less than 25 beef cows per farm had a minus $45 labor income, as compared to a minus $309 labor income for farms reporting more than 25 head of beef cows (table 53). Farms having the smaller number of beef cows had a calf crop of 73.4 percent, as compared to 50.9 percent where the beef-cattle enter-
Table 53. **Relation of number of beef cows per farm to various factors on beef-cattle farms**

<table>
<thead>
<tr>
<th>Beef cows per farm</th>
<th>Farms</th>
<th>Beef cows per farm</th>
<th>Calf crop (weighted)</th>
<th>Death loss of cows</th>
<th>Man work units Per farm</th>
<th>Per man</th>
<th>Labor income with minus labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>num-</td>
<td>num-</td>
<td>per-</td>
<td>per-</td>
<td>num-</td>
<td>num-</td>
<td>dol-</td>
<td>per-</td>
</tr>
<tr>
<td>ber</td>
<td>ber</td>
<td>cent</td>
<td>cent</td>
<td>ber</td>
<td>ber</td>
<td>lars</td>
<td>cent</td>
</tr>
<tr>
<td>25 or less</td>
<td>18</td>
<td>13.5</td>
<td>73.4</td>
<td>1.8</td>
<td>389</td>
<td>232</td>
<td>-45</td>
</tr>
<tr>
<td>More than 25</td>
<td>10</td>
<td>49.1</td>
<td>50.9</td>
<td>4.6</td>
<td>607</td>
<td>297</td>
<td>-309</td>
</tr>
<tr>
<td>Average all farms</td>
<td>28</td>
<td>26.2</td>
<td>59</td>
<td>3.6</td>
<td>467</td>
<td>256</td>
<td>-139</td>
</tr>
</tbody>
</table>

prize was larger. On the farms with the larger number of beef cows per farm the return to the operator for his labor was lowest. The group of farms with the larger beef-cattle enterprises had also a larger total farm business, with 607 man-work-units, as compared to 389 for the group of farms with less than 25 cows per farm. These larger farms also had a higher labor efficiency with 297 man-work-units per man, as compared to 232 on the smaller farms. In spite of size of the farm business and increased labor efficiency, the farms with the larger number of beef cattle were less profitable.

**Appreciation per Beef Cattle Unit**

The appreciation per animal unit of beef cattle is the total increase in value of the beef herd during the year, divided by the number of animal units at the beginning of the year, plus purchases adjusted to a year-long basis (table 54). It reflects the combined influence upon the financial returns from beef cattle of percent calf crop, death loss, and the increase owing to growth and maturity of the cattle. The average appreciation per animal unit for all farms was $20.10. There was a direct relationship between

Table 54. **Relation of appreciation of beef stock per animal unit to other factors on beef-cattle farms**

<table>
<thead>
<tr>
<th>Appreciation per animal unit of beef stock</th>
<th>Farms</th>
<th>Beef cows</th>
<th>Average appreciation</th>
<th>Calf crop (weighted)</th>
<th>Death loss of beef cows (weighted)</th>
<th>Average labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td>number</td>
<td>number</td>
<td>dollars</td>
<td>percent</td>
<td>percent</td>
<td>dollars</td>
<td></td>
</tr>
<tr>
<td>Less than $15.00</td>
<td>11</td>
<td>36.3</td>
<td>12.36</td>
<td>55</td>
<td>4.5</td>
<td>-550</td>
</tr>
<tr>
<td>$15.00 to $20.00</td>
<td>7</td>
<td>18.8</td>
<td>17.18</td>
<td>61</td>
<td>3.0</td>
<td>175</td>
</tr>
<tr>
<td>Above $20.00</td>
<td>10</td>
<td>20.5</td>
<td>30.66</td>
<td>63</td>
<td>2.4</td>
<td>192</td>
</tr>
<tr>
<td>All farms</td>
<td>28</td>
<td>26.2</td>
<td>20.10</td>
<td>59</td>
<td>3.6</td>
<td>-139</td>
</tr>
</tbody>
</table>
appreciation per animal unit and labor income for the farm operator. The beef farms showing the lowest appreciation had a larger number of beef cows, higher death loss, and lower calf crop.

Relation of Feed Fed to Beef Cattle to Income

To support the 50.15 animal units of beef cattle required 602 animal unit months of feed (table 55). Of this 358 were obtained from grazing, including farm fields, and 244 from hand feeding, or 59 percent of the year's feed for beef cattle was obtained from grazing and 41 percent from hand feeding. In other words, the beef cattle were grazed 7.1 months and hand fed 4.9. The long period of hand feeding in these counties as compared to the short period of time the cattle were grazed explains one of the principal reasons why beef-cattle production on irrigated farms in these counties was not profitable.

The farmers feeding more than 2 tons of alfalfa-hay equivalent per animal unit had a lower labor income than those feeding less than 1½ tons (table 56). In other words, the profitableness

<table>
<thead>
<tr>
<th>Table 55. Summary of grazing and feeding of beef cattle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Total animal units in beef-cattle</td>
</tr>
<tr>
<td>Animal unit months of feed needed</td>
</tr>
<tr>
<td>Total tons of alfalfa hay equivalent fed</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit per month fed</td>
</tr>
<tr>
<td>Animal unit months of feed from grazing</td>
</tr>
<tr>
<td>Animal unit months of feed from hand feeding</td>
</tr>
<tr>
<td>Percent of year's feed from grazing</td>
</tr>
<tr>
<td>Percent of year's feed from hand feeding</td>
</tr>
<tr>
<td>Months grazed</td>
</tr>
<tr>
<td>Months hand fed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Beef-cattle farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.15</td>
</tr>
<tr>
<td>602</td>
</tr>
<tr>
<td>82.63</td>
</tr>
<tr>
<td>1.65</td>
</tr>
<tr>
<td>.34</td>
</tr>
<tr>
<td>358</td>
</tr>
<tr>
<td>244</td>
</tr>
<tr>
<td>59</td>
</tr>
<tr>
<td>358</td>
</tr>
<tr>
<td>244</td>
</tr>
<tr>
<td>7.1</td>
</tr>
<tr>
<td>4.9</td>
</tr>
</tbody>
</table>

obtained from grazing, including farm fields, and 244 from hand feeding, or 59 percent of the year's feed for beef cattle was obtained from grazing and 41 percent from hand feeding. In other words, the beef cattle were grazed 7.1 months and hand fed 4.9. The long period of hand feeding in these counties as compared to the short period of time the cattle were grazed explains one of the principal reasons why beef-cattle production on irrigated farms in these counties was not profitable.

The farmers feeding more than 2 tons of alfalfa-hay equivalent per animal unit had a lower labor income than those feeding less than 1½ tons (table 56). In other words, the profitableness

<table>
<thead>
<tr>
<th>Table 56. Relationship of tons of alfalfa hay equivalent fed per animal unit of beef stock and various others factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit</td>
</tr>
<tr>
<td>Farms</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Alfalfa hay equivalent</td>
</tr>
<tr>
<td>Man</td>
</tr>
<tr>
<td>Death loss</td>
</tr>
<tr>
<td>Beef cows</td>
</tr>
</tbody>
</table>
| number  tons   farm man  units  calf crop  percent  percent  dols  num-
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1.5 tons</td>
</tr>
<tr>
<td>12  0.99  448  245  59  2.7  —15  30.6</td>
</tr>
<tr>
<td>1.5 to 2.0 tons</td>
</tr>
<tr>
<td>7  1.71  432  273  62  1.8  —212  22.0</td>
</tr>
<tr>
<td>More than 2 tons</td>
</tr>
<tr>
<td>8  2.75  518  254  56  6.0  —249  23.7</td>
</tr>
<tr>
<td>All farms</td>
</tr>
<tr>
<td>27*  1.62  467  256  59  3.6  —139  26.2</td>
</tr>
</tbody>
</table>

*This number does not agree with total beef farms because one record could not be used in this part owing to incomplete data.
of the farm business was closely related to tons of hay equivalent fed per animal unit. The more feed fed per unit, the less the income. This feed varied from 0.99 tons for the group feeding less than 1.5 tons to 2.75 tons for farms feeding more than 2 tons. One ton of hay fed per animal unit of beef cattle is considered ample, even in areas where winter feeding is necessary and where the winters are more severe than in Sanpete and Sevier Counties.

Rates of Production

Calf Crop. The average calf crop for all beef-cattle farms was 59 percent (table 57). Twenty-nine percent of the cattlemen reported a calf crop under 50 percent and 68 percent reported a crop below 75 percent. Only 32 percent had a crop above 75 percent.

The farms which averaged 92 percent calf crop had a labor income of minus $86, as compared to a labor income of minus $281 on the farms that had a calf crop below 50 percent. Farms with the smallest number of beef cows had the highest percentage calf crop, while farms having the largest number of beef cows had the lowest. There was a direct relationship between percentage calf crop and labor income. However, farms with the better returns had only 16 head of beef cows. The low percentage calf crop undoubtedly was one of the factors responsible for the low income from beef-cattle farms. Success in beef-cattle production cannot be expected until production practices designed to greatly increase the calf crop are inaugurated.

The low calf crop is undoubtedly partly the result of breeding practices in that breeding of the beef cows is usually done on summer ranges, and as a result of the mountainous condition of the ranges, the herd may be widely scattered, which makes control of breeding difficult. Other management practices also in-
fluenced the low calf crop and should be given special attention by the beef cattlemen.

**Crop Yields.** There was a consistent relationship between labor income and crop yields on beef-cattle farms. Labor income for the group of farms with a crop index of more than 125 averaged $172 as compared to a labor income of minus $470 for farms with a crop index of less than 75 (table 58). The acreage

<table>
<thead>
<tr>
<th>Crop yield index</th>
<th>Farms</th>
<th>Average Value of crops sold</th>
<th>Man-work-units</th>
<th>Average total receipts</th>
<th>Average labor income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>acres in crops</td>
<td>dollars</td>
<td>Per farm</td>
<td>num-</td>
</tr>
<tr>
<td>num-</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td>ber</td>
</tr>
<tr>
<td>Less than 75</td>
<td>8</td>
<td>63</td>
<td>81.8</td>
<td>472</td>
<td>481</td>
</tr>
<tr>
<td>75 to 99</td>
<td>8</td>
<td>88</td>
<td>91.3</td>
<td>322</td>
<td>427</td>
</tr>
<tr>
<td>100 to 124</td>
<td>6</td>
<td>117</td>
<td>76.8</td>
<td>815</td>
<td>466</td>
</tr>
<tr>
<td>125 and over</td>
<td>6</td>
<td>139</td>
<td>79.1</td>
<td>908</td>
<td>503</td>
</tr>
<tr>
<td>All farms</td>
<td>28</td>
<td>98</td>
<td>85.8</td>
<td>596</td>
<td>467</td>
</tr>
</tbody>
</table>

in crops was about the same for all groups. The value of crops ranged from $322 for the group with a crop index of 75 to 99 to $908 for farms with an index of 125 and over.

The increased income from crops was the result of increased unit yields since there was no significant difference in acreage. There was no appreciable difference in size of unit or labor efficiency between the groups classified according to yield.

Sale of crops, together with high crop yields, was an important enterprise on the farms that had the highest incomes.

**Major Factors Affecting Farm Income on Beef-Cattle Farms**

This type of farming was less profitable than other types studied in the area. The relatively low income is the result of attempting to produce beef cattle on irrigated farms under conditions where, because of lack of range facilities, cost of production is excessive. This high cost is the result of a relatively long feeding period, the operation of small size beef-cattle units, and inefficiency in production. Even if cost per unit were low, income from these small units would not be high because of the low per unit income from beef cattle as compared to more intensive kinds of livestock. To obtain an adequate income from beef-cattle production where costs are not excessive would require in the neighborhood of 150 to 200 animal units.
The following are suggested alternative changes in the organization of beef-cattle farms to increase farm income:

1. Increase the efficiency by lowering production costs through increasing the number of cattle to an economic unit, reducing the hand-feeding period and obtaining more feed from grazing; and also increase the rates of production by obtaining higher calf crops, lower death losses and more economical gains in weight of cattle.

2. Add cash crops and production of some livestock other than beef to present farm business.

3. Discontinue the production of beef cattle on high-priced land and in areas where the hand-feeding period is long. Use the feed produced on the farm to fatten either steers or lambs. The amount of hay needed to feed an animal unit during the fattening period would not be more than the amount now being used to winter an animal unit of stock cattle.

4. Discontinue the small beef-cattle enterprise and replace it with a dairy unit because there is higher income per head from dairy cattle than beef cattle. On irrigated farms where it is practical to keep only a small number of livestock and where labor is available, it will usually pay to keep dairy cows in place of livestock yielding low returns per unit.

**Sheep Ranches**

In Sanpete, Sevier and four adjacent counties which constitute the grazing area for that part of the state, 96.7 percent of the land is classed as range land and only 3.3 percent of the total area is cropped. Within this area, because of differences in elevation and climatic conditions, there is provided year-round grazing for sheep. They are grazed in the winter season on the desert areas, mainly in Juab, Millard and Beaver Counties. The foothills near the mountain ranges supply spring and fall grazing, while the summer grazing is in the mountainous area on national forest and private lands.

Because of the large acreage of grazing land and the balance that exists between the different seasons of the year, the sheep industry is one of the important enterprises in the economy of the area. The problem, however, is that there is not sufficient range to permit grazing rights for sheep production for all farmers in the area. Many of the livestock men who have grazing rights have permits for only small numbers. The livestock men who
have been able to obtain grazing rights for an economic unit had higher returns in 1936 than any other farm type studied.

**Variation of Labor Income**

In 1936, incomes for sheep ranches were favorable. However, they fluctuate greatly from year to year as a result of price changes and climatic conditions. Forty-one percent of the sheep ranches had a labor income of less than $500; 12 percent had a labor income of $500 to $1,000; 47 percent had more than $1,000, or an average of $3,762 (table 59).

<table>
<thead>
<tr>
<th>Labor income</th>
<th>Ranches</th>
<th>Percentage of total number</th>
<th>Labor income dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $500</td>
<td>13</td>
<td>41</td>
<td>-378</td>
</tr>
<tr>
<td>$500 to $1,000</td>
<td>4</td>
<td>12</td>
<td>695</td>
</tr>
<tr>
<td>More than $1,000</td>
<td>15</td>
<td>47</td>
<td>3,762</td>
</tr>
</tbody>
</table>

**Range in Labor Income**

There was a wide range in labor income for the sheep ranches that were above average as compared to those below average (table 60). The average labor income for the most profitable farms was $3,956, as compared to a minus $61 for the least profitable group. Farms in the most profitable group were larger, with 1,552 man-work-units as compared with 742 for the least profitable. They also obtained more wool per head, but had a lower lamb crop.

**Size of Unit**

There was a close correlation between labor income and size of farm unit as measured by productive man-work-units, number of sheep, and capital invested (table 61). For the group of farms
Table 61. Comparison of certain factors on basis of size, for sheep ranches

<table>
<thead>
<tr>
<th>Productive man-work-units</th>
<th>Ranches</th>
<th>Man-work-units Per farm</th>
<th>Per man</th>
<th>Number of sheep</th>
<th>Percentage lamb crop*</th>
<th>Wool per head</th>
<th>Capital invested dollars</th>
<th>Receipts from sheep dollars</th>
<th>Labor income dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 750</td>
<td>13</td>
<td>433</td>
<td>286</td>
<td>556</td>
<td>79</td>
<td>9.35</td>
<td>19,423</td>
<td>2,591</td>
</tr>
<tr>
<td></td>
<td>750 to 1500</td>
<td>12</td>
<td>1,080</td>
<td>308</td>
<td>1,603</td>
<td>79</td>
<td>9.82</td>
<td>41,770</td>
<td>7,140</td>
</tr>
<tr>
<td></td>
<td>Over 1500</td>
<td>7</td>
<td>2,356</td>
<td>380</td>
<td>3,482</td>
<td>66</td>
<td>10.36</td>
<td>85,487</td>
<td>15,699</td>
</tr>
<tr>
<td>All farms</td>
<td>32</td>
<td>1,096</td>
<td>314</td>
<td>1,603</td>
<td>76</td>
<td>10.0</td>
<td>42,255</td>
<td>6,684</td>
<td>1,697</td>
</tr>
</tbody>
</table>

*Lamb crop is based on number of lambs at docking time.

which averaged 433 man-work-units, the labor income was $574 as compared to farms averaging 2,356 man-work-units, on which the labor income was $4,469.

The number of sheep on the smaller ranches averaged 556 as compared to 3,482 on the larger and an average on all ranches of 1,603. The larger operators had a smaller lamb crop with 66 percent as compared to 79 percent for the other groups. Relationship of size of business to lamb crop and pounds of wool per head is more fully discussed under rates of production. The larger ranches produced more pounds of wool per head.

Size of unit is an important factor in determining income per farm on sheep ranches. As compared to other types of farming, there was higher labor efficiency on sheep ranches, especially those with larger units.

Rates of Production

Pounds of Wool Per Head. There was a consistent relationship between labor income per head of sheep, gross receipts per head, and wool production (table 62). The group of farms that

Table 62. Relation of pounds of wool per sheep to labor income on sheep ranches

<table>
<thead>
<tr>
<th>Pounds of wool per sheep</th>
<th>Ranches</th>
<th>Number of sheep</th>
<th>Wool per head</th>
<th>receipts per head</th>
<th>Labor income Per head of sheep Per farm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>number</td>
<td>pounds</td>
<td>dollars</td>
<td>dollars</td>
</tr>
<tr>
<td>Less than 10 pounds</td>
<td>19</td>
<td>1,330</td>
<td>8.7</td>
<td>3.89</td>
<td>0.63</td>
</tr>
<tr>
<td>10 pounds and more</td>
<td>13</td>
<td>2,002</td>
<td>11.3</td>
<td>5.03</td>
<td>1.47</td>
</tr>
<tr>
<td>All farms</td>
<td>32</td>
<td>1,603</td>
<td>10.0</td>
<td>4.17</td>
<td>1.06</td>
</tr>
</tbody>
</table>

produced over 10 pounds of wool per head had a labor income per head of $1.47, as compared to $0.63 for the group with wool production of less than 10 pounds. The gross receipts from sheep
per head for the herds with more than 10 pounds of wool was $5.03, as compared to $3.89 for the herds producing less.

The size of unit was undoubtedly the major factor affecting labor income. However, since pounds of wool per head was closely associated with size of the herd, its influence on income was also an important factor.

The explanation for the lower wool production per head for the smaller units was that this group included a number of flocks which are run in cooperative herds during winter and summer months. The kind of breeding stock used in these herds has not been regulated. Consequently, poor bucks with low wool production have been used.

**Percentage Lamb Crop.** On sheep ranches with less than 75 percent lamb crop, the farm labor income per head of sheep was $0.88, as compared to $1.33 for herds having a lamb crop above 75 percent (table 63). The gross receipts from sheep per head

![Table 63. Relation of percentage lamb crop to labor income on sheep ranches](image)

<table>
<thead>
<tr>
<th>Range in lamb crop</th>
<th>Ranches</th>
<th>Percentage lamb crop</th>
<th>Average number of sheep</th>
<th>Sheep receipts per head</th>
<th>Labor income per head of sheep</th>
<th>Labor income per farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 75 percent</td>
<td>14</td>
<td>59</td>
<td>2,243</td>
<td>4.09</td>
<td>0.88</td>
<td>1,986</td>
</tr>
<tr>
<td>75 percent and over</td>
<td>18</td>
<td>90</td>
<td>1,105</td>
<td>5.07</td>
<td>1.33</td>
<td>1,472</td>
</tr>
<tr>
<td>All farms</td>
<td>32</td>
<td>76</td>
<td>1,603</td>
<td>4.17</td>
<td>1.06</td>
<td>1,697</td>
</tr>
</tbody>
</table>

on ranches with the highest percentage lamb crop averaged $5.07, as compared to $4.09 for sheep ranches with less than 75 percent lamb crop. The larger herds on an average had a lower lamb crop. The lower lamb crop is not the result of size of herd but rather a result of practices followed in production. This lower lamb crop for the larger operators may be explained by more open range lambing among the larger herds as compared to shed lambing and closer supervision among the small flocks.

Even though the lamb crop was smaller, the larger operators obtained higher labor incomes. The size of unit as related to labor income was a more important factor than percentage lamb crop.

**Amount of Grazing and Hand Feeding on Sheep Ranches**

The 323.6 animal units of sheep or 1,639.1 head, required 3,883 animal unit months of feed (table 64). Of this total, 3,145
Table 64. *Summary of grazing and feeding of sheep*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sheep farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total animal units in sheep</td>
<td>323.6</td>
</tr>
<tr>
<td>Animal unit months of feed needed</td>
<td>3,883.</td>
</tr>
<tr>
<td>Total tons of alfalfa hay equivalent fed</td>
<td>73.</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit</td>
<td>0.23</td>
</tr>
<tr>
<td>Tons of alfalfa hay equivalent fed per animal unit per month fed</td>
<td>0.10</td>
</tr>
<tr>
<td>Animal unit months of feed from grazing</td>
<td>3,145.</td>
</tr>
<tr>
<td>Animal unit months of feed from hand feeding</td>
<td>738.</td>
</tr>
<tr>
<td>Percent of year's feed from grazing</td>
<td>81.</td>
</tr>
<tr>
<td>Percent of year's feed from hand feeding</td>
<td>19.</td>
</tr>
<tr>
<td>Months grazed</td>
<td>9.7</td>
</tr>
<tr>
<td>Months hand fed</td>
<td>2.3</td>
</tr>
</tbody>
</table>

months were obtained from grazing, including farm fields, and 738 from hand feeding. Thus, 81 percent of the year’s feed for sheep came from grazing and 19 percent from hand feeding. Hand feeding consisted of cut forage, grain, and concentrates equated to alfalfa-hay equivalent. These feeds were primarily used to supplement grazing during winter and spring months and to feed bucks and a few head of other stock that were kept on the ranch during the winter. The obtaining of 81 percent of their feed from grazing, which has a low unit cost, is an important factor in sheep production in this area. This favorable feed relationship is one of the primary reasons why sheep production was more profitable than other types of farming.

**Major Factors Affecting Farm Income on Sheep Ranches**

On an average, the sheepmen included in this study were operating large units and had relatively large incomes. However, there were some operators who had low incomes and who were not operating their businesses effectively. The analysis of these low income ranches showed that there was one, or a combination of factors which was increasing operating costs and reducing income. The factors most closely related to profits were size of unit, lamb and wool crops, death loss, and labor efficiency. Another problem affecting production and income was the lack of balance between feed resources, or use of ranges during different periods of the year.

The farmers who are running small flocks could greatly improve wool production per head through better breeding and
care. In areas where it is difficult to obtain enough range rights to increase the size of the herd to an economic unit, the farm income may be raised by increasing production of cash crops and by keeping other kinds of livestock in combination with a small flock of sheep.

**Lamb-Feeding Farms**

Lamb-feeding farms in Sanpete and Sevier Counties are general irrigated farms with the major enterprise that of lamb feeding. The average number of lambs fed per farm was 622 (table 65). With the exception of sheep ranches, these farms were more profitable than other types studied.

Table 65. *Summary of income and factors affecting profitability of lamb-feeding farms*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm receipts</td>
<td>$5,857</td>
</tr>
<tr>
<td>Total farm expenses</td>
<td>4,417</td>
</tr>
<tr>
<td>Farm income</td>
<td>1,440</td>
</tr>
<tr>
<td>Interest on capital</td>
<td>932</td>
</tr>
<tr>
<td>Labor income</td>
<td>508</td>
</tr>
<tr>
<td>Farm privileges</td>
<td>362</td>
</tr>
<tr>
<td>Labor earnings</td>
<td>870</td>
</tr>
<tr>
<td>Percentage receipts from sale of fat lambs</td>
<td>76</td>
</tr>
<tr>
<td>Percentage receipts from crop sales</td>
<td>6</td>
</tr>
<tr>
<td>Acres in crops</td>
<td>67</td>
</tr>
<tr>
<td>Acres in cash crops</td>
<td>3.2</td>
</tr>
<tr>
<td>Average number of lambs fed</td>
<td>622</td>
</tr>
<tr>
<td>Productive man-work-units</td>
<td>478</td>
</tr>
<tr>
<td>Productive man-work-units per man</td>
<td>262</td>
</tr>
<tr>
<td>Crop-yield index</td>
<td>125</td>
</tr>
</tbody>
</table>

The major income was from sale of fat lambs, with 76 percent of receipts coming from this source, and only 6 percent from sale of crops. The average farm in this group was larger than the average general irrigated farm with 478 productive man-work-units. Total farm acreage averaged 118.6 with 67 in crops. There were, however, only 3.2 acres planted to cash crops which brought an income of only $172 per farm.

Crop yield index averaged 125, which is considerably above the average. The fertility obtained from the lamb-feeding enterprise undoubtedly was reflected in the reported high crop yields.

**Major Factors Affecting Lamb-Feeding Farms**

Analysis of lamb-feeding farms for 1936 indicates that the type of farming practiced, that of operation of general irrigated farms with the major crop production being feed crops and the major cash enterprise lamb feeding, was a successful type in this
area. The profitableness of this type is influenced to a large extent by the spread between prices paid for feeders and prices received for fat lambs, which varies from year to year. The price situation, therefore, plays an important part. An increase in the size of the farm unit, especially by increasing the acreage of cash crops grown, should make these farms more profitable. The fertilizer available, and the opportunity for rotation of cash with forage crops, are favorable factors for high acre yields.

Part-Time Farms

The part-time farms studied in Sanpete and Sevier Counties were small general irrigated farms, but, were less intensively cultivated than the full-time general irrigated farms.

Of the total acres, 47.7, operated, only 15.2 were cropped and only 0.8 was planted to cash crops. The farm unit was small as measured by productive man-work-units (table 66), total acres in crops, number of animal units, and capital invested. There were only 173 productive man-work days per farm, which is about 6 months' work for 1 man for the year. Crop yields were low, with an index of only 80 as compared to a crop-yield index of 125 for lamb-feeding farms.

Table 66. Summary of income and factors affecting profitableness of part-time farms

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital investment</td>
<td>$3,798</td>
</tr>
<tr>
<td>Total farm receipts</td>
<td>728</td>
</tr>
<tr>
<td>Farm expenses*</td>
<td>670</td>
</tr>
<tr>
<td>Farm income</td>
<td>58</td>
</tr>
<tr>
<td>Labor off farm</td>
<td>153</td>
</tr>
<tr>
<td>Farm privileges</td>
<td>228</td>
</tr>
<tr>
<td>Total income from farm and outside work</td>
<td>439</td>
</tr>
<tr>
<td>Percentage receipts from crop sales</td>
<td>13</td>
</tr>
<tr>
<td>Percentage receipts from sale of livestock and livestock products</td>
<td>64</td>
</tr>
<tr>
<td>Total acres in farm</td>
<td>47.7</td>
</tr>
<tr>
<td>Acres in crops</td>
<td>15.2</td>
</tr>
<tr>
<td>Acres in cash crops</td>
<td>0.8</td>
</tr>
<tr>
<td>Total animal units</td>
<td>7.4</td>
</tr>
<tr>
<td>Crop-yield index</td>
<td>80</td>
</tr>
</tbody>
</table>

*Includes interest on indebtedness at 5 percent. Farm expenses as shown in table 45 do not include interest paid on borrowed money.

6 months' work for 1 man for the year. Crop yields were low, with an index of only 80 as compared to a crop-yield index of 125 for lamb-feeding farms.

Major Factors Affecting Part-Time Farms

The factors affecting profits of the farm; namely, size, labor efficiency and rates of production, were unfavorable. The result, therefore, was low income, which averaged $58. However, farm privileges averaged $228, making a total return from the farm of $286.
In addition to the farm income, the part-time farmers included in this study made an average of $153 for labor away from the farm. This income added to farm income gave a total return to the operator for labor of $439 for the year. After deducting interest on capital at 5 percent from farm income, plus farm privileges, the operator had labor earnings from the farm of $141. This, added to the return from work off the farm of $153, gave a total return to operator for labor of $294. Judging from the small income received for work away from the farm, there is not sufficient employment available in these counties to supplement farm income and provide an adequate income to part-time farmers.

Economic Analysis of Part-Time Farms

These facts show rather conclusively that the opportunity to improve the financial situation of part-time farmers is through increasing the size of farm unit. Therefore, to place these farms on a paying basis, the size of unit must be increased, rates of crop production increased, labor efficiency increased, and a reorganization of the farm business with a better combination of enterprises such as proper balance of feed crops, cash crops, and livestock production.

On the other hand, where the operator has outside work to supplement the farm income, part-time farming can be successfully carried on. This combination is more successful in areas where outside work is available. In many districts other than in mining and industrial areas, there is not employment for part-time farmers, and consequently this type of farming cannot be successfully practiced.

SUMMARY

Sanpete and Sevier Counties, situated near the center of the state, are favorably located with respect to the use of public grazing lands.

In 1935, there were 1,742 farms in Sanpete and 1,054 in Sevier, or a total of 2,796 farms in the 2 counties.

The average growing season is about 124 days. The average precipitation at Manti, Sanpete County, is 12.06 inches, as compared to 7.89 inches at Richfield, Sevier County. Sevier County is better supplied with irrigation water than Sanpete County.

Of the total land in the 2 counties, 35 percent is patented land and 65 percent federal land. Of the total land area in these 2 and the 4 adjacent counties, 76 percent is federal land.
In Sanpete and Sevier Counties, only 6.5 percent of the land is cropped, while 93.5 percent is range land, mostly summer and spring-fall.

More than 80 percent of the cropped land included in this study was planted to hay (principally alfalfa) and grain. The acreage planted to sugar beets, potatoes, fruits, and vegetables represented 3.7 percent of the total acreage in Sanpete and 5.8 percent in Sevier County.

In 1935, there were in the 2 counties 272,737 head of sheep; 35,174 head of cattle, 9,372 of which were classified as dairy cows; 5,312 swine; 8,547 head of horses and 163,885 chickens. Of a total of 94,258 animal units, 60,841 were owned in Sanpete County and 33,417 in Sevier County.

There were 456,372 animal unit months of grazing on the range land, farm pastures and fields. Of the total grazing resources, 87.5 percent came from range lands and 12.5 percent from farm pastures and fields. Of the total months of grazing 38.7 percent was from national forests, 34.9 percent from private range lands, and only 13.9 percent from public domain.

Sanpete County had a deficiency of feed resources of 144,552 animal unit months, while Sevier had a surplus of 81,948. In the 2 counties there was a shortage of 62,604 animal unit months of feed resources.

For the grazing year 1937-1938, permits were issued to the livestock men of Sanpete and Sevier Counties to graze 420,328 animal unit months on public domain and 210,091 animal unit months on the national forest, making a total of 630,419. The total grazing on federal lands in the 2 counties was 240,420 animal unit months. Of the total grazing obtained from public lands, 67 percent was outside of the 2 counties and 33 percent within.

An analysis of the farm business for 1936, as reported in this study, includes general irrigated farms, beef-cattle farms, sheep ranches, lamb-feeding, and part-time farms.

The total land resources per farm for the general irrigated farms in Sanpete County averaged 127.2 acres, of which 51.0 were cultivated, while in Sevier County the average was 69.4 acres, of which 46.3 were cultivated.

The capital value per farm was $8,343 in Sanpete as compared to $9,523 in Sevier County. The capital invested in real estate averaged about 80 percent, and in livestock 10 percent for both counties.

On general irrigated farms the total number of animal units
per farm was 15.4 in Sanpete County and 14.9 in Sevier. About one-half of all livestock units were dairy cattle.

The value of irrigated cropland in Sanpete County was $83 per acre as compared to $117 per acre for the same class of land in Sevier County.

The crop yield index for Sanpete was 89, while for Sevier it was 115.

Total farm receipts per farm for irrigated farms of Sanpete County were $1,449. For similar farms in Sevier County they were $1,846.

Average farm expenses for Sanpete County were $860 and $1,067 for Sevier County.

Farm income, or total receipts less expenses, was $589 for Sanpete and $779 for Sevier County.

Labor income averaged $172 for Sanpete County general irrigated farms, and $303 for Sevier County. In addition to labor income, the operators had farm privileges to the extent of $285 for Sanpete County and $332 for Sevier County, making the labor earnings of the operator $457 and $635, respectively.

The analysis of the farm organization by types of farming was made for both counties as a unit. The land resources per farm ranged from 48 acres for part-time farms to 2,655 acres for sheep ranches. Irrigated land on part-time farms averaged 14.8 acres per farm; 90.3 acres on sheep ranches; and 47.5 acres on general irrigated farms.

The number of animal units per farm was 7.4 for part-time farms, 15.2 for general irrigated farms, 71.4 for beef-cattle farms, 88.0 for lamb-feeding, and 362.8 for sheep ranches.

The capital per farm varied from $3,798 for part-time farms to $42,255 for sheep ranches. The capital for general irrigated farms was $8,778 and about $19,000 for beef-cattle farms and lamb-feeding farms.

Average indebtedness ranged from $901 for part-time farms to $9,560 for sheep ranches. Percentage that debt was of total capital varied from 19 for general irrigated and beef-cattle farms, to 25 for lamb-feeding farms.

The average acreage of crops grown per farm ranged from 15.2 for part-time farms to 102.1 for sheep ranches. On every type of farm with the exception of part-time farms, alfalfa was approximately 50 percent or more of total cropped acreage.

The all-crop-yield index for lamb-feeding farms was 125, as compared to 80 for part-time farms. Crop index for general irrigated farms was 100, and for sheep ranches 79.
The number of animal unit months of grazing for livestock ranged from 31 for part-time farms to 3,512 for sheep ranches. General irrigated farms had 64 animal unit months of grazing and beef-cattle farms 463. Sheep ranches had 9.68 months of grazing per year for each animal unit, while part-time and general farms had only about 4.2 months per animal unit.

Feed fed to livestock in terms of alfalfa hay equivalent ranged from 0.38 tons per animal unit for sheep ranches to 3.72 tons for part-time farms. The percentage of the year's livestock feed from grazing was 81 for sheep ranches, 54 for beef-cattle farms, 35 for general irrigated farms, and 35 for part-time farms.

Total farm receipts varied from $9,020 for sheep ranches to $728 for part-time farms. Farm receipts were $1,594 on general irrigated farms, $5,857 on lamb-feeding farms, and $2,803 on beef-cattle farms. On general irrigated farms, 41 percent of the cash receipts came from crop sales, as compared to 1 percent on sheep ranches. Only 13 percent of cash receipts on part-time farms was received from sale of crops.

As was the case with farm receipts, there was a wide variation in farm expenses between different types of farms. Total expense for sheep ranches was $5,210, while expense on part-time farms was $625. On general irrigated farms it was $933, lamb-feeding $4,417, and beef-cattle $2,002.

Farm income was $3,810, for general irrigated farms $661, for part-time farms $103, for lamb-feeding farms $1,440, and for beef-cattle farms $801.

Labor income ranged from minus $139 on beef-cattle farms to $1,697 on sheep ranches. For general, lamb-feeding and part-time farms it was $222, $508 and minus $87, respectively. Labor income for part-time farms is not entirely comparable to that for other farm types, because the operators on these farms were employed on the farm only part of the year. On an average, part-time farmers received $153 for work away from the farm. The combined income from farm and from outside work was small.

Farm privileges averaged $228 for part-time farms and $534 for sheep ranches. The average for irrigated farms was $302, for beef-cattle farms $410 and for lamb-feeding farms $362. Excepting sheep ranches and lamb-feeding farms, this income was larger than the labor income.

The combined income for operator's labor and farm privileges gave labor earnings of $141 to the operator of part-time farms, and $524 for general irrigated farms. Labor earnings for
sheep ranches were highest, with $2,231, while beef-cattle farms had a labor earning of only $271.

The factors closely related to success of the farm business in the 2 counties are: type of farming, size of farm business, efficiency in use of capital and labor, and rates of production.

On general irrigated farms, there was a positive relationship between size of farm business, labor efficiency, crop yields, and labor income.

Factors affecting income were: small size of farm unit, low labor efficiency, small acreage of cash crops, and keeping of kind of livestock with low per unit returns.

Beef-cattle farms in this area averaged 67 head, or 50 animal units of beef cattle. This type of farming was less profitable than other types of farms studied in the area. This relatively low income was the result of attempting to produce beef cattle on irrigated farms under conditions where, because of lack of range facilities, the cost of production was high. This high cost was the result of a relatively long hand-feeding period, the operation of a small size beef-cattle unit, and inefficiency in production. Farm income was considerably higher on the farms where crop sales were highest and where there was additional income from sale of livestock products.

On the beef cattle farms studied, there was no significant relationship between size of unit and labor income. A negative relationship between number of beef cattle per farm and labor income was found.

Fifty-nine percent of the year’s feed for beef cattle was obtained from grazing, and 41 percent from hand feeding; an average of 1.65 tons of alfalfa hay equivalent per animal unit, or one-third of a ton per month, was fed to beef cattle. The relationship between tons of hay fed per animal unit and labor income was negative.

The average calf crop for all farms was only 59 percent. There was a direct relationship between calf crop and labor income.

A consistent relationship was shown between labor income and crop yields. The labor income for the group of farms with crop index of more than 125 averaged $172, as compared to a labor income of minus $470 for farms with a crop index of less than 75.

In a study of sheep production it was found that the physical features of the area were favorable to this enterprise. Size of operating unit of 1,096 productive man-work-units was favorable
to economic production. Labor efficiency was high, with 314 man-work-units per man, and the rates of production in the main were favorable, with an average of 10 pounds of wool per head and 76 percent lamb crop. This type of farming, therefore, was profitable, with an average labor income of $1,697, the highest net returns of all farm types studied.

The lamb-feeding farms in this study are general irrigated farms in which the major enterprise is lamb feeding. The labor income from this type of farming for 1936 was $508. The number of productive man-work-units per farm was 478, and per man 262. Average crop yield index was 125. The profitableness of this type of farming from year to year is dependent to some extent upon prices paid for feeder lambs and prices received for fat lambs. An increase in acreage of cash crops should make these farms more profitable.

The part-time farms were less intensively cultivated than full-time general irrigated farms. The factors affecting profits on these farms were: small size of the farm business, low labor efficiency, and low rates of production. To place these farms on a paying basis or obtain sufficient income to support the family, the size of farm unit, rates of production, and labor efficiency should be increased, and the farm business should be reorganized with a better combination of enterprises such as proper balance of feed, cash crops, and livestock production.

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