

REPORT
of
COMMITTEE ON EXAMINATION

This is to certify that we the undersigned, as a Committee of the Graduate School, have given Edwin William Gaumnitz final oral examination for the degree of Master of Arts. We recommend that the degree of Master of Arts be conferred upon the candidate.

Minneapolis, Minnesota

March 17 1922

J. Black
Chairman
W. H. Peters
F. B. Garver
Holbrook Working

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report
of
Committee on Thesis

The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by Edwin William Gaumnitz for the degree of Master of Arts.

They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

John D. Clark
.....
Chairman
W. H. Peters
.....
F. B. Garver
.....

Mich 12 1918²²

ORGANIZATION AND MANAGEMENT PROBLEMS
OF MINNESOTA COOPERATIVE LIVESTOCK SHIPPING ASSOCIATIONS

By
E. W. GAUMNITZ

A Thesis submitted to the
Graduate School of the University of Minnesota
in partial fulfillment of the requirements for the degree of
Master of Arts

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Index.

Chapter I. Local Cooperative Livestock Marketing In Minnesota.

Purpose of thesis.

Methods used in making the study.

Growth of cooperative shipping association movement in Minnesota.

Business handled by associations.

Location of associations.

Importance and extent of livestock industry in Minnesota.

Percentage of livestock marketed cooperatively.

Classification of carloads of livestock shipped to South St. Paul.

Number of members per association.

Chapter II. General Organization of the Market.

Methods of marketing meat animals.

Selling dressed meat.

Shipping to packing centers.

Through cooperative associations.

Selling livestock to buyers.

Railroad facilities.

South St. Paul organization.

St. Paul Union Stock Yards Company.

Commission Firms.

The South St. Paul Livestock Exchange.

The weighing force.

Equity Cooperative Exchange.

DEC 1 1928 Bd. U. of M.

The Minnesota Central Cooperative Commission Association.

Dealers and speculators.

Buyers at South St. Paul.

Chapter III. Organization of Cooperative Livestock Shipping Associations.

Forms of organization.

"Voluntary" associations.

Incorporation.

Capital stock.

Non stock.

Minnesota associations.

Membership

Non member business.

Growers' contracts.

Duties of directors and officers.

Business practices.

Chapter IV. Equipment.

Chapter V. Business practices.

Buying for cash.

Pooling.

Enumeration of expenses.

Prorating.

Chapter VI. Business Summary.

General statistics of receipts and expenses per association.

Local expenses.

Salary of manager.

Feed.

Bedding and ice.

Miscellaneous local market expense.

Losses due to dead and crippled animals.

Losses due to shrinkage.

Central market expenses.

Commission charge.

Prorating.

Yardage.

Weighing.

Insurance and inspection.

Feed.

Bedding.

Transportation expenses.

Chapter VII. Management Problems.

Arranging for shipments.

Weighing, grading, and marking animals.

Feeding, bedding, and icing.

Local yard facilities.

Control of shrinkage, and losses.

Handling livestock at South St. Paul.

Selection of commission firms.

Accompanying cars.

Market news.

Accounting systems.

Crediting.

Combinations with other businesses.

Federations.

The Minnesota Central Cooperative Livestock Shipping Association.

Organization for central marketing.

A national organization,

Chapter VIII Management Problems Continued.

Prorating.

Expenses.

Basis for distributing expenses.

Local expenses.

Transportation expenses.

Central expenses.

Expense prorating systems.

The detailed-cost single-shipment method.

The single shipment pool.

The general flat rate method.

The combination method.

The flat rate by species method.

Prices;

Bases for distributing price.

Importance of price distribution.

Chapter IX. Other Problems of Management.

Control of quality.

Problems of associations in sparsely settled territory.

Choice of a manager.

Training of managers.

Competition with buyers.

Advantages of livestock shipping associations.

Reasons for failure of associations.

When to organize an association.

Steps in organizing an association.

Appendix A.

Recommended Articles of Associations and By-Laws of a Cooperative

Shipping Association in Minnesota.

Appendix B.

Name and Addresses of Cooperative Livestock Shipping Associations
Operating in Minnesota in 1919-20.

Bibliography.

Chapter I
LOCAL COOPERATIVE LIVESTOCK MARKETING IN MINNESOTA.

The purpose of this thesis is to analyze the organization and management problems of cooperative livestock shipping associations in Minnesota. The problem which receives most emphasis both because of its importance and its complexity is the prorating of returns. The problems are discussed under two heads, problems of organization and problems of management.

The results presented in this thesis were obtained by several methods; by correspondence with cooperative associations throughout the state; by visiting seventy-three associations; and by working with various agencies in the South St. Paul market. The data as to the total carloads of livestock shipped to South St. Paul and as to number of carloads shipped by cooperative associations were obtained from the records of the Union Stock Yards Company at South Saint Paul. The data as to methods of handling livestock were obtained from members of commission firms, association managers, and other handlers of livestock at both central and local markets. The information as to terminal market expenses and freight expenses was obtained by compiling figures from the duplicate account sales sheets on file at the offices of commission firms at Saint Paul. Since the South Saint Paul market is the outstanding livestock market of Minnesota, the study of central market organization, machinery, and expenses, was limited to that market. The data as to local market expenses were gathered directly from the records and reports of associations.

The Development of Cooperation in Livestock Shipping. The usual definition of a cooperative organization stresses certain principles as fundamental to cooperation. Outstanding among these are the following:

(1) The limitations of voting power. Each member is allowed only one vote regardless of stock held or business done.

(2) The limiting of capital stock which any one stockholder may own (the Minnesota cooperation law places the amount at \$1000).

(3) The limiting of interest on capital stock (the Minnesota cooperation law limits it to eight per cent.)

(4) The distributing of earnings on a patronage basis. (Under the Minnesota cooperation laws non-member patronage dividends are to be one-half those given to members.)

Livestock shipping associations in Minnesota, however, are ordinarily not incorporated, and hence do not conform to these technical provisions. They are nevertheless cooperative in all essential particulars. The term "cooperative livestock shipping association" as used in this thesis will include all organizations which handle livestock on a cooperative basis; that is, associations organized for the purpose of marketing livestock which return to each shipper his share of the receipts after operating expenses have been deducted. Livestock shipped thru other cooperative farmers' organizations handling livestock as a sideline will also be counted as shipped cooperatively.

Although farmers had probably shipped livestock jointly before 1908, the first record of a definite organization formed for that specific purpose is of the Litchfield Shipping Association, organized at Litchfield, Minnesota, in 1908. Apparently the association idea spread rapidly, for in 1913 it was estimated that there were 115 associations in existence doing \$6,000,000 worth of business.⁽¹⁾

In 1914 the number of associations had increased to 138,⁽²⁾ and in

(1) Minnesota Bulletin number 146.

(2) Minnesota Bulletin number 156.

1917 to 400.⁽³⁾ An estimate of the stock shipped by the 400 associations operating in 1917 was 18,000 carloads selling at \$33,000,000. An estimate of the carloads of livestock shipped cooperatively in 1919 is 38,080 carloads.⁽⁴⁾ An estimate of the central market value of these 38,080 carloads in 1919 is \$89,700,000.⁽⁵⁾

Table I shows the growth of Minnesota Associations over the period 1913 to 1919. The number of associations given really represents the year 1920-21, but the other figures are for the year 1919. The number of carloads includes cars shipped to all markets, South St. Paul, Chicago, and Sioux City, and to packing plants at Austin, Sioux Falls, Fargo, St. Paul, Newport, etc. The carloads per association likewise represent shipments to all points. The per cent of livestock shipped cooperatively however, is based only on cars shipped to South St. Paul. Out of a total of 37,946 cars shipped to South St. Paul in 1919 exactly 23,309 cars or 61.4 per cent were shipped by associations. (See table V) It is true that the cooperative associations shipping to South St. Paul also ship to other markets and direct to packing plants, but likewise do the private buyers; and it is not likely that the cooperatives are shipping a large proportion of their livestock elsewhere than to South St. Paul than are the private buyers. Exact information on this point on 250 associations supports this assumption. Hence the 61.4 per cent can be assumed to be reasonably accurate for all territory shipping wholly or mostly to South St. Paul. For territory shipping wholly or mostly to other markets, no percentage could be figured, but there are no reasons for believing it should be more than 61.4.

(3) Minnesota Bulletin number 185

(4) Number of carloads of Minnesota livestock shipped cooperatively in 1919 was estimated as follows:

- A. Report of the years shipments were obtained from 250 associations.
- B. The carloads of livestock consigned by 139 associations shipping only to South St. Paul market were obtained from the records of the St. Paul Union Stock Yards Co., at South St. Paul. These 139 associations also shipped some cars to small packing plants and to other markets. About 4 cars per association were included to cover this.

TABLE I COMPARISON OF BUSINESS OF LIVESTOCK SHIPPING ASSOCIATIONS IN 1913, '14, '17, and '19.

| | 1913* | 1914 ¹ | 1917 ^x | 1919 ^{xx} |
|---|-------------|-------------------|-------------------|--------------------|
| Number of associations(probable number) | 115 | 138 | 400 | 655 |
| Total carloads shipped. | 4,500 | 5000 | 18,000 | 38,080 |
| Total value of livestock shipped. | \$6,000,000 | | \$33,000,000 | \$89,700,000 |
| Percent of total livestock marketed by shipping associations. | 12.0 | | | 61.4 |
| Average number of cars handled per association. | 45 | 61 | 55 | 58 |

*Minnesota Bulletin 146 - "Statistics of Cooperative Associations Among Farmers"-- D. H. Weld. 1913.

¹Minnesota Bulletin 156 - "Cooperative Livestock Shipping Associations in Minnesota"-- E. Dana Durand. 1916.

^xMinnesota Bulletin 184 - "Farmers Cooperation in Minnesota--1913-17" John D. Black and Frank Robotka. 1919.

^{xx}The number of associations operating in 1919 was obtained as follows:

- A. The names of those associations consigning livestock to South St. Paul under the association name were obtained from the records of the St. Paul Union Stock Yard Co., at South St. Paul.
- B. Names of associations consigning at the South St. Paul market under the name of the manager were obtained as outlined in note ⁴ p. 3
- C. Names of associations shipping elsewhere than to South St. Paul were obtained by questionnaires sent to county agents.

C. The 1919 shipment of 171 associations were estimated by the following method:

- (a) The number of carloads of livestock consigned to the South St. Paul market during the month of September and October, 1919, from points in Minnesota was tabulated, also the names of all shippers who consigned two or more carloads of livestock during these two months; together with the point of origin of the shipments. This list of names was then submitted to members of various commission firms who were asked to designate those consigners whom they know to be association managers, and those whom they knew to be buyers. To verify these designations letters were written to all indicated as managers. The number of carloads of livestock shipped to South St. Paul by such association managers was then estimated by determining

Figure I shows the location of the livestock shipping associations operating in Minnesota in 1919-20. Of the 145 associations operating in 1913-14, 137 are still operating.⁽⁶⁾ The 8 associations operating in 1913-14 but not in 1919-20 are scattered throughout the state, showing that the movement has not died out in any particular section.

The associations organized since 1913-14 are not confined to any one particular section of the state. The movement was strongest at the start, however, in the cattle territory and the mixed car territory west of the Twin Cities and immediately to the north. Within the past 5 years, however, the movement has spread into all the southern corn-and-hog counties. Rock county seems to have been about the last one reached. On the whole, however, the movement has grown more by intensifying than by spreading to new territory. At present there is a total of 655 associations. Appendix B gives a list of the cooperative shipping associations in the state in 1919-20.

the percentage of the September-October consignments from a particular point which were made by cooperative association managers, and applying this percentage to the total yearly South St. Paul consignments from that particular point. Four cars per association were added to cover additional shipments to small packing plants and other markets.

- D. The estimated annual shipments of 46 associations were obtained from county agents.
- E. The results secured under A,B,C, and D, were then totalled and the average number of carloads shipped per association was calculated. This average was used for the 49 remaining associations for which there was no better basis of estimation available.
- (5) Average central market sale price per carload was obtained from Table XII.
- (6) Minnesota Bulletin 156, pp. 25-29. In some cases the associa-

In 1919 the total receipts at South Saint Paul were 81,440 carloads.⁽⁷⁾ Of these 37,946 carloads,⁽⁸⁾ or 46.6% originated in Minnesota. Figures 2 and 3 show the origin of Minnesota live stock shipped to South St. Paul. It will be noticed that the

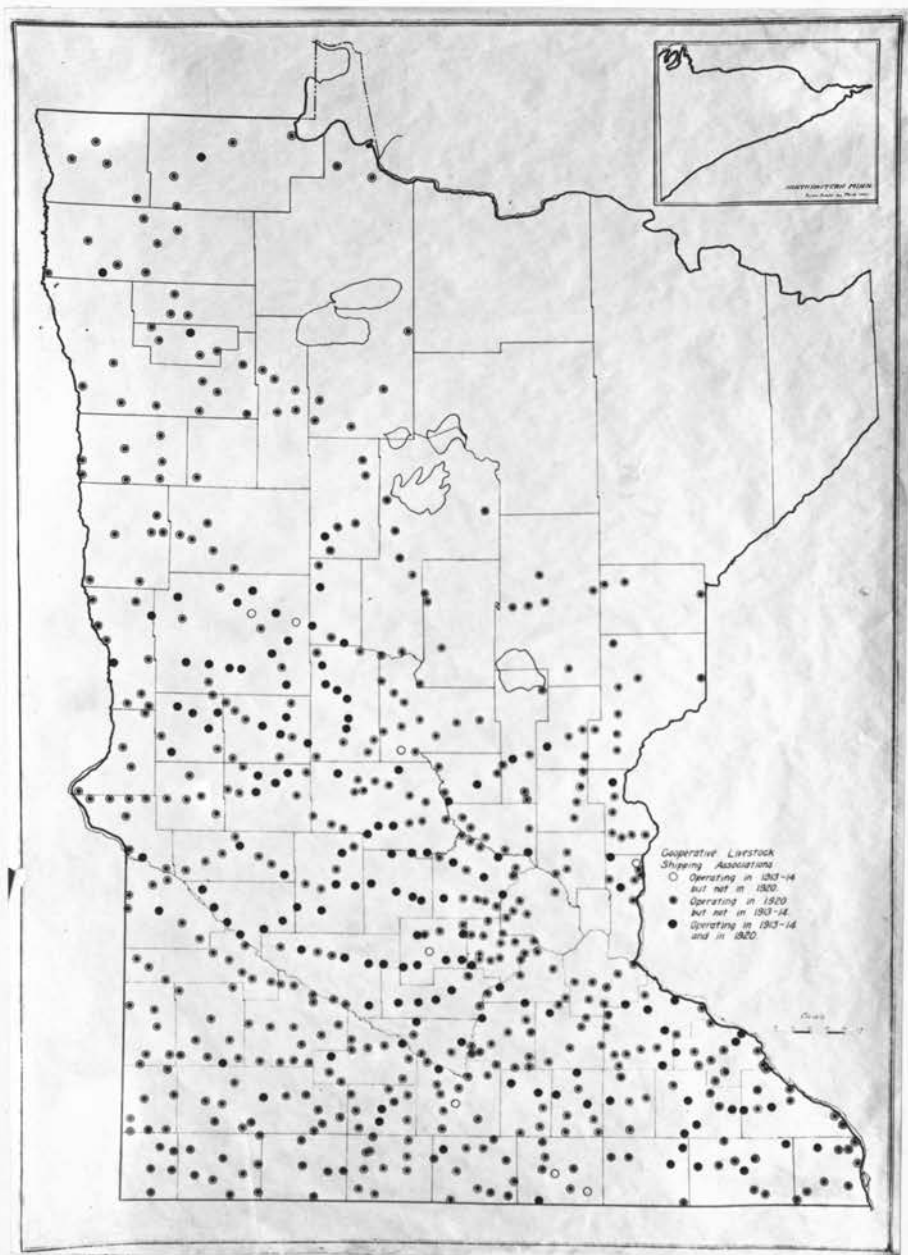


Fig. 1. Distribution of Livestock

Shipping Associations in 1913 - 14 and 1919 - 20

tions may have stopped operating and this begun again.

heaviest livestock area is in the south central portion of the state. The northern section, of course, ships very little livestock, especially the northeastern section. Practically all the live stock in the southern section is shipped to Sioux City, Chicago, or to the packing plants at Austin, Albert Lea, and Sioux Falls. The counties of Wabasha, Olmsted, Dodge, Steels, Waseca, Watonwan, Cottonwood, Murray, Lyon, and Lincoln are on the dividing line, stock from these counties being shipped in either direction, while all live stock from points north goes to South St. Paul and all live stock from points south goes to the other packing centers.

Figure 4 shows the packing centers to which associations consign their stock. It will be noticed that some associations ship to three or four markets.

Table II gives the number of carloads of the various kinds of stock shipped to South St. Paul by counties. The results given in this table were obtained by adding the cars of livestock shipped from all the shipping points in each county. Since a station near a county line often draws shipments from outside its own county, in many instances the results indicated do not closely correspond with the carloads of livestock actually raised in the county.

Table III indicates the number of carloads of livestock shipped to South St. Paul by counties, and the number and percentage of carloads shipped from each county by associations and by buyers and others.

(7) Livestock Report of the St. Paul Union Stockyard Company, page 4 (1919).

(8) Obtained from the records of the St. Paul Union Stockyards Company at South St. Paul.

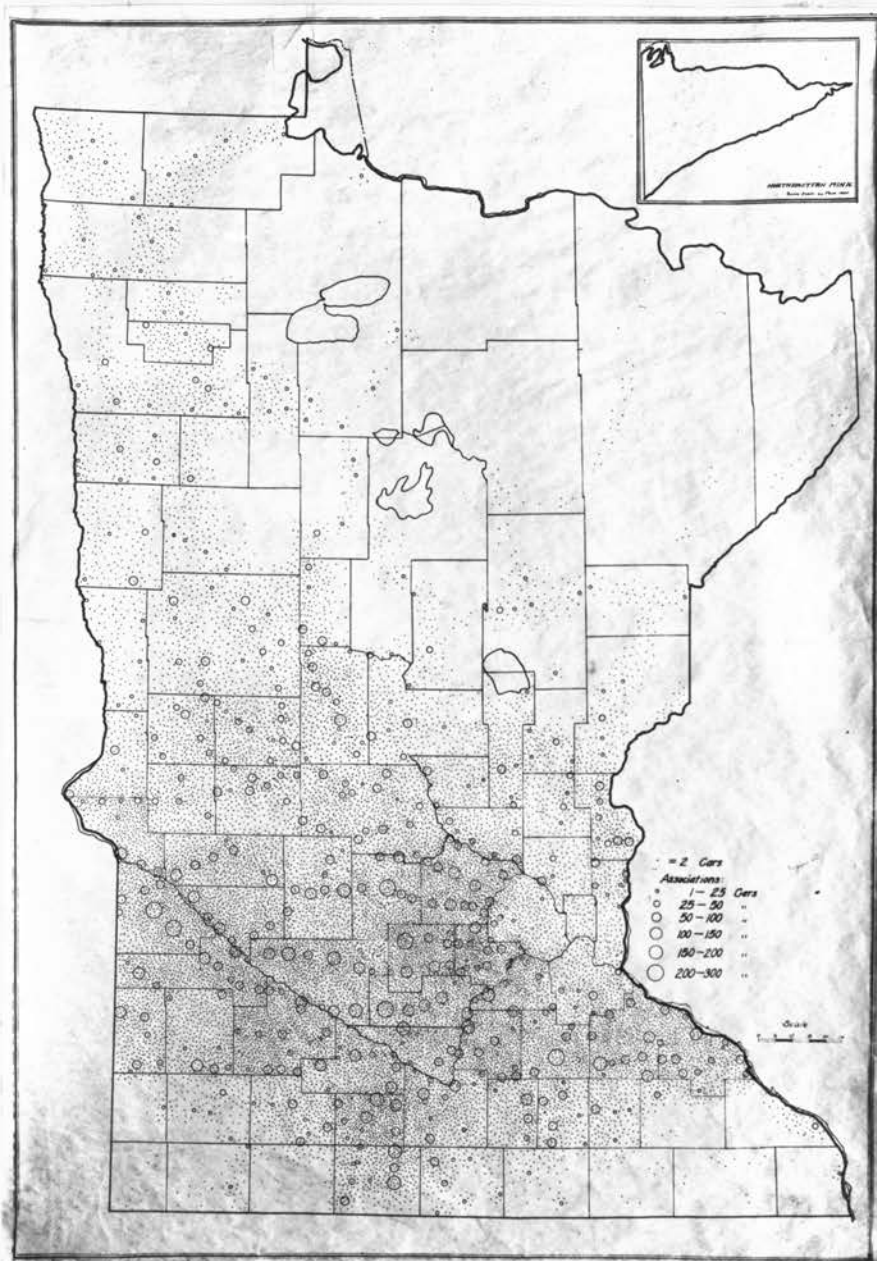


Fig. 2. Origin of Carlot Shipments of Livestock to South St. Paul. Also Location and Size of Associations.

This map reveals any territory not well provided with associations. It should be compared with Table III.

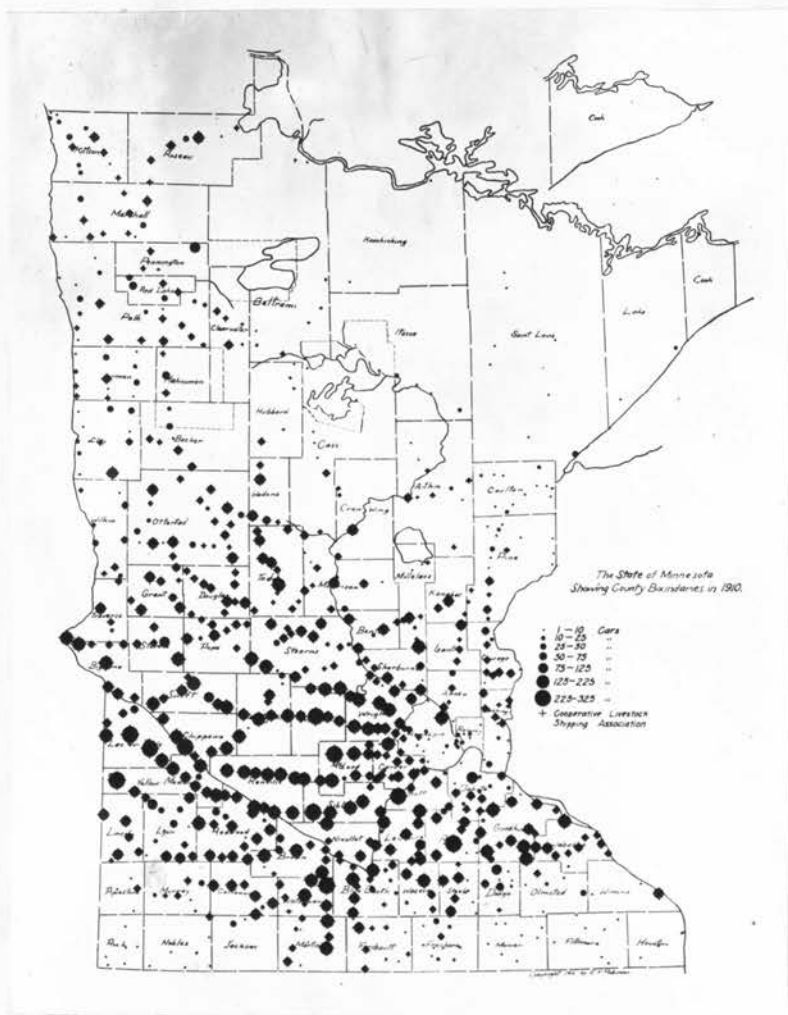


Fig. 3. Carlot Shipments to South St. Paul
by Shipping Points - Also Points Having Associations

This map shows that few shipping points of any importance are without associations. It is mostly the small points that do not have associations

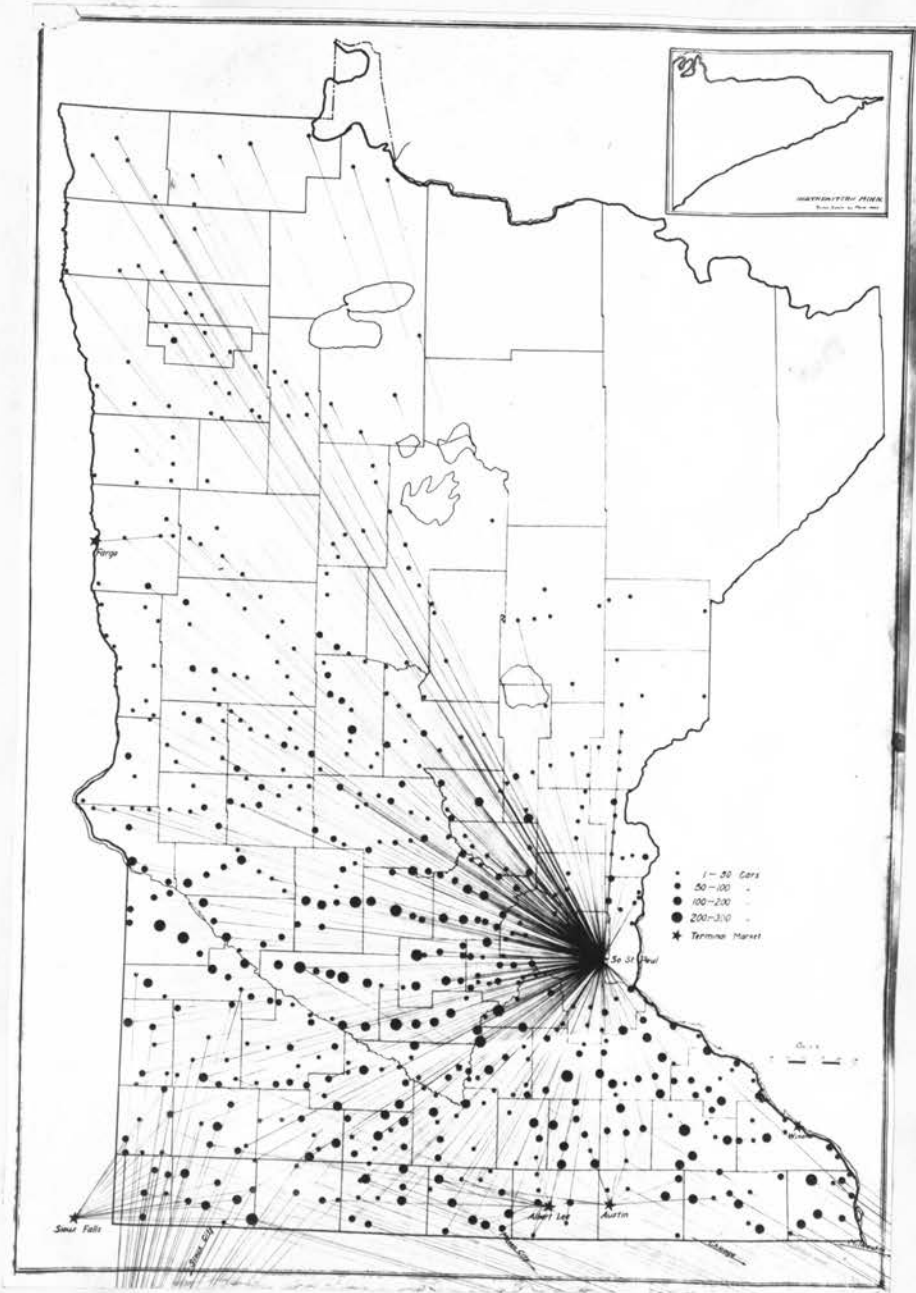


Fig. 4. Points to Which Associations
Consign Their Livestock - Also Size of Associations

The cars shipped by others than associations are divided into two groups in the table; one group, those cars shipped by persons shipping two cars or more during the months of October and November 1919; the other group, those shipped by persons shipping only one car during these months. September and October are two of the heaviest shipping months of the year. It was first assumed that the first group would include most of the men who are called "private buyers", but apparently this is not the case. The first group can be said to represent shipments mostly by private buyers, and the second group shipments largely, probably half, by the producers themselves. The table shows that the carloads of livestock shipped to South St. Paul, 23,309 carloads, or 61.4 percent of the total, were shipped by cooperative shipping associations, and that 6,010 cars of 15.9 percent of the total number shipped by persons shipping two cars or over during September and October 1919; and 8624, or 22.7 per cent were shipped by persons shipping only one car during these two months. It may be that the number of cars shipped by producers is unusually large during September and October, because this is the month when farmers are most likely to have full carloads. Figure 5 presents these facts in a map.

Figure 5 shows that as the shipments per county increase, the percentage of carloads of livestock shipped cooperatively increase. Figure 6, a "scatter diagram", also brings out the same facts clearly. This diagram shows that in all counties shipping 700 or more carloads of livestock to the South St. Paul market in 1919, 50 to 90 per cent were shipped cooperatively. This leads to the general conclusion that the larger the number of carloads shipped

TABLE II

MINNESOTA CARLOT SHIPMENTS OF LIVESTOCK TO SOUTH ST. PAUL
BY COUNTIES--1919

| County | Carloads of | | | | Total. |
|------------|-------------|------|-------|-------|--------|
| | Cattle | Hogs | Sheep | Mixed | |
| Aitkin | 59 | 1 | 7 | 89 | 156 |
| Anoka | 41 | 11 | 2 | 94 | 148 |
| Becker | 69 | 6 | 1 | 141 | 217 |
| Beltrami | 20 | 1 | 5 | 20 | 46 |
| Benton | 96 | 18 | 3 | 212 | 329 |
| Bigstone | 151 | 241 | 13 | 265 | 670 |
| Blue Earth | 244 | 290 | 26 | 261 | 821 |
| Brown | 187 | 290 | 6 | 255 | 738 |
| Carver | 94 | 247 | 1 | 402 | 744 |
| Cass | 19 | 6 | 9 | 27 | 61 |
| Carlton | 14 | 7 | 17 | 34 | 72 |
| Chisago | 109 | 21 | 0 | 201 | 331 |
| Chippawa | 214 | 387 | 3 | 246 | 850 |
| Clearwater | 37 | 0 | 49 | 49 | 135 |
| Clay | 69 | 19 | 6 | 164 | 258 |
| Cottonwood | 99 | 366 | 3 | 62 | 530 |
| Crow Wing | 38 | 0 | 22 | 72 | 132 |
| Dakota | 184 | 108 | 3 | 237 | 532 |
| Douglas | 127 | 75 | 5 | 383 | 590 |
| Dodge | 100 | 62 | 2 | 110 | 274 |
| Freeborn | 66 | 14 | 1 | 33 | 114 |
| Faribault | 48 | 161 | 4 | 20 | 233 |

MINNESOTA CARLOT SHIPMENT OF LIVESTOCK TO SOUTH ST. PAUL
BY COUNTIES--1919 (Cont'd).

| County | Carlots of | | | | Total. |
|---------------|------------|------|-------|-------|--------|
| | Cattle | Hogs | Sheep | Mixed | |
| Fillmore | 8 | 1 | 0 | 0 | 9 |
| Grant | 102 | 64 | 3 | 324 | 493 |
| Goodhue | 352 | 383 | 9 | 526 | 1270 |
| Hennepin | 88 | 58 | 152 | 158 | 456 |
| Houston | 4 | 0 | 0 | 6 | 10 |
| Hubbard | 22 | 13 | 4 | 29 | 68 |
| Isanti | 62 | 12 | 2 | 114 | 190 |
| Itasca | 14 | 4 | 1 | 16 | 35 |
| Jackson | 6 | 31 | 0 | 1 | 38 |
| Kanabec | 35 | 8 | 5 | 122 | 170 |
| Kandiyohi | 242 | 310 | 14 | 328 | 894 |
| Koochiching | 2 | 0 | 0 | 0 | 2 |
| Kittson | 67 | 18 | 44 | 111 | 240 |
| Lac qui Parle | 267 | 481 | 3 | 230 | 981 |
| Lake | 6 | 2 | 7 | 3 | 18 |
| Le Seuer | 224 | 373 | 15 | 391 | 1003 |
| Lincoln | 94 | 241 | 0 | 123 | 458 |
| Lyon | 221 | 427 | 11 | 74 | 733 |
| Mc Leod | 199 | 412 | 4 | 496 | 1111 |
| Mahnomen | 32 | 9 | 10 | 67 | 118 |
| Mower | 13 | 2 | 2 | 4 | 21 |
| Marshall | 88 | 27 | 18 | 191 | 324 |

MINNESOTA CARLOT SHIPMENT OF LIVESTOCK TO SOUTH ST. PAUL
BY COUNTIES--1919(Cont'd).

| County | Carloads of | | | | Total. |
|------------|-------------|------|-------|-------|--------|
| | Cattle | Hogs | Sheep | Mixed | |
| Martin | 129 | 374 | 12 | 71 | 586 |
| Meeker | 197 | 280 | 5 | 298 | 780 |
| Mille Lacs | 136 | 38 | 16 | 223 | 413 |
| Morrison | 108 | 42 | 8 | 307 | 465 |
| Murray | 12 | 111 | 1 | 7 | 131 |
| Nicollet | 132 | 252 | 1 | 143 | 528 |
| Nobles | 9 | 55 | 1 | 6 | 71 |
| Norman | 45 | 17 | 3 | 175 | 240 |
| Olmsted | 24 | 25 | 0 | 35 | 84 |
| Ottertail | 201 | 130 | 17 | 660 | 1008 |
| Pennington | 68 | 1 | 2 | 88 | 159 |
| Pipestone | 5 | 27 | 1 | 2 | 35 |
| Pine | 65 | 13 | 10 | 200 | 288 |
| Polk | 147 | 42 | 11 | 325 | 525 |
| Pope | 131 | 92 | 8 | 224 | 455 |
| Rock | 11 | 0 | 0 | 3 | 14 |
| Red Lake | 58 | 12 | 7 | 116 | 193 |
| Roseau | 105 | 3 | 11 | 97 | 216 |
| Ramsey | 25 | 34 | 23 | 3 | 85 |
| Redwood | 408 | 681 | 18 | 325 | 1432 |
| Renville | 487 | 635 | 12 | 382 | 1516 |
| Rice | 188 | 275 | 3 | 265 | 731 |

MINNESOTA CARLOT SHIPMENT OF LIVESTOCK TO SOUTH ST. PAUL
BY COUNTIES--1919(Cont'd).

| County | Carloads of | | | | Total. |
|-----------------|-------------|-------|-------|-------|--------|
| | Cattle | Hogs | Sheep | Mixed | |
| St. Louis | 30 | 8 | 0 | 8 | 46 |
| Stevens | 95 | 94 | 10 | 198 | 397 |
| Sibley | 196 | 366 | 0 | 312 | 874 |
| Swift | 209 | 332 | 9 | 336 | 886 |
| Stearns | 303 | 207 | 3 | 780 | 1293 |
| Sherburne | 67 | 42 | 0 | 225 | 334 |
| Scott | 103 | 200 | 0 | 285 | 588 |
| Steele | 154 | 115 | 1 | 89 | 359 |
| Todd | 166 | 121 | 13 | 397 | 697 |
| Traverse | 72 | 116 | 8 | 117 | 313 |
| Washington | 122 | 31 | 5 | 143 | 301 |
| Watonwan | 270 | 434 | 69 | 201 | 974 |
| Wabasha | 121 | 246 | 32 | 251 | 650 |
| Waseca | 124 | 132 | 6 | 98 | 360 |
| Wadena | 59 | 27 | 7 | 178 | 271 |
| Wilkin | 43 | 24 | 7 | 110 | 184 |
| Winona | 19 | 25 | 0 | 44 | 88 |
| Wright | 330 | 573 | 6 | 625 | 1534 |
| Yellow Medicine | 352 | 600 | 22 | 245 | 1219 |
| State | 9759 | 12039 | 360 | 15288 | 37946 |

from a given point in the Minnesota area consigning livestock to South St. Paul, the greater is the percentage shipped cooperatively⁽⁹⁾ It would seem, then, that the value of cooperative shipping associations is no longer limited to territory where shipments are small and irregular, as frequently seemed to be the case when the movement was just getting started.

Table IV shows the number of shipping points per county shipping livestock to South St. Paul, the percentage of carloads shipped by associations and by others from shipping points having associations. Of 762 points shipping to the South St. Paul Market, 491 or 64.4 per cent have associations. These 491 points ship 34,472 carloads or 90.8 per cent of the total South St. Paul shipments from the State. This indicates that the associations tend toward the points having the larger total shipments. Of these 34,472 carloads shipped from points having associations, cooperative associations ship 23,309 carloads, or 67.6 per cent, as compared with 61.4 per cent for all shipping points shipping to South St. Paul. There are 271 shipping points in the state, shipping 3474 carloads, which have no shipping association. The buyers thus get a good share of business at points where they have no competition.

(9) The Pearsonion coefficient of correlation between total Minnesota county shipments to South St. Paul and percentage of carloads shipped cooperatively is $+0.56$. The Pearsonion correlation-ratio coefficient between these two factors is $+0.63$.

TABLE III
 Division of Shipping between Associations and Others, for the South St. Paul
 Market, 1919, by Counties of Minnesota

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|------------|------------------------------|----------------------------|------------------|-----------------------------|--|------------------|-----------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers X | Cooperative Association | Mostly Buyers | Miscellaneous Shippers X |
| Aitkin | 156 | 61 | 25 | 70 | 39 | 16 | 45 |
| Anoka | 148 | 81 | 28 | 39 | 55 | 19 | 26 |
| Becker | 217 | 59 | 92 | 66 | 27 | 42 | 31 |
| Beltrami | 46 | 28 | 1 | 17 | 61 | 2 | 37 |
| Benton | 329 | 135 | 112 | 82 | 41 | 34 | 25 |
| Bigstone | 670 | 352 | 231 | 87 | 53 | 34 | 13 |
| Blue Earth | 821 | 473 | 187 | 161 | 58 | 23 | 19 |
| Brown | 738 | 572 | 45 | 121 | 76 | 6 | 18 |
| Carver | 744 | 597 | 68 | 79 | 80 | 9 | 11 |
| Cass | 61 | 8 | 11 | 42 | 13 | 18 | 69 |
| Carlton | 72 | 9 | 20 | 43 | 13 | 28 | 59 |
| Chisago | 331 | 273 | 6 | 52 | 82 | 2 | 16 |
| Chippewa | 850 | 540 | 201 | 109 | 64 | 24 | 12 |
| Clearwater | 135 | 52 | 49 | 34 | 39 | 36 | 25 |

TABLE III (Cont'd)

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|------------|------------------------------|----------------------------|------------------|---------------------------|--|------------------|----------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers | Cooperative Association | Mostly Buyers | Miscellaneous Shippers. |
| Clay | 258 | 118 | 54 | 86 | 46 | 21 | 33 |
| Cottonwood | 530 | 237 | 212 | 81 | 45 | 40 | 15 |
| Crow Wing | 132 | 61 | 35 | 36 | 46 | 27 | 27 |
| Dakota | 532 | 192 | 161 | 179 | 36 | 30 | 34 |
| Douglas | 590 | 374 | 134 | 82 | 63 | 23 | 14 |
| Dodge | 274 | 202 | 22 | 50 | 74 | 8 | 18 |
| Freeborn | 114 | 10 | 40 | 64 | 9 | 35 | 56 |
| Faribault | 233 | 154 | 47 | 32 | 66 | 20 | 14 |
| Fillmore | 9 | 0 | 0 | 9 | 0 | 0 | 100 |
| Grant | 493 | 321 | 88 | 84 | 65 | 18 | 17 |
| Goodhue | 1270 | 1063 | 52 | 155 | 84 | 4 | 12 |
| Hennepin | 456 | 107 | 40 | 309 | 23 | 9 | 68 |
| Houston | 10 | 7 | 0 | 3 | 70 | 0 | 30 |
| Hubbard | 68 | 55 | 0 | 13 | 80 | 0 | 20 |
| Isanti | 190 | 101 | 53 | 36 | 53 | 28 | 19 |

TABLE III (Cont'd)

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|---------------|------------------------------|----------------------------|------------------|---------------------------|--|------------------|---------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers | Cooperative Association | Mostly Buyers | Miscellaneous Shippers |
| Itasca | 35 | 0 | 26 | 9 | 0 | 74 | 26 |
| Jackson | 38 | 0 | 29 | 9 | 0 | 76 | 24 |
| Kanabec | 170 | 59 | 55 | 56 | 35 | 32 | 33 |
| Kandiyohi | 894 | 675 | 64 | 155 | 76 | 7 | 17 |
| Koochiching | 2 | 0 | 0 | 2 | 0 | 0 | 100 |
| Kittson | 240 | 41 | 72 | 127 | 17 | 30 | 53 |
| Lac qui Parle | 981 | 762 | 84 | 135 | 78 | 9 | 13 |
| Lake | 18 | 0 | 7 | 11 | 0 | 39 | 61 |
| Le Seuer | 1003 | 639 | 214 | 150 | 64 | 21 | 15 |
| Lincoln | 458 | 361 | 16 | 81 | 79 | 3 | 18 |
| Lyon | 733 | 290 | 310 | 133 | 40 | 42 | 18 |
| Mc Leod | 1111 | 840 | 87 | 184 | 76 | 8 | 16 |
| Mahnomen | 116 | 26 | 48 | 44 | 21 | 40 | 39 |
| Mower | 21 | 0 | 0 | 21 | 0 | 0 | 100 |
| Marshall | 324 | 100 | 89 | 135 | 31 | 27 | 42 |

TABLE III (Cont'd)

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|------------|------------------------------|----------------------------|------------------|---------------------------|--|------------------|---------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers | Cooperative Association | Mostly Buyers | Miscellaneous Shippers |
| Martin | 586 | 527 | 0 | 59 | 90 | 0 | 10 |
| Meeker | 780 | 605 | 0 | 175 | 78 | 0 | 22 |
| Mille Lacs | 413 | 166 | 113 | 134 | 40 | 27 | 33 |
| Morrison | 465 | 242 | 142 | 81 | 52 | 30 | 18 |
| Murray | 131 | 54 | 13 | 64 | 41 | 10 | 49 |
| Nicollet | 528 | 408 | 28 | 92 | 77 | 5 | 18 |
| Nobles | 71 | 13 | 0 | 58 | 18 | 0 | 82 |
| Norman | 240 | 94 | 41 | 105 | 39 | 17 | 44 |
| Olmsted | 84 | 29 | 0 | 55 | 35 | 0 | 65 |
| Ottertail | 1008 | 515 | 114 | 379 | 51 | 11 | 38 |
| Pemington | 159 | 36 | 70 | 53 | 23 | 44 | 33 |
| Pipestone | 35 | 15 | 11 | 9 | 43 | 31 | 26 |
| Pine | 288 | 71 | 65 | 152 | 25 | 23 | 52 |
| Polk | 525 | 163 | 207 | 155 | 31 | 39 | 30 |
| Pope | 455 | 379 | 0 | 76 | 83 | 0 | 17 |

TABLE III (Cont'd)

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|-----------|------------------------------|----------------------------|------------------|---------------------------|--|------------------|---------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers | Cooperative Association | Mostly Buyers | Miscellaneous Shippers |
| Rock | 14 | 0 | 0 | 14 | 0 | 0 | 100 |
| Red Lake | 193 | 58 | 66 | 69 | 30 | 34 | 36 |
| Roseau | 216 | 75 | 26 | 115 | 35 | 12 | 53 |
| Ramsey | 85 | 0 | 0 | 85 | 0 | 0 | 100 |
| Redwood | 1432 | 767 | 140 | 525 | 54 | 10 | 36 |
| Renville | 1516 | 1117 | 134 | 265 | 74 | 9 | 17 |
| Rice | 731 | 446 | 72 | 213 | 61 | 10 | 29 |
| St. Louis | 46 | 0 | 36 | 10 | 0 | 78 | 22 |
| Stevens | 397 | 134 | 168 | 95 | 34 | 42 | 24 |
| Sibley | 874 | 763 | 10 | 101 | 87 | 1 | 12 |
| Swift | 886 | 482 | 196 | 208 | 54 | 22 | 24 |
| Stearns | 1293 | 700 | 333 | 260 | 54 | 26 | 20 |
| Sherburne | 334 | 220 | 64 | 50 | 66 | 19 | 15 |
| Scott | 588 | 357 | 56 | 175 | 61 | 10 | 29 |
| Steele | 359 | 309 | 0 | 50 | 86 | 0 | 14 |

TABLE III (Cont'd)

| County | Total Carlot Shipments | Carloads Shipped by Others | | | Percentage of Carloads Shipped by Others | | |
|-----------------|------------------------------|----------------------------|------------------|---------------------------|--|------------------|---------------------------|
| | | Cooperative Association | Mostly Buyers | Miscellaneous Shippers | Cooperative Association | Mostly Buyers | Miscellaneous Shippers |
| Todd | 697 | 548 | 53 | 96 | 79 | 8 | 13 |
| Traverse | 313 | 206 | 60 | 47 | 66 | 19 | 15 |
| Washington | 301 | 164 | 75 | 62 | 54 | 25 | 21 |
| Watonwan | 974 | 610 | 115 | 249 | 63 | 12 | 25 |
| Wabasha | 650 | 581 | 27 | 42 | 89 | 4 | 7 |
| Waseca | 360 | 239 | 60 | 61 | 66 | 17 | 17 |
| Wadena | 271 | 176 | 50 | 45 | 65 | 18 | 17 |
| Wilkin | 184 | 70 | 48 | 66 | 38 | 26 | 36 |
| Winona | 88 | 48 | 25 | 15 | 55 | 28 | 17 |
| Wright | 1534 | 1169 | 150 | 215 | 76 | 10 | 14 |
| Yellow Medicine | 1219 | 718 | 127 | 374 | 59 | 10 | 31 |
| State | 37946 | 23309 | 6010 | 8627 | 61.4 | 15.9 | 22.7 |

Ⓜ Persons, mostly buyers, who shipped two cars or more during October and November.

X Persons, largely (at least half) producers, shipping only one car during September & October.

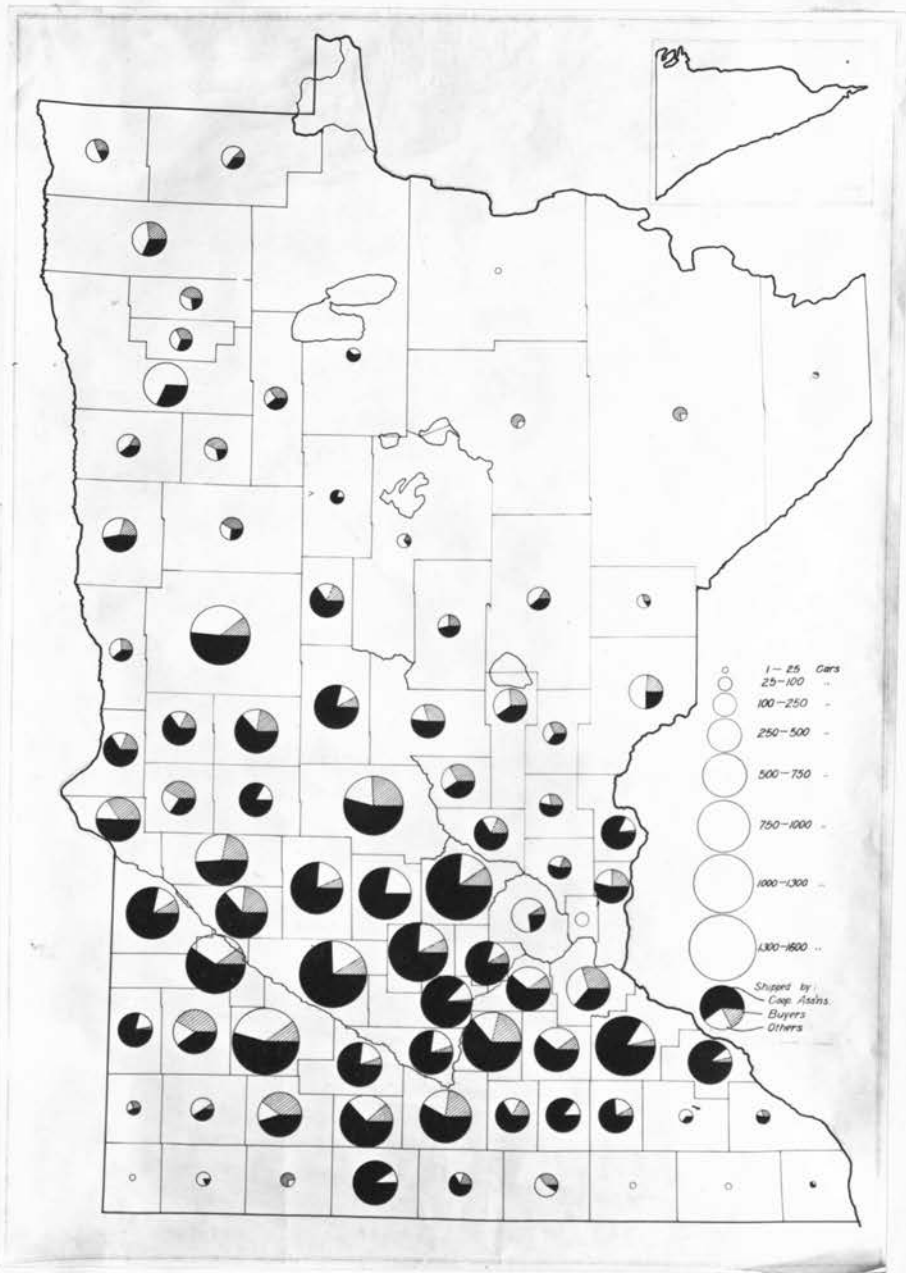


Fig.5. Shipments to South St. Paul by Counties, and Proportion of Shipments by Associations and Others.

Shipments to So. St. Paul (Hundreds of Carloads)

Percentage of Cars Shipped Cooperatively.

| | 0-1 | 1-2 | 2- | 3- | 4- | 5- | 6- | 7- | 8- | 9- | 10- | 11- | 12- | 13- | 14- | 15- | Total |
|-------|-----|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-------|
| 0-10 | 9 | 1 | | | | | | | | | | | | | | | 10 |
| 10- | 3 | | 1 | | | | | | | | | | | | | | 4 |
| 20- | | 2 | 2 | | 1 | | | | | | | | | | | | 5 |
| 30- | 1 | 5 | 2 | 2 | | 2 | | | | | | | | | | | 12 |
| 40- | 1 | 2 | 1 | 1 | 2 | | 1 | | | | | | | | | | 8 |
| 50- | 1 | 2 | | 1 | 1 | 1 | | 2 | | 1 | | 2 | | 1 | | | 12 |
| 60- | 1 | | 2 | 3 | 1 | 2 | | 1 | 1 | 1 | 1 | | | | | | 13 |
| 70- | 1 | | 1 | | 1 | 1 | 1 | 2 | 1 | 1 | | 1 | | | | 2 | 12 |
| 80- | 1 | | | 2 | 1 | | 1 | 1 | 1 | | | | 1 | | | | 8 |
| 90- | | | | | | 1 | | | | | | | | | | | 1 |
| Total | 18 | 12 | 9 | 9 | 7 | 7 | 3 | 4 | 5 | 2 | 2 | 1 | 3 | 0 | 1 | 2 | 85 |

Figure VI Carlot Shipments of Livestock to So. St. Paul and the Percentage of Carloads Shipped Cooperatively, by Counties of Minnesota. 1919

TABLE IV

Division of Shipments from Points Having Association between Associations and Others, for the South St. Paul Market, 1919, by Counties of Minnesota

| County | Total Points Consigning Stock | <u>Points Having Associations</u> | | <u>Cars Shipped from Points Having Associations</u> | | |
|------------|-------------------------------------|-----------------------------------|-------------------|---|--|-------------------|
| | | Number | Per Cent of Total | Total | <u>Shipped by Associations</u> Number | Per Cent of Total |
| Aitkin | 10 | 6 | 60 | 132 | 61 | 46 |
| Anoka | 5 | 3 | 60 | 98 | 81 | 83 |
| Becker | 7 | 4 | 57 | 167 | 59 | 35 |
| Beltrami | 8 | 6 | 75 | 39 | 29 | 72 |
| Benton | 7 | 4 | 57 | 297 | 135 | 45 |
| Bigstone | 8 | 8 | 100 | 670 | 352 | 53 |
| Blue Earth | 14 | 11 | 79 | 750 | 473 | 63 |
| Brown | 10 | 9 | 90 | 732 | 572 | 78 |
| Caryer | 15 | 13 | 87 | 735 | 597 | 81 |
| Cass | 7 | 2 | 29 | 44 | 8 | 18 |
| Carlton | 12 | 2 | 17 | 10 | 9 | 90 |
| Chisago | 9 | 7 | 78 | 324 | 273 | 84 |

12-21-6M

-16a-

TABLE IV (Cont'd)

| County | Total Points Consigning Stock | <u>Points Having Associations</u> | | <u>Cars Shipped from Points Having Associations</u> | | |
|------------|-------------------------------------|-----------------------------------|-------------------|---|--------------------------------|-------------------|
| | | Number | Per Cent of Total | Total | <u>Shipped by Associations</u> | |
| | | | | | Number | Per Cent of Total |
| Chippewa | 6 | 6 | 100 | 850 | 540 | 64 |
| Clearwater | 5 | 5 | 100 | 135 | 52 | 39 |
| Clay | 12 | 4 | 33 | 149 | 118 | 79 |
| Cottonwood | 7 | 7 | 100 | 530 | 237 | 45 |
| Crow Wing | 4 | 3 | 75 | 116 | 61 | 53 |
| Dakota | 16 | 6 | 38 | 339 | 192 | 57 |
| Douglas | 11 | 11 | 100 | 590 | 374 | 63 |
| Dodge | 9 | 5 | 56 | 267 | 202 | 76 |
| Freeborn | 11 | 2 | 18 | 28 | 10 | 36 |
| Faribault | 9 | 7 | 78 | 223 | 154 | 69 |
| Fillmore | 7 | 0 | 0 | 0 | 0 | 0 |
| Grant | 8 | 8 | 100 | 493 | 321 | 65 |
| Goodhue | 15 | 13 | 87 | 1243 | 1063 | 86 |
| Hennepin | 17 | 6 | 35 | 343 | 107 | 31 |

12-21-64

-16b-

TABLE IV (Cont'd)

| County | Total Points Consigning Stock | <u>Points Having Associations</u> | | <u>Cars Shipped from Points Having Associations</u> <u>Shipped by Associations.</u> | | |
|---------------|-------------------------------------|-----------------------------------|-------------------|--|--------|-------------------|
| | | Number | Per Cent of Total | Total | Number | Per Cent of Total |
| Houston | 3 | 1 | 33 | 7 | 7 | 100 |
| Hubbard | 5 | 4 | 80 | 67 | 55 | 82 |
| Isanti | 4 | 4 | 100 | 190 | 101 | 53 |
| Itasca | 4 | 0 | 0 | 0 | 0 | 0 |
| Jackson | 2 | 0 | 0 | 0 | 0 | 0 |
| Kanabec | 3 | 3 | 100 | 170 | 59 | 35 |
| Kandiyohi | 10 | 8 | 80 | 858 | 675 | 79 |
| Koochiching | 2 | 0 | 0 | 0 | 0 | 0 |
| Kittson | 13 | 4 | 31 | 129 | 41 | 32 |
| Lac qui Parle | 7 | 7 | 100 | 981 | 762 | 78 |
| Lake | 2 | 0 | 0 | 0 | 0 | 0 |
| Le Sueur | 11 | 8 | 73 | 860 | 639 | 74 |
| Lincoln | 6 | 6 | 100 | 458 | 361 | 79 |
| Lyon | 14 | 8 | 57 | 531 | 290 | 55 |

TABLE IV (Cont'd)

| County | Total Points Consigning Stock | <u>Points Having Associations</u> | | <u>Cars Shipped from Points Having Associations</u> | | |
|------------|-------------------------------------|-----------------------------------|-------------------|---|--|-------------------|
| | | Number | Per Cent of Total | Total | Number <u>Shipped by Associations</u> | Per Cent of Total |
| McLeod | 11 | 9 | 83 | 1067 | 840 | 79 |
| Mahnomen | 3 | 1 | 33 | 42 | 26 | 62 |
| Mower | 8 | 0 | 0 | 0 | 0 | 0 |
| Marshall | 12 | 8 | 67 | 247 | 100 | 40 |
| Martin | 10 | 9 | 90 | 583 | 527 | 90 |
| Meeker | 6 | 6 | 100 | 780 | 605 | 78 |
| Mille Lacs | 9 | 5 | 55 | 336 | 166 | 49 |
| Morrison | 12 | 7 | 58 | 395 | 242 | 61 |
| Murray | 7 | 4 | 57 | 83 | 54 | 65 |
| Nicollet | 7 | 6 | 86 | 426 | 408 | 78 |
| Nobles | 7 | 2 | 29 | 47 | 13 | 28 |
| Norman | 12 | 7 | 58 | 184 | 94 | 51 |
| Olmsted | 6 | 1 | 16 | 35 | 29 | 83 |
| Ottertail | 23 | 15 | 65 | 872 | 515 | 59 |

TABLE IV (Cont'd)

| County | Total Points Consigning Stock | <u>Points Having Associations</u> | | Cars Shipped from Points Having Associations | | |
|------------|-------------------------------------|-----------------------------------|-------------------|--|--|-------------------|
| | | Number | Per Cent of Total | Total | <u>Shipped by Associations</u> Number | Per Cent of Total |
| Pennington | 4 | 3 | 75 | 71 | 36 | 51 |
| Pipestone | 4 | 1 | 25 | 27 | 15 | 56 |
| Pine | 19 | 6 | 32 | 174 | 71 | 41 |
| Polk | 20 | 9 | 45 | 382 | 163 | 43 |
| Pope | 9 | 9 | 100 | 455 | 379 | 83 |
| Rock | 6 | 0 | 0 | 0 | 0 | 0 |
| Red Lake | 5 | 3 | 60 | 98 | 58 | 59 |
| Roseau | 7 | 5 | 71 | 185 | 75 | 41 |
| Ramsey | 11 | 0 | 0 | 0 | 0 | 0 |
| Redwood | 18 | 13 | 72 | 1317 | 767 | 58 |
| Renville | 10 | 10 | 100 | 1516 | 1117 | 74 |
| Rice | 9 | 6 | 67 | 680 | 446 | 66 |
| St. Louis | 8 | 0 | 0 | 0 | 0 | 0 |
| Stevens | 5 | 4 | 80 | 312 | 134 | 43 |
| Sibley | 6 | 6 | 100 | 874 | 763 | 87 |

TABLE IV (Continued)

| County | Total Points Consigning Stock | Points Having Associations | | Cars Shipped from Points Having Associations | | |
|-----------------|-------------------------------------|----------------------------|-------------------|--|-------------------------|-------------------|
| | | Number | Per Cent of Total | Total | Shipped by Associations | |
| | | | | | Number | Per Cent of Total |
| Swift | 8 | 7 | 88 | 773 | 482 | 62 |
| Stearns | 20 | 17 | 85 | 1204 | 700 | 58 |
| Sherburne | 7 | 6 | 86 | 333 | 220 | 66 |
| Scott | 8 | 6 | 75 | 561 | 357 | 64 |
| Steele | 10 | 7 | 70 | 348 | 309 | 89 |
| Todd | 12 | 12 | 100 | 697 | 548 | 79 |
| Traverse | 5 | 4 | 80 | 300 | 206 | 69 |
| Washington | 13 | 7 | 54 | 239 | 164 | 69 |
| Watonwan | 9 | 9 | 100 | 974 | 610 | 63 |
| Wabasha | 11 | 11 | 100 | 650 | 581 | 89 |
| Waseca | 7 | 4 | 57 | 334 | 239 | 72 |
| Wadena | 5 | 5 | 100 | 271 | 176 | 65 |
| Wilkin | 9 | 6 | 67 | 138 | 70 | 51 |
| Winona | 3 | 1 | 33 | 84 | 48 | 57 |
| Wright | 16 | 14 | 88 | 1529 | 1169 | 76 |
| Yellow Medicine | 10 | 9 | 90 | 1194 | 718 | 60 |
| State | 762 | 491 | 64.4 | 34472 | 23309 | 67.6 |

Volume of Livestock per Association.

Table V shows the grouping of 250 associations according to carloads of livestock shipped; 39.6 per cent of the associations handle less than 50 carloads, 34.0% handle from 50 to 100 carloads, 22.4% handle 100 to 200 carloads, and only 4 per cent of the associations handle 200 or more carloads per year.

TABLE V

Frequency Table of Number of Cars Handled by 250 Associations

| Cars Handled | Number of Associations | Cars Handled | Number of Associations. |
|--------------|------------------------|--------------|-------------------------|
| Less than 10 | 16 | 100 - 120 | 18 |
| 10 - 20 | 14 | 120 - 140 | 16 |
| 20 - 30 | 21 | 140 - 160 | 13 |
| 30 - 40 | 23 | 160 - 180 | 4 |
| 40 - 50 | 25 | 180 - 200 | 5 |
| 50 - 60 | 19 | 200 - 220 | 3 |
| 60 - 70 | 25 | 220 - 240 | 0 |
| 70 - 80 | 16 | 240 - 260 | 4 |
| 80 - 90 | 9 | 260 - 280 | 1 |
| 90 - 100 | 16 | 280 - 300 | 2 |
| | | Over 300 | |
| | | Total | 250 |

There is no well defined modal group but the mode is found to lie around 50 carloads.

Table II shows that of 37,946 carloads of livestock shipped to South St. Paul from Minnesota in 1919, 15,288 carloads or 40.3 per cent of total were mixed shipments, 12,039 carloads or 31.7 per cent were straight shipments of swine, 9,759 carloads or 25.7 per cent were straight shipments of cattle, and 860 carloads or 2.3 per cent were straight shipments of sheep. The 82

TABLE VI

Classification of Carloads of Livestock for Associations, 1919.*

| | Cattle | Colors | Hogs | Sheep | Mixed | Total |
|---------------------|--------|--------|------|-------|-------|-------|
| Number of Carloads | 235 | 9 | 1589 | 26 | 1877 | 3736 |
| Percentage of Total | 6.3 | 0.3 | 42.5 | 0.7 | 50.2 | 100.0 |

*Obtained from visits to associations and from association annual reports.

associations represented by table VI have 10 per cent more mixed carloads than the state average for all shipments. This is partly because the associations ordinarily accept any kind of livestock for shipment on any shipping day. Buyers and other independent shippers are more likely to ship only one kind of livestock at a time unless shipping more than one carload. Mixed carlot shipments, as will be explained later, entail more expense than do straight carloads. The reason that associations ship a great proportion of mixed carloads will also be taken up later.

Number of Members: The size of associations as indicated by membership varies widely. Table VII shows the frequency distribution of the membership of 104 associations as reported in questionnaires.

TABLE VII

Frequency Table of Number of Members for 104 Association

| Number of Members | Number of Associations | Number of Members | Number of Associations |
|----------------------|---------------------------|----------------------|---------------------------|
| 1 - 25 | 1 | 175-- 200 | 15 |
| 25 - 50 | 5 | 200 - 250 | 16 |
| 50 - 75 | 9 | 250 - 300 | 11 |
| 75 - 100 | 8 | 300 - 350 | 5 |
| 100 - 125 | 6 | 350 - 400 | 3 |
| 125 - 150 | 12 | 400 - 500 | 6 |
| 150 - 175 | 7 | Total | 104 |

However, since the basis of membership varies in different associations, reports as to membership are scarcely comparable, furthermore, number of members as a criterion of the size of an association has significance only for certain purposes.

Chapter II

GENERAL ORGANIZATION OF THE MARKET

Producers of livestock have three general methods of marketing their animals; they may slaughter their own animals and trade in dressed meat; they may ship to large central packing centers; or they may sell to buyers at the local market. The practice of slaughtering animals on the farm and selling dressed meat is of little importance in Minnesota. The system under which individual producers ship to the large packing centers is of more importance than the selling of dressed meat, but is limited to those producers who operate on a large scale and can ship in carlots. By combining these offerings, however, producers can make up carlot shipments and thus ship to the large packing centers. Such organizations of livestock producers for the cooperative shipping of livestock are known as cooperative livestock shipping associations.

Local Marketing Agencies: The livestock shipping associations are usually organized simply. Since under the usual business practices no payment for livestock is made until the returns are received from the central market, practically no capital is required. Therefore most associations do not incorporate.

In general the constitutions give the name and plan of the association, and make provisions covering membership, government of the association, and amendments.

Usually any person shipping stock through the association is entitled to membership. The government of the association is put in the hands of a board of directors elected by the members. The president, secretary, and treasurer of the association are usually members of the board of directors, holding like offices in that body. The board of directors has charge of the general management of the association. Active executive work is usually put in the hands of a manager selected by the directors and directly responsible to them and under their control. The board of directors ordinarily acts much in the capacity of an advisory council to the manager, helping him solve whatever problems he may bring to them in regard to policy and method.

The by-laws of the association define the duties of the manager, usually set the compensation of the manager and officers, make provision for an insurance or sinking fund, and for a system of accounting and auditing, and in general lay down the broad working policy of the association.

The manager is probably the biggest single factor in the success or failure of the association. He is the active executive. His duties are varied: he sets the shipping day; orders the necessary cars; receives the stock at the local yards, weighs, marks, and grades the livestock, issues sales slips to owners; attends to feeding and watering in the yards; puts the cars in proper shape; makes up an invoice sheet of the shipment for the commission firm; attends to billing; may accompany the stock to market; prorates returns; and keeps such records and accounts as

are deemed necessary. Many times the manager either has an assistant or else delegates certain of the above duties to other persons.

The manager usually is compensated by a commission reckoned on the hundredweight basis. Other methods in use are payment per carload, per day, or per month.

Losses which occur after stock has been delivered to the association are usually paid by the association. To cover this item, an insurance or sinking fund is created through the levying of a small charge per hundredweight on all animals shipped.

The third general method of marketing livestock is to sell to buyers at the local market. These buyers of livestock at the local market may be roughly classed into six groups as follows:

1. Local butchers who slaughter their own animals.
2. Buyers for city butchers.
3. Traveling or itinerant buyers who make their appearance in the local market at various times and buy such livestock as they can quickly assemble. Such buyers are of particular importance in localities where little livestock is produced.
4. Representation of commission firms. The buying done by this group is now relatively unimportant in Minnesota.
5. Elevators and stores who buy more as an accommodation than as a regular business. They usually ship to the central market.
6. Local buyers who devote their full time to buying and shipping to the central market. This class of buyers is of great importance at many shipping points. These local buyers visit farmers in a limited area and buy any livestock which the farmer may have for sale. Inasmuch as such buyers are well acquainted with market fluctuations and can usually guess weight

of animals quite accurately, farmers are often at a disadvantage in bargaining with them. These buyers make their profits by buying livestock for enough less than they sell it for at the central market to have a margin at least large enough to cover their operating expenses. Local buyers thus perform much the same functions as do the livestock shipping associations, and at many points the two are competitors. However, they pay cash on delivery and stand all losses through dead or crippled animals, and through fluctuations in market price, whereas the shipping associations act only as agents for the members and make payments for the livestock only after it is sold.

Railroads: The railroads furnish the yards at local points and usually also water. Scales, however, are not furnished. Most roads run special stock trains one or two days a week and this allows a much quicker trip than if stock were to be shipped as ordinary freight. Cars recognized are 36 feet, 40 feet, and 44 feet in length.

St. Paul Bridge and Terminal Railway: The only railroads connecting directly with the stock yards are the Rock Island and the Great Western. All other railroads entering the Twin Cities deliver their cars to the St. Paul Bridge and Terminal Company at Hoffman Avenue. The St. Paul Bridge and Terminal Company is a private corporation which owns tracks running from St. Paul to the stock yards. A set charge of \$4 per car is charged for hauling cars to the yards and switching there. All carload charges are paid by the stock Yards Company, which in turn collects from the consignor.

South St. Paul Organizations.

Stock Yards Company: The St. Paul Union Stock Yards Company is

a corporation which owns the entire stock yards and the exchange building. The capacity of the stock yards is 1200 carloads, the yards having 3000 stock pens, occupying 83 acres. The entire yard is served with water, electric lights and a sewage system.

The employees of the St. Paul Union Stock Yards Company handle the unloading of livestock, count the number of animals in each shipment and notify the respective commission firms of the arrival of livestock and the amount of it. The Stock Yards Company keeps a record of the time of arrival of every train and the numbers of all cars. A record is also kept of the chute at which each car is unloaded and the number and kind of all animals unloaded, also the number of dead and crippled animals. The Stock Yards Company reserves the right to supply feed and bedding for use in the yards.

The Stock Yards Company derives its revenue from yardage fees, from the margins in selling feed and bedding, and from rental of buildings. The yardage fees are handled peculiarly. Each commission man or dealer in the yards is allotted a number of pens, for which he does not pay a regular rental, but instead a yardage fee on each animal passing through the yards. This charge is levied only as the animals are sold, no extra charge being made for those held in the yards more than a day. The Stock Yards Company collects this yardage fee from the commission firms and the commission firms in turn add it to the central market expenses of the carloads.

The Stock Yards Company buys its hay, corn, and straw at varying prices, but sells these commodities at uniform rates.

For example, the market price of corn may vary widely throughout a given year, yet the price charged by the Stock Yards Company remains the same. Naturally such a practice often causes dissatisfaction among shippers when the spread between the market price and the price charged at the stockyards gets rather wide.

Commission Firms. Livestock is usually consigned to commission firms having offices at the yard. There are 34 such commission firms operating at South St. Paul. The number of stockholders per firm varies from 2 to 9. These firms are organized for the purpose of acting as expert salesmen and buyers in livestock. Although any person may sell his own stock on the market, yet most stock is consigned to and handled by commission firms.

Each commission firm has its hog, cattle, and sheep salesmen or specialists in addition to its office force. The commission firm's employees care for the livestock in the yards, see that it is properly bedded, fed, and watered, sell it, drive it over the scales, and get the sale weights. These selling weights together with the buyer's name and amounts of feed and straw used are then turned in at the commission firm office. Here a full account of the sale is prepared which summarizes the selling data and the various expenses connected with the shipment. A check covering the balance between the gross selling amount and the central market and freight expenses is then drawn. This check accompanied by the "account sales" statement is either given or sent to the consignor. If prorating is done by the commission firm, work sheets and individual account sale accompany the above.

Each commission firm is under a \$10,000 bond to the St. Paul Union Stock Yards Company, a \$20,000 bond to the Stock Yards Exchange, and a \$5000 to \$20,000 bond to the Railroad and Warehouse Commission. All dealers and commission firms are licensed by the Minnesota Railroad and Ware-

1. Actual "account sale" statements are shown p. .

house Commission.

The \$10,000 bond to the St. Paul Union Stock Yards Company is to insure collections and remittance of yardage charge and feed and straw bills.

The \$20,000 bond to the South St. Paul Live Stock Exchange¹ for the purpose of protecting owners of livestock and for the guarantee of payments to the owners of all livestock shipped out this market and sold for this account and likewise for all stock bought of any member of this Exchange".⁴

The \$5000 to \$10,000 bond to the Minnesota Railroad and Ware-⁵house Commission is for the "protection of persons doing business with any dealer" at South St. Paul.

The Livestock Exchange:- Commission firms and dealers at the South St. Paul market are organized into the South St. Paul Livestock Exchange which was incorporated in 1897. The purpose of this organization is to "inculcate just and equitable principles of trade; to acquire and disseminate useful business information; to regulate trading; to settle disputes among members; and to act in the same capacity as any other such organization." Any person of reputable character and in business at South St. Paul may become a member of the Exchange on payment of an initiation fee of \$250, if holding a membership and if accepted by the Board of Directors. Memberships in 1920 were worth \$5000.

Members of the Exchange are governed by certain rules, infractions of which make the infractor liable to penalties. The rules promulgated, cover the actions of the members as to charges, services, and dispute. Following are some of the points covered:

2. If the commission firm is a member of the Exchange.
3. Depending upon the business handled by the firm.
4. Quoted from Amended Rule XVII of the Rules and By-Laws of the South St. Paul Live Stock Exchange.
5. Quoted from Chap. 39, H F No. 53, Sec. 1.

1. The regulation of commissions.
2. Prohibition of rebates on commission charges.
3. Provision for settling disputes by arbitration.

Scale force. All scales at the yards are operated by government employees. All scales are in small buildings, are of late pattern, are equipped with automatic weight registering devices, and are under continuous inspection. Scales used break 10 pound points, except three installed in 1920. All weighing is done openly where buyer and seller can watch the proceeding. The weigh-master balances the scale, weighs the draft, issues the scale ticket, and records the scale ticket number and the time of weighing. The scale ticket is stamped with the weight of the livestock, the number of animals weighed, the stockage, sale price, and the names of the buyer and seller.

The "shrinkers", four in number, are also government employees. They decide which animals are stags or pregnant sows and dock them accordingly. Stags are docked 80 pounds and pregnant sows 40 pounds per animal. The inspectors are also employed by the government. The weighing charge is high enough to cover very adequately the expense of the weighing, shrinker, and inspection services.

Equity Cooperative Exchange. The Equity Cooperative Exchange is a corporation with a capitalization of \$10,000,000 divided into 200,000 shares of \$50 each.⁶ The amount of stock to be held by any one person is limited to \$1000, and each stockholder is allowed only one vote regardless of the amount of stock held. At South St. Paul the Equity Cooperative Exchange deals in livestock exactly like any other commission firm, charging the regular rates. It is not a member of the South St. Paul Livestock Exchange, nor until 1921 could any of the South St. Paul Livestock Exchange members trade with it.⁷

6. Articles of Incorporation of the Equity Corporation Exchange Article III.

7. Statutes of 1921, Chapter 344.

The profits of the Equity Cooperative Exchange are to be distributed as follows:⁸

1. To interest on capital stock, at a rate of not more than 8%.
2. To a depreciation fund, which is to cover depreciation of property values.
3. To a reserve fund, the amount set aside to be not greater than 20% of the profits of the year.
4. Of remaining profit, 5 to 20 per cent of total net profits to be set aside for an educational fund.
5. Remainder to be distributed as a patronage dividend according to value and quantity of patronage:
 - a. To all subscribers, to be paid within 30 days after being declared.
 - b. To non-subscriber patrons, dividend to be paid in shape of share purchasing coupons, provided that when any patron shall have received enough coupons to equal the par value of one share of stock the coupon must be forwarded to the Exchange and exchanged for a share of stock. Any excess is to be paid in cash.

Central Cooperative Commission Association. The Central Cooperative Commission Association is a cooperative selling agency incorporated under the Minnesota cooperative laws for 1921⁹ with a capital stock of \$25,000 divided into 1000 shares of the par value of \$25 each.¹⁰ The stockholders of the corporation, except for directors, are "composed of and confined to local cooperative livestock shipping associations operating in the territory tributary to the South St. Paul market."¹¹

8. Articles of Incorporation and By Laws of the Equity Cooperative Exchange. Section 29 of By Laws.
9. See Chapter 23 of the Laws of the State of Minnesota for 1921.
10. Article of Incorporation and By Laws of the Central Cooperation Commission Association, Article V.
11. By Laws of the Central Cooperative Commission Association,

Each stockholder is entitled to cast only one vote, which vote may be cast in person or by mail, but not by proxy. Government of the corporation is vested in a board of nine directors elected at large throughout the district. These directors in turn select a manager who is strictly responsible to them.

The net earnings of the Central Cooperative Commission^{Company} are to be distributed as follows:¹²

1. Dividends not to exceed eight per cent per annum, may be declared by the Board of Directors.
2. The net earning not distributed as dividends shall be distributed as follows:

(a). To a surplus not less than ten per cent until the surplus is equal to thirty per cent of the amount of capital stock outstanding.

(b). The remainder of the net earnings to be distributed to stockholders and non-members upon the basis of commissions charged to them during the year; with the provision that the dividends of non-stockholders shall be held in trust until a sufficient amount is accumulated to pay for a share of stock. In case the non-member to whom earnings are due is not entitled to hold stock, his earnings are to be paid in money.

As in the case of the Equity Cooperative Exchange, the Central Cooperative Commission Association is not a member of the South St. Paul Livestock Exchange.

Dealers and Speculators: In addition to the 32 commission firms organized for profit, and the two cooperative commission firms, there are 61 other agents en-

Article II, Section 6.

12. Ibid-Article VI, Section 1 and 2. Article IV, Section 5.

gaged in buying and selling livestock at the South St. Paul market. These are dealers, scalpers, or speculators who act on their own accounts, who buy odd lots, groups and resell, or perhaps buy and hold for a few days in the hope of a price advance. Certain of these dealers who specialize in particular classes of livestock or who confine themselves to particular operations, soon have their specialties recognized and come to be called "milk cow dealers", "arbitragers", or "speculators".

Buyers at South St. Paul: Buyers of livestock at South St. Paul may be briefly classified as follows:

1. Local packers- The principal packers are Swift and Company and Armour and Company. The most important of the smaller packers is King and Company.
2. Buyers for outside packers. Certain packing interests who do not have plants at South St. Paul have a representative there who buys for shipment to their plants.
3. Order buyers. Usually commission merchants who buy "feeders" for feed-lot operators.
4. Speculator or scalpers. These buy and sell usually in small lots.
5. Stockmen who buy "feeders" or "stockers".

Chapter III

ORGANIZATION OF COOPERATIVE LIVESTOCK SHIPPING ASSOCIATION

The reader should at this point read the sample articles of association and by-laws given in Appendix A. Many shipping associations provide arrangements quite different from those given in the sample forms. No one arrangement can be best suited to all associations. Following is a discussion of a few of the sections which vary greatly with different associations.

Form of Organization: Of 69 cooperative associations handling livestock, which were visited in 1919, 56 associations or 81 per cent were not incorporated. Of the 13 associations which were incorporated, only two were organized for handling livestock primarily, the other 11 associations handling livestock as a sideline. Five of these 11 incorporated associations were elevators, one was a mill, one a creamery, one a store; two handled flour, feed, and coal, and one handled machinery, flour, feed, and coal.

In addition to the 69 associations visited, reports as to incorporation were obtained from an additional 52 associations handling livestock. Of these 52 associations, 43 or 84 per cent were not incorporated. Of the 9 which were incorporated, two handled livestock only, 4 were elevators, 1 handled grain and produce, 2 handled machinery, grain, plows and feed.

Reports from these two sources indicate that of 103 associations handling livestock, only, 99 were unincorporated.

Minnesota cooperative livestock shippers associations are, therefore, with few exceptions, unincorporated associations. Chapter 382 of the Minnesota General Statutes of 1919 is supposed to apply to the formation of

cooperative livestock shipping associations. However, it can apply only in case they incorporate. Shipping associations as such, find that they need very little capital. No payments for stock are made until the receipts have been returned from the terminal market. Equipment cost is negligible. Also the organization is intended to operate at cost and it is therefore not expected that a large surplus or reserve will be accumulated. The association owns little property. For these reasons most Minnesota livestock shipping associations are not incorporated, but are voluntary associations, and hence do not come under the Minnesota Cooperative law.

Fundamentally, however, the so-called voluntary organizations are very similar to the incorporated cooperative associations: they are organized along the same lines and have the same fundamental cooperative principles. The chief differences between the two forms of organization are as follows:

(1) The voluntary organization is not a legal entity. Legally, the association as an organization has no standing, that is, it cannot sue or be sued in the organization name.

(2) The voluntary association is without capital stock. Transfer of stock, control of stock ownership, interest on capital stock, ^{and} stock dividends, are therefore not questions which demand attention.

(3) In an incorporated association, liability of members is definitely limited, while in a voluntary association every member is unlimitedly liable for the acts of the association.

When deciding whether to incorporate or to form a voluntary association for shipping livestock, most organizers have favored the voluntary association, the arguments being that incorporation involves some little trouble and expense and that there are no special advantages in being incorporated. For an organization handling livestock only, those favoring incorporation use the argu-

ments that the incorporate form has a definite legal standing and that it limits the liability of members. These arguments seem more theoretical than valid. In handling claims, voluntary associations appear to have no more difficulty than incorporated associations. Since the association does no buying (except hay, etc. for each shipment) there is little danger of the officers making contracts which might run the association into financial difficulties. Furthermore, the cost of incorporation in the past has varied from \$30 to \$50, and a certain amount of recording, the procuring of licenses, etc. is necessary. For all these reasons, most associations thus far have been voluntary organizations rather than incorporated and those associations which are incorporated are usually found to handle other business than merely the shipping of livestock. However, a special minimum charge of \$10 was provided by the 1921 legislation for cooperative associations organized under the 1919 cooperative law and all incorporated shipping associations will come under this provision.¹

Some states now have a non-stock form of organization which is much used by the shipping associations in those states. The non-stock plan is much like a voluntary form of organization, except that under it the associations are incorporated. The outstanding characteristic of the non-stock form of organization is that members receive a membership certificate "which can not be transferred or assigned to any other person".

"These associations (non-stock) may provide a capital with which to conduct their operations, such capital to be accumulated, pro rata, from the proceeds of the shipments, or from membership fees apportioned on the bearing acreage of each member or on his present or future shipments, or in any other way agreed to among themselves."²

1. General Session Laws of 1921, Chapter 372, Section 4.
2. University of California Circular 222. "Fundamental Principles of Cooperative Agriculture"- G. Harold Powell. P.4.

Membership: In unincorporated associations membership is, of course, not dependent on ownership of stock. In many such associations membership is automatically conferred when shippers deliver livestock to the association. Some associations require the shipper to sign the constitutions and by-laws of the organization. In general, membership in unincorporated associations is loose and indefinite. Where membership fees or dues are levied, membership is somewhat more definite, a record being necessarily kept for ascertaining voting rights.

Membership Fees: The practice of charging membership fees varies in different associations. When an association first organizes without capital, the first losses are likely to find the organization with a lack of funds unless an abnormally high sinking fund rate has been charged. Three other methods of protecting itself are open to the association; that of borrowing from a bank; that of charging a membership fee; and that of insuring with an insurance company. The method of borrowing from a bank is little used. The method of insuring with an insurance company has not found much favor. The rates have a tendency to be slightly higher than would be the case if the association kept its own insurance. Hence, the method of charging a membership fee is most frequently used. Under this method each member pays a small fee of from \$.25 to \$2.50 at the time of the first shipment (or this may be deducted from the first shipment returns). This gives the association an immediate reserve fund with which to meet any losses. Since the association is meant to be self-sufficing after once started, most associations do not have annual dues. The sinking fund rate is made large enough to cover losses and pay any incidental expense falling throughout the year.

Non-Member Shipments: Methods of handling non-member shipments vary. Formerly many associations levied an extra charge on non-members, since they paid no membership fee and received the full benefit of the organization. The practice among associations seems to have changed somewhat on this point. Most associ-

ations now take the membership fee from the first shipment, thus making all shippers automatically members. In associations having no membership fee, this problem does not come up, all shippers being counted members and having the voting privilege.

Termination of Membership: In incorporated associations having capital stock, membership can be definitely terminated by the transfer of stock to a new member or by buying such stock and holding it as treasury stock.

Under the by-laws given in Appendix A, certain conditions are enumerated which automatically terminate membership. Theoretically, if each year's expenses were perfectly estimated and corresponding charges were made to patrons, no surplus would remain in the association treasury at the end of the year. Furthermore, if expense forecasts prove inexact, the patronage dividend provides for the equitable distribution of any undivided returns. In either case no surplus should remain in the treasury at the end of each fiscal period. If such were the case, the automatic termination of membership would work no injustice.

Actually, however, associations depart from the strict theoretical principle outlined above. A surplus or sinking fund remaining at the end of a fiscal year is not distributed as a patronage dividend. Instead, rates are perhaps readjusted and the surplus is slowly reduced or perhaps kept at a certain level over a period of years. If after a number of years the association were to dissolve, theoretically at least, former members might have a legal claim on the surplus. Actually associations intend to operate indefinitely and the question of distribution of any surplus remaining at time of dissolution is not taken up in the by-laws.

Duties of Members: All associations require members to list livestock for shipment. The stipulation that in case of non-delivery of listed stock a member shall be liable for such increases in the shipment expenses as are occasioned by his

non delivery is recognized as just, but not always practicable. Many by-laws now in use make no provision for such a charge. The difficulty of collecting such a charge is probably too great in an organization in which no growers note or capital stock is held, such as a livestock shipping association.

Growers Contracts: Many incorporated cooperative marketing organizations insure themselves a certain volume of business in the community by the use of membership contracts. The membership contract is a contract between the member and the association, under which the member agrees to market a certain amount of a commodity through the association. Some organizations also provide for a "liquidated damage" payment when the contract is broken and commodities are handled through other agencies than the organization. Such contracts doubtless enable the management to lay better plans, and tend to hold the support of members. Minnesota livestock shipping associations have not used this contract, although some few associations have a penalty or damage clause governing cases where members ship through other channels than those offered by the association. Whether this clause is legally enforceable will depend largely on the reasonableness of the charge. Voluntary organizations would of course have difficulty in any action against such a member in case the action were carried to a conclusion. In actual practise, membership contracts and liquidated damage provisions have played practically no part in the development of livestock shipping associations in Minnesota.

Duties of Directors and Officers: The duties of the officers and directors are necessarily not stated in detail. Certain general duties can be outlined, but most details as to management and division of duties must be left for settlement between the directors and members.

Business Practices: Most by-law provisions as to business practices are very general. The by-laws given in the Appendix A state that livestock shall be list-

ed for shipment, that the manager shall receive all livestock at the local yards, and shall weigh, mark, and load the same, that he shall have charge of and direct the sale of all shipments and receive all money therefore and pay the same to shippers less all the shipment expenses, and that he shall keep certain records and accounts. No definite statements as to the methods to be followed in observance of the above directions are ordinarily set forth. This is necessarily so because no universally "best" methods of accomplishing the desired results are recognized.

Article 7, Section 3 of the by-laws given in Appendix A specifically states the method to be followed in distributing expenses and the actual charges to be levied. This particular system of distribution of expenses is not used by a majority of the shipping associations, but is becoming more popular as its merits are recognized. A fuller discussion of the various prorating methods is given later. The by-laws should include a system of expense distribution. The expense distribution problem should receive more attention than by-laws ordinarily gives it.

Chapter IV

EQUIPMENT

The equipment investment of livestock shipping association is usually negligible. Scale pads and invoice sheets are furnished by commission firms gratis. Lumber, feed and bedding, and miscellaneous supplies can be secured as needed. The usual accounting or recording books can be obtained for two or three dollars.

Livestock scales were furnished by railroad companies up to 1915, but not since then. In 1915 scales already installed in local stockyards were either sold to local shippers or were simply left there. As the old scales wear out, as at points where there are no scales, associations wishing scales will have to install them. Of course private parties may install scales and rent them to the association.

Cooperative associations organized for livestock shipping only seldom maintain an office. Usually the office work is done at the managers' home or at a local bank where calculating machines are available.

Chapter V.

BUSINESS PRACTICES

Pooling, as the term is used in connection with livestock shipping associations, is the term applied to the practice of shipping several lots of livestock as a unit and throwing together expenses, receipts, losses, and shrinkage, and dividing the receipts and expenditures among the shippers on some basis designed to distribute the expenses uniformly. In pooling, title to livestock is retained by the shippers, the associations acting only as the shipper's agent.

As indicated, expenses alone may be pooled; or receipts or prices may be pooled in addition; and likewise losses and also shrinkage. Some associations pool all four of the foregoing, and others may pool only one of them. Most associations pool at least three of them. A brief explanation of the various pools may be in point.

In an expense pool, all expenses are added together and distributed to the shippers on some uniform basis. Some expenses may be pooled for each shipment and others may be pooled throughout the year. Often such charges as rents, salaries, and taxes are pooled over a season, while other expenses which can be charged directly to each shipment are pooled for a single shipment.

Receipt or price pools arise only in cases when animals of various owners presumably not exactly of the same quality are sold in a group for one price. Frequently no attempt is made to adjust the price to the different owners on the basis of quality, as for example, the creamery which does not grade

cream. It is still price pooling, however, when an attempt is made to adjust prices to quality.

Buying for Cash: One association of the 75 associations visited- buys livestock for cash, that is, shippers receive cash for their livestock when it is delivered to the association instead of waiting until the livestock is sold at the central market and the checks are received. This method is the same as is used by cooperative elevators. Under it, the association assumes all risks due to losses of livestock in transit, or to market price fluctuation. Bargaining necessarily enters into the transactions between the associations and its patrons as it does between independent buyers and sellers of livestock. The evils and difficulties of the price pool, however, are avoided, since each shipper has the grade and price of his livestock determined when he unloads it.

Local Expenses: Shipping association expenses at the local market include charges for the manager's commission, for bedding, and for the icing of cars, for feed, for lumber and hardware, for such miscellaneous expenses as stationary, stamps, telephone rental, scale rental, and officers' and director's fees. An insurance fund for the payment of losses on dead or crippled animals is also usually included as a local expense, although losses do not necessarily occur at the local market.

Central Market Expenses: Central market expenses include the following charges:

1. A commission charge for caring for and selling the livestock.
2. A yardage charge paid to the St. Paul Union Stock Yards Company.
3. A weighing charge which covers the expenses of weighing, inspecting, and the salaries of so called "shrinkers,"
4. A fire insurance charge.
5. Charges for feed and bedding.
6. If prorating is done by the commission firm, a uniform charge is also levied for the service.

Prorating: Prorating is the distribution of the receipts, expenses, losses, and shrinkage of a shipment among the shippers. Pooling and operating are closely connected, as the pooling methods used have a direct bearing on prorating methods. Of course, associations buying for cash do not have to prorate.

Prorating may be done by the commission firm to which the livestock is consigned or by the manager of the shipping association. In some associations the manager delegates this work to the shipping association secretary or to a local banker. Table VIII shows that in 118 associations reporting, 55 per cent of the prorating is done by managers, 25 per cent by commission firms, 17 per cent by local banks, and 3 per cent by association secretaries.

There are several methods of distributing expenses. These methods may be briefly classified under five types. Minor differences exist within each type, but each has certain distinct characteristics. The five types are as follows:

1. The "detailed cost single shipment" method.
2. The "single shipment pool".
3. The "general flat rate" method.
4. The "flat rate by species" method.
5. The "combination" method.

The characteristics of these various methods are taken up under prorating in Chapter VIII.

Table VIII shows that -- of 118 associations reporting, 63 per cent use the so-called "single-shipment" pool method of prorating expenses, 21 per cent use the "flat rate by species" system, 13 per cent use the general flat rate system under which all species are charged the same hundred-weight rate, 4 per cent use the flat rate combination under which each specie has a set rate per hundred-weight plus a set rate per head. One association was using the

detailed cost system, and one uses a combination of a flat rate system and a single-shipment pool.

TABLE VIII

Frequency Table of Methods of Prorating used by 118 Shipping Associations; also Agency Doing the Prorating for each Method

| Prorating method | Prorating done by | | | | All associations | |
|--|-------------------|---------------------|-----------------------|------------|------------------|-------------------|
| | Commission firms | Association Manager | Association Secretary | Local bank | Number | Per Cent of Total |
| Detailed cost system | 1 | 0 | 0 | 0 | 1 | 0.8 |
| Single shipment pool | 24 | 38 | 2 | 10 | 74 | 62.8 |
| General flat rate-all species alike | 3 | 6 | 0 | 4 | 13 | 11.1 |
| Flat rate by species | 1 | 17 | 1 | 6 | 25 | 21.2 |
| Combination methods-flat rate by species and per head of species | 0 | 3 | 1 | 0 | 4 | 3.4 |
| Flat rate plus single shipment pool | 0 | 1 | 0 | 0 | 1 | 0.8 |
| All associations | | | | | | |
| Number | 29 | 65 | 4 | 20 | 118 | |
| Per cent | 24.6 | 55.1 | 3.4 | 16.9 | | 100.0 |

The Sinking Fund: Losses from animals dying or crippled in transit or in the stockyards are usually pooled over a long period. To distribute or prorate this item, associations resort to the use of a protection or sinking fund. The amount of losses is estimated and a charge is levied on all animals shipped. All associations maintain a sinking fund. Exclusive shrinkage, and unexpected dockage are also frequently paid out of the sinking fund. The overhead expenses, such as directors' fees, office rent, telephone rental, stationery etc.,

are also usually paid out of the sinking fund.

Shrinkage:- The only differences in practice in the matter of handling shrinkage have to do with the grouping of animals for weighing at the central market. Hogs and calves are often sold in groups, in which case shrinkage must be distributed to get the net weight of individual animals.

Prorating Price: As noted, price pools arise only in cases where animals of various owners are sold in groups or bunches. Two methods of prorating or distributing the receipts of such groups are followed. The most common method is to apply the selling price to the net weights of the animals (shrinkage having been prorated). This method takes no account of variation in quality of animals sold in the group. The second method of prorating receipts of group animals is dependent on a grading of the animals by the shipping association manager. The receipts are distributed on a hundredweight basis as by the first method, but the prices are varied to make allowance for differences in quality. In 69 associations reporting on this question, 36 associations or 52.2 per cent used the same price per hundred-weight for all animals in the group, and 33 associations or 47.8 per cent varied the price.

The association manager usually receives a check covering the net receipts from a carlot of livestock within two days after the car reaches South St. Paul. If the commission firm does the prorating within 2½ days. It takes the association manager from 4 to 12 hours to do the prorating. The individual shipper ordinarily receives a check for his livestock within four days after he makes delivery at the local yards. Each check is accompanied by an "account sales" giving the principal facts about the shipment--home weight, central market weight, shrinkage, price, ^{and} expenses deducted, etc.

Chapter VI

BUSINESS SUMMARY -

The value of livestock handled per association in 1919 ranged from \$30,000 to \$685,000 with an average of \$194,565.

Table IX shows the frequency distribution of 60 associations as to gross receipts at the terminal market.

TABLE IX

Frequency Table Showing Gross Receipts of 60
Shipping Associations ^o - 1919

| Central Market Receipts.- (000's omitted) | Number of Associations Reporting | Central Market Receipts.- (000's omitted) | Number of Associations Reporting |
|--|----------------------------------|--|----------------------------------|
| \$ 0 - \$ 25 | 0 | \$375 - \$425 | 3 |
| 25 - 75 | 9 | 425 - 475 | 2 |
| 75 - 125 | 7 | 475 - 525 | 2 |
| 125 - 175 | 11 | 525 - 575 | 0 |
| 175 - 225 | 12 | 575 - 625 | 0 |
| 225 - 275 | 5 | 625 - 675 | 0 |
| 275 - 325 | 6 | 675 - 725 | 1 |
| 325 - 375 | 2 | Total | 60 |

^o Central market receipts were obtained by calling upon the associations' manager.

Table X summarizes for these same associations by averages per carload and per hundred weight of livestock shipped, the gross receipts at central market, gross central market expense, net amount received by associations, and

total local expenses.

TABLE X

Average Gross Receipts and Amount Paid Out for Central and Local Expenses per Association, per Carload, and per Hundred-weight of Livestock Shipped - 1919

| | Amount | Number of Associations Reporting | Average per Association for Year | Number of Carloads Handled by those reporting | Average per Carload | Average per hundred-weight of livestock shipped. X |
|-------------------------------------|----------------|----------------------------------|----------------------------------|---|---------------------|--|
| Gross receipts at central market. | \$8,755,461.82 | 45 | \$194,565.94 | 3709 | \$2,360.60 | \$12.91 |
| Gross central market expense X | 258,584.34 | 47 | 5,501.79 | 3931 | 65.78 | .36 |
| Net received at local association O | 12,062,289.63 | 59 | 204,445.50 | 5295 | 2,278.05 | 12.46 |
| Total local expenses † | 100,353.53 | 56 | 1,792.03 | 4782 | 20.98 | .12 |

X The average weight of carloads of livestock was estimated by using certain data given in the 1919 Livestock report of the St. Paul Union Stockyards Company. The number of cattle, calves, hogs, and sheep brought to South St. Paul by railroads was totaled, as was the number of carloads. The average weight per head of cattle, calves, hogs, and sheep was then applied to the total number of animals delivered by railroads. The total weight of all animals delivered by railroads was then divided by the total number of cattle, calves, hogs, sheep, and mixed carloads, giving the average weight per carload of livestock. This weight was found to be 18,280 pounds.

X Includes commission, feed, bedding, yardage, weighing, inspecting insurance, freight and switching charges.

O Gross central market receipts minus gross central market expenses.

† Includes losses due to dead and crippled animals, but not shrinkage.

Attention is drawn to the fact that the same number of associations were not used in arriving at the various items given and hence "gross receipts" minus "gross central market expenses" does not necessarily equal the figure

"not received by local associations." The average per car and per association are accurate even though a different number of associations are represented. Also the figures given in this table include some returns of associations shipping to other markets than South St. Paul. This fact effects freight principally.

This table may be compared to table XIX of Minnesota Bulletin 184, which table is here reproduced in part.

TABLE XI

Analysis of Business of 146 Livestock

Shipping Associations - 1917 ^a

| | Total | Average per Association | Per Car | Per Hundredweight Cents. |
|------------------------------------|--------------|-------------------------|---------|--------------------------|
| Gross receipts at central market | \$14,511,316 | \$99,393 | | |
| Central market expense and freight | 284,135 | 1,932 | \$34.15 | 19.6 |
| Receipts at shipping points | 14,227,176 | 97,461 | | |
| Local or home expenses | 134,450 | 921 | 16.50 | 9.5 |
| Net paid shippers | 14,092,726 | 96,540 | | |
| Total expenses | | | \$50.65 | 29.1 |

^a Table XIX of Minnesota Bulletin 184.

A comparison of table X and XI, show that the central market expenses and freight practically doubled per carload while local expenses have increased only 27 per cent. The 27 per cent increase can be explained almost entirely by the increase in prices of feed, bedding, labor, and such other supplies as are bought at the local market. These same factors would account for a part of the central market expense increase. The remaining increase is largely due to the increases of commission and yardage rates.

Table XII is similar to Table X except that Table XII includes only those

associations shipping to South St. Paul.

TABLE XII

Average Gross Receipts and Amounts Paid out for
Central and Local Expenses per Association, per
Carload, and per Hundred-weight of Live-
stock Shipped. Only Associations
Shipping to South St. Paul
Included.--1919.

| | Number of Associations Reporting | Average per Associations per Year | Carloads Handled by Associations Reporting | Average per Carload | Average per Hundred-weight of Livestock Shipped. ^Q |
|--|--|---|---|---------------------------|--|
| Gross receipts at central market \$7,674,969.17 | 41 | \$187,194.36 | 3246 | \$2,364.44 | \$12.93 |
| Gross central market expenses & freight 219,542.16 | 42 | 5,227.19 | 3403 | 64.51 | .35 |
| Net Received by local associ- ations 8,763,535.09 | 48 | 182,573.64 | 3854 | 2,273.88 | 12.44 |
| Total local expenses 63,371.90 | 48 | 1,320.25 | 3290 | 19.26 | .11 |

^Q Average weight per carload, 18,280 pounds. See note to table X.

There is little difference between the results of table X and table XII. This is largely explained by two facts, First, associations shipping elsewhere than to the South St. Paul market have their shipments divided between such markets as Albert Lea and Austin, which are relatively near, and Chicago which is rather distant. Also terminal expenses at Austin and Albert Lea are small, since there are no commission, yardage, or feeding charges at these points. Hence, when shipments are divided between such terminal markets as Albert Lea

and Chicago, average expenses approximate average expenses of South St. Paul shipments. Secondly, only few associations shipping to other than the South St. Paul markets are included in table X.

Table XIII presents the business summary of association shipping elsewhere than South St. Paul.

TABLE XIII

Business Summary of Associations Shipping Elsewhere than
South St. Paul - Gross Receipts at Central Market,
Central Market Expense, Net Amounts Received
by Local Associations, and Local Expenses- 1919.

| Amounts | Number of Associations Reporting | Average per Association per year | Carloads handled by Associations Reporting | Average per Carload | Average per Hundred-weight of Livestock Shipped ² |
|---|----------------------------------|----------------------------------|--|---------------------|--|
| Gross receipts at central market \$1,080,492.65 | 4 | \$270,123.14 | 463 | \$2,333.68 | 12.77 |
| Gross central market expenses & freight 39,042.18 | 5 | 7,808.43 | 528 | 73.94 | .41 |
| Net received by local associations 3,298,754.54 | 11 | 299,866.77 | 1441 | 2,269.21 | 12.52 |
| Total local expenses 36,981.63 | 12 | 3,081.80 | 1492 | 24.79 | .14 |

² 18,280 lbs used as average weight per carload(See Note to TableX).

A comparison of the results of table XIII with those of tableXII shows that both central market expenses and freight and total local expenses are higher for the associations shipping to other markets than to South St. Paul.

The increase in local expenses is expected inasmuch as associations shipping either to Chicago or Austin and Albert Lea nearly always have a higher local feeding charge than associations shipping to South St. Paul. This point will be brought out more clearly later. The increase in total central market

expenses and freight has a different explanation. Only five associations are included, and four of them ship mainly to Chicago, the fifth shipping to Sioux City.

From the business summaries given, it is seen that distance to market has some effect on certain of the expenses. Before proceeding with a detailed analysis of the various marketing expense of shipping associations, therefore, the locations of the associations used in the tabulations will be given. Figure 7 shows the location of the associations included. Not all these associations were used in every tabulation, since the records were not always complete.

Local Expenses: Local expenses include those expenses which are incurred at the association shipping point. Because the association records were not uniform exact costs of individual items of expense were not always obtainable. The grouping of some expenses was therefore necessary.

Manager's Fee or Salary: The largest single expense at the local market is that of the managerial fee or salary. The compensation of the managers varies both in amount and method of payment. In most associations, managers are paid on the basis of hundred-weight of livestock shipped, either with the same or with different rates for each species of livestock. Either the home weight or the central weight may be used as a basis. Other methods used are: a regular monthly or yearly salary; a definite rate per carload; a sliding carload scale, - that is, for example, \$10 for first car and \$5 for the second car in the same shipment; a percentage of the receipts, either gross or net.

Table XIV shows the various methods and rates used for paying association managers in 1919.

TABLE XIV

Various Methods of Paying Shipping Association Managers
in 113 Associations-1919

| Bases of Payment | Number of Associations. |
|---|-------------------------|
| <u>Per Hundred-weight.</u> | |
| 5¢ | 7 |
| 6¢ | 25 |
| 7¢ | 20 |
| 7½¢ | 1 |
| 8¢ | 25 |
| 9¢ | 2 |
| 10¢ | 16 |
| 12¢ | 2 |
| 15¢ | 1 |
| 6¢ on hogs, 5¢ on cattle and calves. | 1 |
| 8¢ on hogs, 9¢ on cattle and sheep. | 1 |
| 6¢ per hundred-weight, manager paying all losses. | <u>2</u> |
| Total on hundred-weight basis | 103 |
| <u>Per Carload</u> | |
| \$18 per carload | 1 |
| \$15 " " | 4 |
| \$30 " " and manager pays all losses. | 1 |
| \$18 for first carload and \$2.00 for each additional | <u>1</u> |
| Total on carload basis. | 7 |
| <u>Per Month</u> | |
| \$150 per month | <u>2</u> |
| Total on monthly basis | 2 |
| <u>Per Day</u> | |
| \$5 per day | <u>1</u> |
| Total on day basis | <u>1</u> |
| Total | <u>113</u> |

The carload charge of \$18, assuming a car of 18,280 lbs. is equivalent to 9.8¢ per hundred-weight, and the \$15 charge 8.2¢ per hundred-weight. If the association which pays its manager \$18 per carload for the first carload shipped on any one day, and \$2 per carload for each additional carload, ships two carloads any day, the cost per hundred-weight will be 5.5 cents, and if it ships three carloads, the cost per hundred-weight will be 4.0 cents. But the association in question probably seldom ships more than two carloads any one day. Of the two associations paying their manager a salary of \$150 per month, one shipped 141 carloads during 1919, and the other shipped 247 carloads. On a hundred-weight basis, salary of \$150 per month is equivalent to 6.9 cents per hundred-weight in one case, and 3.9 cents per hundred-weight in the other case.

The manager's total yearly commissions will probably amount to practically the same amount whether paid per carload or hundred-weight. The only difference will be in the part of it paid by shippers of hogs, cattle, etc.

In 71 associations, the salaries paid the manager in 1919 varied from \$148 to \$3530, the average being \$1130. Table XV shows that 65 per cent of the

TABLE XV

Frequency Table of Salaries Paid 71 Shipping
Association Managers - 1919. ^R

| Amount | Number of Associations | Amount | Number of Associations. |
|---------------|------------------------|------------|-------------------------|
| \$ 0 to \$250 | 4 | 1750--2000 | 7 |
| 250 to 500 | 5 | 2000--2500 | 2 |
| 500 to 750 | 14 | 2500--3000 | 1 |
| 750 to 1000 | 9 | Over 3000 | 1 |
| 1000 to 1250 | 11 | TOTAL | 71 |
| 1250 to 1500 | 12 | | |
| 1500 to 1750 | 5 | | |

association managers received an annual payment of from \$500 to \$1500, 22 per cent received over \$1500, and 13 per cent under \$500. Figured on a per car-load basis, the average was \$12.30. The managerial fee constitutes from 45 to 65 per cent of the local expenses.

Managers receiving less than \$1000 per year usually have some other source of income. Some managers are retired farmers who are perhaps less interested in the salary than in the close contact it gives them with old friends. Many managers, however, have some other enterprise which constitutes their main business, the shipping association work being carried on as a supplementary enterprise.

Feed: Association reports as to the cost of feed at the local market were quite inaccurate and incomparable. Some associations follow the system of having farmers bring in their own feed. Some associations always feed at the local market before shipping while others ^{do so} only when the livestock is held over in the local stockyards.¹ Then again associations shipping to Chicago, Albert Lea, and Austin, feed heavily at the local market because livestock shipped to Chicago is in transit longer than 28 hours and that shipped to Austin and Albert Lea is not fed before being weighed. Table XVI gives the feeding cost of 28 associations which ship entirely to South St. Paul.

¹ Obtained by calling upon the associations.

¹ As in case cars are not delivered when expected.

TABLE XVI

Cost of Feed at Local Market for 28 Associations Shipping Livestock

Entirely to South St. Paul-1919

| Number of Associations | Carloads of Livestock Shipped | Total Cost of Feed at Local Market. | Average Cost of Feed Used at Local Market. | | | |
|--|-------------------------------|-------------------------------------|--|-------------|---|-----|
| | | | Per Association | Per Carload | Per Hundred-weight of Livestock Shipped | |
| Associations feeding regularly at the local market | 8 | 922 | \$2964.43 | \$370.55 | \$3.22 | 18¢ |
| Associations feeding only in emergencies. | 20 | 1372 | 678.67 | 33.90 | .49 | 3¢ |
| All associations reporting | 28 | 2294 | 3643.10 | 130.11 | 1.59 | 9¢ |

Ⓜ Average weight per carload used, 18,280 lbs. See note to Table X.

TABLE XVII

Cost of Feed Used at Local Market by 10 Associations Shipping Livestock

Largely to Chicago, Albert Lea, and Austin.-1919

| Number of Associations | Carloads of Livestock Shipped | Total Cost of Feed at the Local Market | Average Cost of Feed Used at Local Market | | |
|------------------------|-------------------------------|--|---|-------------|--|
| | | | Per Association | Per Carload | Per Hundredweight of Livestock Shipped |
| 10 | 1423 | \$9184.77 | \$918.48 | \$6.45 | ¢.35 |

Ⓜ Weight of carload used- 18,280 pounds.

Table XVII shows that the feeding cost of ^{the} 10 associations shipping a large proportion of their shipment to other markets than South St. Paul were practically four times as high as for associations shipping to South St. Paul. Table XVII shows the range of local feed costs per carload of livestock in 38 associations.

TABLE XVIII.

Frequency Table of Amount Paid for Feed by 38

Shipping Associations at Minnesota Shipping Points - 1919

| Local feed cost per carload of livestock shipped | Associations shipping to South St. Paul Feeding regularly at local market | Associations shipping mainly to Chicago, Austin, Albert Lea, feeding only or Sioux City. in emergencies | All associations reporting. | |
|--|---|---|-----------------------------|----|
| \$ 0 - \$.25 | 0 | 8 | 0 | 8 |
| .25 - .50 | 0 | 0 | 1 | 1 |
| .50 - .75 | 0 | 5 | 0 | 5 |
| .75 - 1.00 | 0 | 2 | 0 | 2 |
| 1.00- 1.50 | 0 | 2 | 0 | 2 |
| 1.50- 2.00 | 2 | 2 | 0 | 4 |
| 2.00- 3.00 | 1 | 1 | 3 | 5 |
| 3.00- 5.00 | 2 | 0 | 1 | 3 |
| 5.00- 7.00 | 1 | 0 | 1 | 2 |
| 7.00-10.00 | 2 | 0 | 1 | 3 |
| 10.00-13.00 | 0 | 0 | 2 | 2 |
| 13.00-17.00 | 00 | 0 | 1 | 1 |
| All associations reporting | 8 | 20 | 10 | 38 |

Bedding and Ice. The cost of straw, sand, and ice in 24 associations ranged from .12 cents to \$1.57 per carload. This average does not include associations using no bedding or ice. As with feed, bedding is brought in by shippers in some

associations. For the 24 associations, shipping 2323 carloads of livestock, the average cost of straw, sand, and ice ⁵ was 59 cents per carload or 32 cents per hundred weight. In Table XIX, the 24 associations are classified as to the cost of bedding and ice per carload of livestock shipped. Since the amount

TABLE XIX

Table
Frequency of Cost of Bedding and Ice per Carload of Livestock
Shipped by 24 Associations -- 1919²

| Average cost of bedding and ice per carload of livestock shipped. | Number of Associations. |
|---|-------------------------|
| \$ 0 - \$.10 | 0 |
| .10 - .20 | 3 |
| .20 - .30 | 2 |
| .30 - .40 | 4 |
| .40 - .50 | 3 |
| .50 - .60 | 2 |
| .60 - .70 | 3 |
| .70 - .80 | 2 |
| .80 - .90 | 1 |
| .90 - 1.00 | 2 |
| 1.00 - 1.25 | 0 |
| 1.05 - 1.50 | 1 |
| 1.50 - 1.75 | 1 |
| All Associations | 24 |

3. Assuming 18,280 pounds as weight of an average carload.

2. Obtained from records of associations.

of bedding and ice does not vary with distance to market, all associations are thrown together in this table.

Directors' Fees: Of 46 associations reporting, 28 make no payment to directors. In other words, the directors of these 28 associations donated their services. In the 18 associations reporting payments to directors, the annual expense ranged from \$12.00 to \$354.00 per association, or from \$.38 to \$2.88 per carload of livestock shipped, with an average of \$1.72 per carload. If all 46 associations are included, the average payment per carload of livestock shipped is \$.47.

Table XX shows the frequency distribution per carload of the expenses of the 18 associations paying directors.

TABLE XX

Frequency Table of Payments to Directors per Carload of
Livestock Shipped in 18 Associations. 1919

| Average amount paid directors per carload of livestock shipped. | Number of Associations. |
|--|-------------------------|
| \$ 0 - \$.50 | 1 |
| .50 - .75 | 7 |
| .75 - 1.00 | 4 |
| 1.00 - 1.50 | 1 |
| 1.50 - 2.00 | 2 |
| 2.00 - 2.50 | 2 |
| 2.50 - 3.00 | 1 |
| All associations | 18 |

Miscellaneous Local Market Expenses: The remaining local expenses are composed of such items as lumber, hardware, stationery, and stamps, and scale rental or charge, and office expense. Of 45 associations reporting under this head, 5

associations reported no outlay, and 40 associations shipping 3,555 carloads reported an average expense per carload of \$1.45, the range being from \$.12 to \$4.92 per carload. (See Table XXI)

TABLE XXI

Frequency Table of Miscellaneous Expenses per
Carload of Livestock for 40 Shipping Associations-1919

| Average expense for lumber, hardware, stationery and stamps, and rent, per carload of livestock by associations. | Number of Associations |
|---|------------------------|
| \$ 0 to \$.50 | 12 |
| .50 to 1.00 | 12 |
| 1.00 to 1.50 | 2 |
| 1.50 to 2.00 | 4 |
| 2.00 to 2.50 | 3 |
| 2.50 to 3.00 | 2 |
| 3.00 to 3.50 | 0 |
| 3.50 to 4.00 | 3 |
| 4.00 to 4.50 | 1 |
| 4.50 to 5.00 | <u>1</u> |
| All associations reporting | 40 |

Losses Due to Dead and Crippled Animals. These losses cannot be accurately classed as local expenses since these losses may occur in transit or at the terminal market as well as at the local market. However, since the actual payment for such losses are made by the association, this item of expense is included under local expenses. Table XXII shows the number of dead animals received at South St. Paul in 1919 from all shipping points.

TABLE XXII

Number of Dead Animals per Thousand Received at
South St. Paul in 1919 ⁰

| Month | Cattle | | | Hogs | | | Sheep | | |
|-------|-----------|------------------|----------------------|-----------|------------------|----------------------|----------|------------------|----------------------|
| | Receipts | Dead Thousand | Dead per Thousand | Receipts | Dead Thousand | Dead per Thousand | Receipts | Dead Thousand | Dead per Thousand |
| Jan. | 107156 | 99 | .9 | 289726 | 764 | 2.6 | 35059 | 86 | 2.5 |
| Feb. | 77072 | 83 | 1.1 | 256906 | 735 | 2.9 | 32535 | 58 | 1.8 |
| Mar. | 83433 | 75 | .9 | 156371 | 408 | 2.6 | 35932 | 85 | 2.4 |
| Apr. | 90375 | 67 | .7 | 154978 | 255 | 1.6 | 18826 | 22 | 1.2 |
| May | 84937 | 87 | 1.0 | 187131 | 583 | 3.1 | 9135 | 12 | 1.3 |
| June | 70615 | 61 | .9 | 183927 | 666 | 3.6 | 17272 | 23 | 1.3 |
| July | 124534 | 62 | .5 | 163173 | 460 | 2.8 | 445272 | 30 | .7 |
| Aug. | 130665 | 67 | .5 | 91994 | 141 | 1.5 | 93900 | 28 | .3 |
| Sept. | 161546 | 50 | .3 | 83366 | 178 | 2.1 | 164700 | 86 | .5 |
| Oct. | 228972 | 118 | .5 | 145727 | 183 | 1.3 | 207799 | 270 | 1.3 |
| Nov. | 205728 | 171 | .8 | 209823 | 465 | 2.2 | 188512 | 302 | 1.6 |
| Dec. | 135893 | 213 | 1.7 | 266624 | 1050 | 3.9 | 63688 | 258 | 4.1 |
| Total | 1,490,926 | 1153 | .8 | 2,189,716 | 5888 | 2.7 | 911885 | 1260 | 1.4 |

⁰Taken from records of St. Paul Union Stock Yards Company.

The percentage of dead hogs is almost three and one half times as great as is the percentage of dead cattle. It would be expected, therefore, that those associations which provide their own insurance funds, would set a rate for hogs much higher than for cattle. That this is actually the case is shown by Table XXIII,

which shows the insurance fund rates used in 111 associations.

TABLE XXIII

Insurance Rates used by 111 Associations-1919

| Rates | Number of Associations |
|---|------------------------|
| $\frac{1}{2}$ per cent of returns | 2 Associations |
| $\frac{1}{2}$ " " " " | 1 " |
| 1 " " " " | 1 |
| $1\frac{1}{2}$ " " " " | 1 |
| 2 " " " " | 2 |
| 1¢ per hundred-weight of livestock | 3 |
| 2¢ " " " " " | 18 |
| 3¢ " " " " " | 10 |
| 4¢ " " " " " | 7 |
| 5¢ " " " " " | 3 |
| 2¢ per hundred-weight to member and 3¢ per hundred-weight to non-members | 1 |
| 1¢ per hundred-weight on cattle and calves, and 2¢ per hundred-weight on hogs and sheep | 1 |
| 2¢ per hundred-weight on cattle and calves, and 3¢ per hundred-weight on hogs and sheep | 10 |
| 2¢ " " " " " " " " " " " " | 4¢ " " " " |
| " " " " " " " " " " " " | 2 |
| 2¢ - Same as first line and 5¢ " " " " " | 2 |
| 3¢ " " " " " " " " " " " | 2 |
| 3¢ " " " " " " " " " " " | 4 |
| 4¢ " " " " " " " " " " " | 2 |
| 2¢ " " " " " " " " " " " | 2 and 10¢ on sheep. |
| Insurance rate included in "flat rate"-----37 | |
| 111 Associations | |

Associations using a "flat rate" include in it a sinking fund allowance high enough to insure adequate protection.

Association reports as to losses show a wide variation. Some associations - apparently are able to keep their losses very low, while others pay out large amounts for this item. Some difficulty in accurately determining the expense of crippled and dead animals was encountered because in figuring the amount paid out for these animals, claims collected from railway companies were not always

taken into consideration.

Losses increase as the distance shipped, although probably not proportionally. Therefore in tabulating the expense of losses, associations were divided as to those shipping to South St. Paul and those shipping to other markets. Of 37 associations shipping to South St. Paul, the average payment for losses was \$2.97 per carload of livestock, the range in averages per association being from \$33 to \$10.87 per carload. Table XXIV shows the data in a frequency table.

TABLE XXIV

Frequency Table of Amounts[Ⓐ] Paid for Losses[Ⓞ] in 37
Associations Shipping to South St. Paul - 1919

| Average amount paid for losses per carload per association. | Number of Associations |
|---|------------------------|
| \$0- \$1.00 | 6 |
| 1.00- 2.00 | 4 |
| 2.00- 3.00 | 8 |
| 3.00- 4.00 | 4 |
| 4.00- 5.00 | 5 |
| 5.00- 6.00 | 4 |
| 6.00- 7.00 | 3 |
| 7.00- 8.00 | 2 |
| 8.00- 9.00 | 0 |
| 9.00- 10.00 | 0 |
| 10.00- 11.00 | <u>1</u> |
| All Associations | 37 |

Ⓐ Total amount paid for losses less amounts received through claims.
Ⓞ Losses from dead and crippled animals.

The scatter diagram in Figure 7 shows no correlation between distance to market and loss expense per carload for Minnesota associations shipping to South St. Paul. However, the variation in distance is not large enough to influence the time in transit. For 15 associations shipping mainly to Chicago, a much
 Figure 7 --

Scatter Diagram of Average Losses per Carload
 per Association, and Distance to Market for 37 Associations Shipping to South St. Paul-1919.

| Average payment per carload per association | Distance to market (miles) | | | | | |
|---|----------------------------|--------|---------|---------|---------|---------|
| | 0-50 | 50-100 | 100-150 | 150-200 | 200-250 | 250-300 |
| 0- \$1.00 | 2 | 1 | 3 | | | |
| 1.00- 2.00 | | 1 | 3 | | | |
| 2.00- 3.00 | | 3 | 2 | 2 | | 1 |
| 3.00- 4.00 | 1 | 1 | 1 | 1 | | |
| 4.00- 5.00 | 1 | 3 | 1 | | | |
| 5.00- 6.00 | | 3 | | 1 | | |
| 6.00- 7.00 | | 3 | | | | |
| 7.00- 8.00 | 1 | 1 | | | | |
| 8.00- 9.00 | | | | | | |
| 9.00- 10.00 | | | | | | |
| 10.00- 11.00 | | 1 | | | | |

longer haul, the average per carload payment for losses was \$3.18, ranging from \$.34 to \$9.95 per carload. None of these associations, however, shipped entirely to Chicago and hence no definite conclusion can be shown from these figures.

Losses due to shrinkage. Like losses due to death or cripples, losses due to shrinkage cannot logically be classed as local expenses. Losses due to shrinkage are not even "association expenses," inasmuch as shrinkage is distributed directly

to shippers, no expense items for this loss ever appearing in the association accounts. Shrinkage, its causes and control, will be discussed later.

Local expense summary: Table XXV summarizes the expenses which have been listed as local market expenses.

TABLE XXV

Division of Local Market Expenses for
Minnesota Association Shipping to South St. Paul-1919.

| | Number of Associations Reporting | Carload of Livestock Handled | Total Expense | Average Expense per Association | Average Expense per Carload | Average Expense per Hundred- weight of Live- stock Shipped |
|---|--|------------------------------------|------------------|--|-----------------------------------|---|
| Total local expenses(x) | 48 | 3290 | \$63,371.90 | \$1,320.25 | \$19.26 | Cents 10.5 |
| Amount paid manager | 65 | 4442 | 69,100.23 | 1,063.08 | 15.56 | 8.5 |
| Feed | 28 | 2294 | 3,643.10 | 130.11 | 1.59 | .9 |
| Bedding and ice | 24 | 2323 | 1,361.76 | 56.74 | .59 | .3 |
| Director's fees | 34 | 2431 | 1,275.12 | 37.50 | .52 | .3 |
| Miscellaneous local market expenses | 33 | 2398 | 2,338.87 | 70.87 | .98 | .5 |
| Losses-Dead and crippled animals | 37 | 2872 | 8,523.48 | 230.36 | 2.97 | 1.6 |

Weight of average carload used was 18,280 pounds-See note Table ____.
(x) Included manager's expense, feed, bedding and ice, director's fees, miscellaneous expenses and expenses of losses due to deaths and crippled animals.

Central Market Expenses: Central expenses include commission, feed, yardage, bedding, insurance, inspection⁶(on hogs), weighing charges⁶, and a five cent Shippers' Protection League charge⁶. The data as to central market expenses at South St. Paul were obtained by tabulating duplicate account sales on file at the offices of the different commission firms drawing livestock from all parts of the state. Only results on so-called 36 ft. cars was tabulated. Table XXVI

gives the average selling values and expenses per 36 ft. carload by species.

TABLE XVII

Analysis of Central Market Receipts and Expenses of
588 36foot Carloads^M of Livestock Shipped to South St. Paul
in 1919

| Average per Carload | Straight Carloads of | | | Mixed Carloads |
|------------------------------|----------------------|------------|------------|----------------|
| | Cattle | Hogs | Sheep | |
| Gross selling value | \$1699.18 | \$2,431.04 | \$1,072.69 | \$2,073.48 |
| Amount remitted ^U | 1615.13 | 2,356.60 | 1,019.60 | 1,991.39 |
| Central market expense | 35.00 | 37.99 | 23.43 | 40.82 |
| Commission charge | 16.94 | 14.00 | 14.00 | 18.48 |
| Prorating charge | .36 | .42 | .00 | .62 |
| Yardage expenses | 10.14 | 7.63 | 6.58 | 9.75 |
| Weighing charge | .51 | .12 | .24 | .43 |
| Insurance and inspection | .25 | .40 | .25 | .40 |
| Cost of corn [*] | .00 | 15.16 | .00 | 8.34 |
| Cost of hay ⁷ | 6.64 | .00 | 2.36 | 2.64 |
| Cost of straw ^{xx} | .16 | .26 | .00 | .16 |

Enough straight carloads of cattle and hogs and mixed carloads is included so that the results are reasonably accurate. This is not true for sheep.

That the expense data given in table XXVI may be of use in figuring flat rates for prorating, table XXVII reduces these average carload expenses to

④ Inspection is now included in a per head weighing charge.

⑤ Since discontinued.

⑥ 149 carloads of cattle, 231 carloads of hogs, 4 carload of sheep, and 204 mixed carloads.

⑦ "Gross selling value" minus "Central market expense" minus "Freight and Switching".

* Average bushels used per carload of hogs, 6.91; per mixed carload 3.79.

an average expense per hundred-weight of the livestock contained in the various carloads. The table shows that on a hundred-weight basis, South St. Paul expenses for 36 foot carloads of hogs were four cents higher than for straight

TABLE XXVII

South St. Paul Expenses, as Shown in Table XXVI,
Reduced to a Hundred-weight Basis.

| Kind of Expense | Straight Carload of | | | Mixed Carloads ^{xx} |
|--------------------------------|---------------------|-------------------|--------------------|---------------------------------|
| | Cattle ^o | Hogs ^g | Sheep ^o | |
| Commission | 8.86 | 8.23 | 16.13 | 10.15 |
| Prorating | .19 | .25 | .00 | .34 |
| Yardage | 5.31 | 4.48 | 7.58 | 5.36 |
| Weighing | .27 | .07 | .28 | .24 |
| Insurance and inspection | .13 | .24 | .29 | .22 |
| Cost of corn | .00 | 8.91 | .00 | 4.56 |
| Cost of hay | 3.47 | .00 | 2.72 | 1.45 |
| Cost of straw | .08 | .15 | .00 | .09 |
| All central market expenses | 18.31 | 22.33 | 27.00 | 32.43 |

^f Average number of bales of hay used per carload of cattle, 36.4; per carload sheep 1.50; per mixed carload 184.

^{xx} Average number of bales of straw used per carload of cattle, 17; per carload of hogs .29; per carload of sheep 0; per mixed carload .18.

^o Average selling weight of straight car of cattle, 19111 pounds - 36 ft. car.

^x " " " " " " " hogs, 17016 " " " "

^o " " " " " " " sheep, 8677 " " " "

^{xx} " " " " mixed carload, 18,204 " " " "

carloads of cattle. The expense per hundred-weight of mixed carloads is only one tenth of a cent higher than the hundred-weight expenses of hogs. The difference per hundred-weight between hog- and cattle carloads, is largely explained by the feed charge. The rate on mixed carloads is higher than for straight carloads of

of cattle because of the higher commission costs and also because of a higher feed charge caused by the hogs .

The high rate per hundred-weight for sheep is largely because the sheep cars tabulated were lightly loaded, the average weight per carload of sheep being only 8,677 pounds.

Of the terminal expense items listed, the only expenses which vary greatly are the feed charges.⁶⁰ In the 149 carloads of cattle, the feeding charges varied from nothing to \$18 per carload; in the 231 carload of hogs, the charges for corn varied from \$6 to \$38 per carload; and in the 204 mixed carloads, the feeding charge varied from \$2.12 to \$26 per carload. Evidently the charge in mixed carloads varies directly as the proportion of hogs contained.

Transportation Expenses: Transportation expenses include freight charges and the terminal switching charge of \$3 per straight single-deck carload, and \$3.50 per mixed carload and per double decked carload. The two railroad companies⁷ connecting directly with the St. Paul Union Stock Yards absorb the terminal switching charges. In the case of these two railroads, therefore, the switching expense is included in the freight charges and cannot be separated. In tabulating freight expenses, switching charges were included as part of the freight charge. Table XXVIII shows the average cost of freight and switching per carload and per hundredweight for 36 foot cars shipped to South St. Paul. These figures were obtained in the same way as the figures on central market expenses. Figure 8 gives the location of the associations used in the tabulation.

⁶⁵ Commission, prorating, yardage, weighing, insurance and inspection charges vary only within narrow ranges. There are certain set limits per carload for commission charges. Yardage is a net charge per head, weighing a net charge per draft, insurance and inspection is a set charge per car. These charges will be taken up later.

7 The Great Western and Rock Island.

TABLE XXVIII

Cost of Freight and Switching for Cattle
Hog, and Mixed Minnesota Shipments to South St. Paul.
(36 ft. cars-Single deck)

| Carloads | Number of Carloads | Total Transportation Cost | Average Cost per Carload | Average Cost per Hundred-weight of Livestock |
|----------|--------------------|---------------------------|--------------------------|--|
| Cattle 0 | 149 | \$5,667.12 | \$38.03 | Cents 19.9 |
| Hogs * | 231 | 8,390.97 | 36.32 | 21.3 |
| Mixed † | 204 | 8,420.76 | 41.28 | 22.7 |

0 The average weight of livestock per carload was 18111 pounds.
* " " " " " " " " 170016 " .
† " " " " " " " " 18204 " .

Table XXVIII is of value only for showing that on the average the per hundred-weight charge for straight carloads of hogs is higher than the per hundred-weight charge per straight carload of cattle, while the per hundred-weight charge per mixed carload is higher than with class of straight carlot shipments.

Figure 9 shows the relation of freight rates per hundred-weight to distance from market, only Minnesota points being included. In the diagram, distance to the right indicates the number of miles to South St. Paul, and distance from the bottom indicates the freight rate.

Table XXIX shows that the minimum carload weights for single deck, 36 foot cars are 22,000 pounds for cattle, 17,000 pounds for hogs, and 12,000 pounds for sheep. Using the carload, basis therefore, results in different charges for different species of livestock, the cattle rate being the lowest. This may be desirable. Only two of the associations, however, using a per hundred weight rate have different rates for different species. Straight carloads of cattle take the lowest rate, and straight single deck carloads of sheep the highest, and the rate for straight carload of hogs lying between. Also as the distance

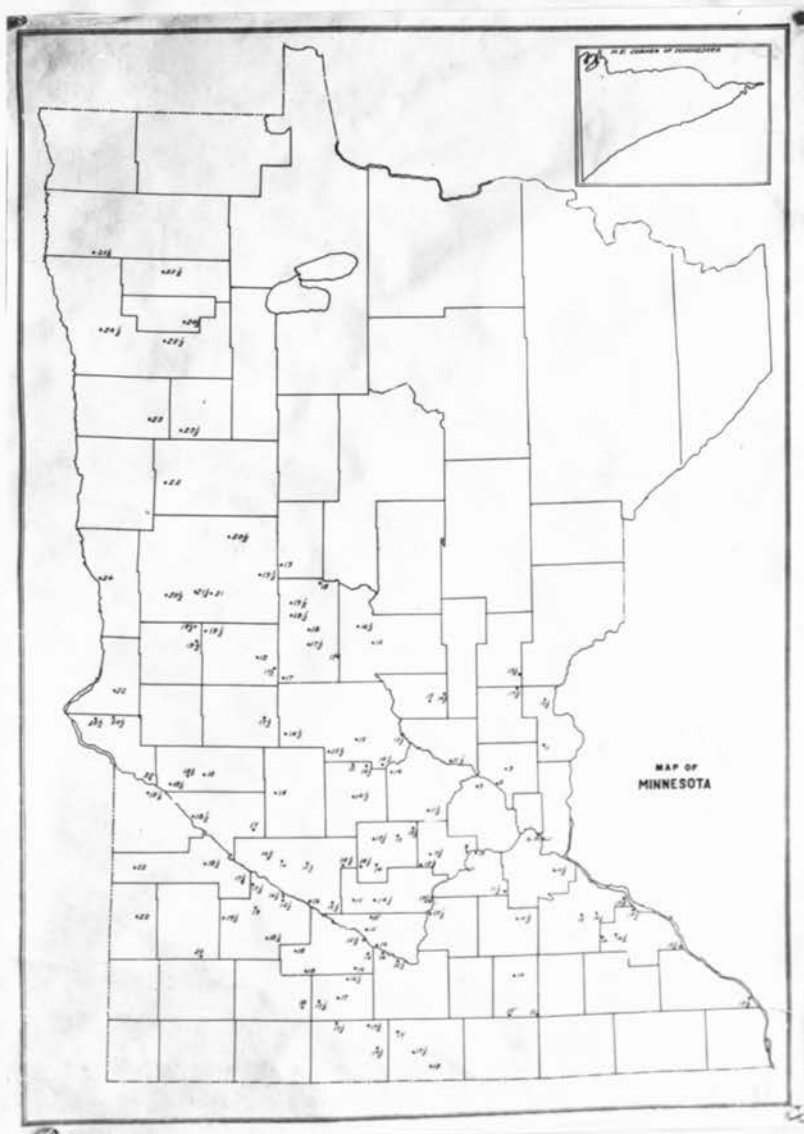


Fig. 8. Location of Shipping Associations Used in Table XXVIII. Also the Freight Rate to South St. Paul for Hogs (per hundred-weight).

increases, the spread between these rates becomes absolutely larger, but the proportional increase is the same in all cases. A different schedule of rates applies for distances under 50 miles, from 50 to 200, and over 200 miles. From Figure 9, the freight rate to South St. Paul from any Minnesota point within 340 miles can be calculated.

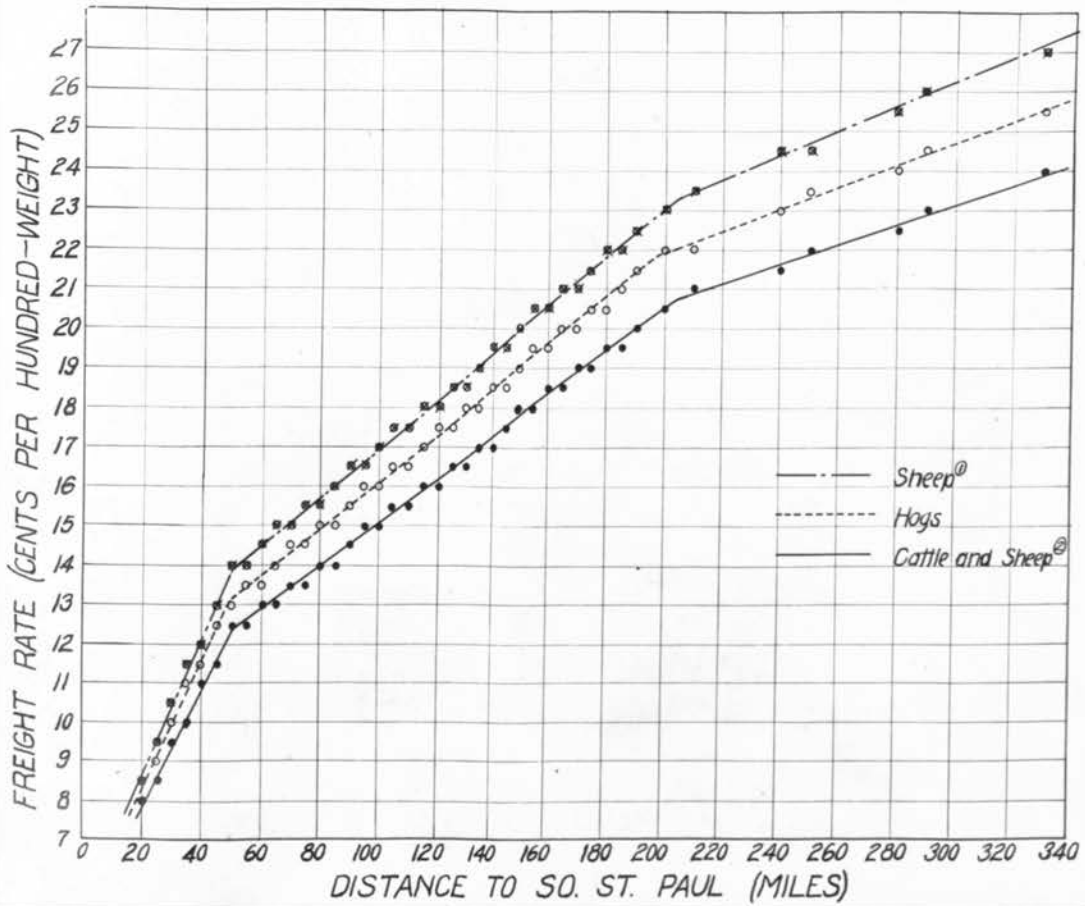


Figure 9. The Relation of Freight Rates to Distance for 125 Minnesota Points Shipping to South St. Paul.

- ⊙ Straight single-deck carloads of sheep.
- ⊠ Straight carloads of cattle and double deck carloads of sheep.

Figure 8 shows the location points and the freight rate to South St. Paul for straight carloads of hogs.

While freight charges are based on hundredweight, yet all railroads have a minimum carload weight requirement. For hogs in single deck 36 foot cars, this minimum is 17,000 pounds. A carload weighing only 15,000 pounds will pay the same freight as if it weighed 17,000 pounds. For all additional weight over the stated minimum, ^{the} rate per hundredweight applies. Table XXIX shows the minimum weights applying to cars of various lengths.

TABLE XXIX

Minimum Freight Weight Requirements per Carload of Livestock

| | Cattle | Hogs | | Sheep | |
|--------------------------------------|--------|--------|--------|--------|--------|
| | | SD ① | DD ② | SD ① | DD ② |
| 36 ft. cars (36 ft, 7 in.) and under | 22,000 | 17,000 | 23,000 | 12,000 | 22,000 |
| Over 36 ft. up to 40 ft. | 24,000 | 18,000 | 24,000 | 13,000 | 23,000 |
| Over 40 ft. | 26,000 | 19,000 | 25,000 | 14,000 | 24,000 |

① Single-deck.

② Double-deck.

On mixed carloads, the highest freight rate and highest minimum carload weight applies. To illustrate: Suppose a 36 foot mixed carload containing hogs, cattle, and sheep were shipped from a point in Minnesota from which the freight rate to South St. Paul for single-deck straight carloads were 20½ cents per hundredweight for cattle, 22 cents per hundredweight for hogs, and 21 cents per hundredweight for sheep. The minimum weights on straight 36 foot carloads of cattle, hogs, and sheep are respectively 22,000, 17,000, and 12,000 pounds. Applying our rule, the highest minimum weight is 22,000 and the highest freight rate, 22 cents, would determine the freight charge.

Chapter VII

MANAGEMENT PROBLEMS

In this chapter are discussed a number of the problems of management which an association manager must handle. The most complicated of these problems, prorating, is reserved for the following chapter.

Arranging the Shipping date: Most railroads have regular days in the week on which livestock or through trains are run. Associations find it best to ship on these days. Where the volume of business is sufficient to insure a shipment each week, a definite day can be set aside as "shipping day". Under this system, shippers know that they can dispose of their stock on certain specific days.

In order that the manager may know the size and number of cars necessary, a system of listing livestock for shipment is often followed. Farmers wishing to ship stock at the next shipping date notify the manager either by telephone, letter, or by listing their stock on a blank left at the bank for that purpose. With this information as a basis, the manager can estimate the car space that will be needed and proceed accordingly. Table XXX shows the amount of livestock of various weights that can be loaded in various sized cars.

Some managers do not follow a system of listing, but merely estimate the car space needed. When the flow of stock is quite regular this may be practicable, but certainly new associations should not attempt to follow this scheme.

If stock is not delivered on the day set, cars will be loaded under the minimum, in which case additional expense will have to be borne by other shippers. Some associations have tried to impose fines for non-delivery of

stock listed. In most instances, however, this system has not given satisfaction.

TABLE XXX

Approximate Capacity of Cars of Different Lengths for
Cattle, Hogs, and Sheep of Different Weights^o

| Car Lengths (Feet) | Cattle weighing from | | | Hogs weighing (per deck) | | | | Sheep weighing, (per deck) | | | |
|--------------------|----------------------|-----------------|------------------|--------------------------|----------|----------|----------|----------------------------|--------|----------|----------|
| | 500 to 700 lb. | 800 to 1000 lb. | 1000 to 1200 lb. | 100 lbs. | 150 lbs. | 200 lbs. | 250 lbs. | 50 lb. | 85 lb. | 100 lbs. | 120 lbs. |
| 31 | 35 | 24 | 19 | 112 | 82 | 70 | 61 | 142 | 112 | 104 | 91 |
| | 39 | 26 | 21 | 116 | 86 | 72 | 63 | 146 | 116 | 107 | 95 |
| 33 | 38 | 25 | 20 | 119 | 87 | 75 | 67 | 150 | 115 | 107 | 96 |
| | 42 | 27 | 23 | 124 | 91 | 77 | 69 | 155 | 119 | 111 | 100 |
| 36 | 40 | 27 | 23 | 130 | 95 | 82 | 70 | 165 | 130 | 120 | 103 |
| | 45 | 30 | 25 | 135 | 99 | 85 | 72 | 170 | 135 | 125 | 107 |
| 40 | 50 | 31 | 26 | 145 | 106 | 88 | 80 | 184 | 145 | 134 | 117 |
| | 52 | 33 | 28 | 150 | 110 | 92 | 82 | 188 | 149 | 138 | 121 |
| 44 | 51 | 34 | 28 | 160 | 117 | 98 | 86 | 200 | 160 | 148 | 129 |
| | 55 | 36 | 30 | 165 | 121 | 102 | 90 | 208 | 164 | 152 | 134 |

^o Taken from booklet issued by W. M. Campbell, Commission Company at South St. Paul.

Table XXXI shows the increase in the freight charge per hundredweight of livestock when cars are loaded below the minimum carload weight.

TABLE XXXI

Increase in Freight Costs per Hundredweight by Loading
Under the Carload Minimum^o
(36 ft. cars).

| Load (pounds) | Rate per hundredweight (cents) | Total cost per carload |
|-----------------|--------------------------------|------------------------|
| | Cattle | |
| 22000 (Minimum) | \$18.00 | \$39.60 |
| 21000 | 18.85 | 39.60 |
| 20000 | 19.80 | 39.60 |
| 19000 | 20.84 | 39.60 |
| 18000 | 22.00 | 39.60 |
| 17000 | 23.29 | 39.60 |
| 16000 | 24.75 | 39.60 |

(Cont'd).

TABLE XXXI-Cont'd.

Increase in Freight Costs per Hundredweight by Loading
Under the Carload Minimum ^o
(36 ft. cars).

| Load (pounds) | | Rate per hundredweight (Cents) | Total cost per carload. |
|-----------------|--------|--------------------------------------|----------------------------|
| 17000 (Minimum) | Hogs-- | 19.50 | 33.15 |
| 16000 | | 20.72 | 33.15 |
| 15000 | | 22.10 | 33.15 |
| 14000 | | 23.68 | 33.15 |
| 13000 | | 25.50 | 33.15 |
| 12000 | Sheep | 20.50 | 24.60 |
| 11000 | | 22.36 | 24.60 |
| 10000 | | 24.60 | 24.60 |
| 9000 | | 27.33 | 24.60 |

^o For minimum weights, see table XXIX.

Obviously, straight cars should be shipped whenever possible. Associations have apparently found no satisfactory system of preventing mixed shipments. The larger associations have a large proportion of straight loads, but in smaller associations mixed loads are the rule. It has been suggested that even where only one carload is shipped per week, one species could be shipped on certain days. This would require holding some livestock longer than shippers would care to, thus losing one of the advantages of shipping associations-- that of being able to ship any livestock on any shipping day. This advantage has special force with a fluctuating market.

Weighing, marking, and grading: The different species of livestock are weighed separately, and likewise different grades and classes of the same species. All

of the livestock belonging to one owner is marked with the same brand. The scale ticket given each owner shows the name of the owner, and the number, class, grade, weight and brand of the stock. Cattle, calves, and sheep are practically always branded, but hogs often are graded only. Careful marking and grading makes pro-rating easier. Following is a sample scale ticket:-

Form 1.

Received from- _____ Date _____ 19__

| Number | Kind | Brands | Weights | Price | Amount |
|--------|-----------|--------|---------|-------|--------|
| _____ | Hogs | _____ | _____ | _____ | _____ |
| _____ | Hogs | _____ | _____ | _____ | _____ |
| _____ | Steers | _____ | _____ | _____ | _____ |
| _____ | Cows | _____ | _____ | _____ | _____ |
| _____ | Heifers | _____ | _____ | _____ | _____ |
| _____ | Bulls | _____ | _____ | _____ | _____ |
| _____ | V. Calves | _____ | _____ | _____ | _____ |
| _____ | Sheep | _____ | _____ | _____ | _____ |

Dockage-on Piggy Sows, 40 lbs.; on stags, 70 lbs; on cripples, \$1 per cwt.
 Subject to Inspection
 SHIPPING ASSOCIATION

Town _____

State _____ Manager _____

Sheep are usually marked with paint applied to the top of the shoulders, back, or hips. Branding fluid is preferable to paint because it does not injure the wool and will scour out readily. Following is a sample system of marking sheep, using paint.

| | | | |
|--------------|---|-------|----------------------|
| Owner number | 1 | ----- | No mark |
| " | " | 2 | ----- . Forehead |
| " | " | 3 | ----- . Top shoulder |
| " | " | 4 | ----- . Back |
| " | " | 5 | ----- . Rump |
| " | " | 6 | ----- . Top shoulder |

Hogs are often not branded, However, the method of clipping on the back, hips, or shoulders, using narrow "fetlock" clippers, has proven satisfactory. Often only boars, stags, and sows, are marked, the others being carefully graded. Also hogs that are suspected of having been "overfilled" or "stuffed" before being brought to market are usually marked and weighed separately at central market. This puts the heavy shrinkage of such animals where it belongs instead of dis-

tributing it over the group. Following is a system of marks for hogs:

Owner number 1 - - - - - No Mark
" " 2 - - - - - I on back
" " 3 - - - - - II on back

Etc.

Owner number 11 - - - - - I on rump
" " 12 - - - - - II " "

It was formerly advantageous to weigh calves and hogs in bunches, as the large yard scales broke only on 10 pound points. On 100 pound calves, a loss of anywhere from one to possibly nine points is likely to be noticed by an individual shipper on a carload. During 1920, a scale breaking on single pounds and two breaking on 5 pound points have been introduced. This will doubtless tend to cause cooperative shipments to be broken up more than formerly, since it is the common objection of loss of weight by separate weighing.

Feeding: Most of the Minnesota livestock reaches South St. Paul within the 36 hour limit and does not need to be fed enroute. Figure 10 shows the practice followed by 83 associations in the matter of local feeding. Of 65 associations shipping to South St. Paul, 16 or 25 per cent feed at the local point before shipping. while 49 or 75 per cent do not feed. Considering only those associations which ship to other than the South St. Paul market, out of 18 associations reporting, all but one feed at the local point before shipping. This is explained either by distance to market or by the market to which the association ships. The majority of these associations ship to Chicago or to local packing centers. Neither at Austin nor at Albert Lea is stock fed before being weighed up; hence shippers try to get the animals to this stations with as large a fill as possible. This map shows that there is no relation between distance to South St. Paul and local feeding practices.

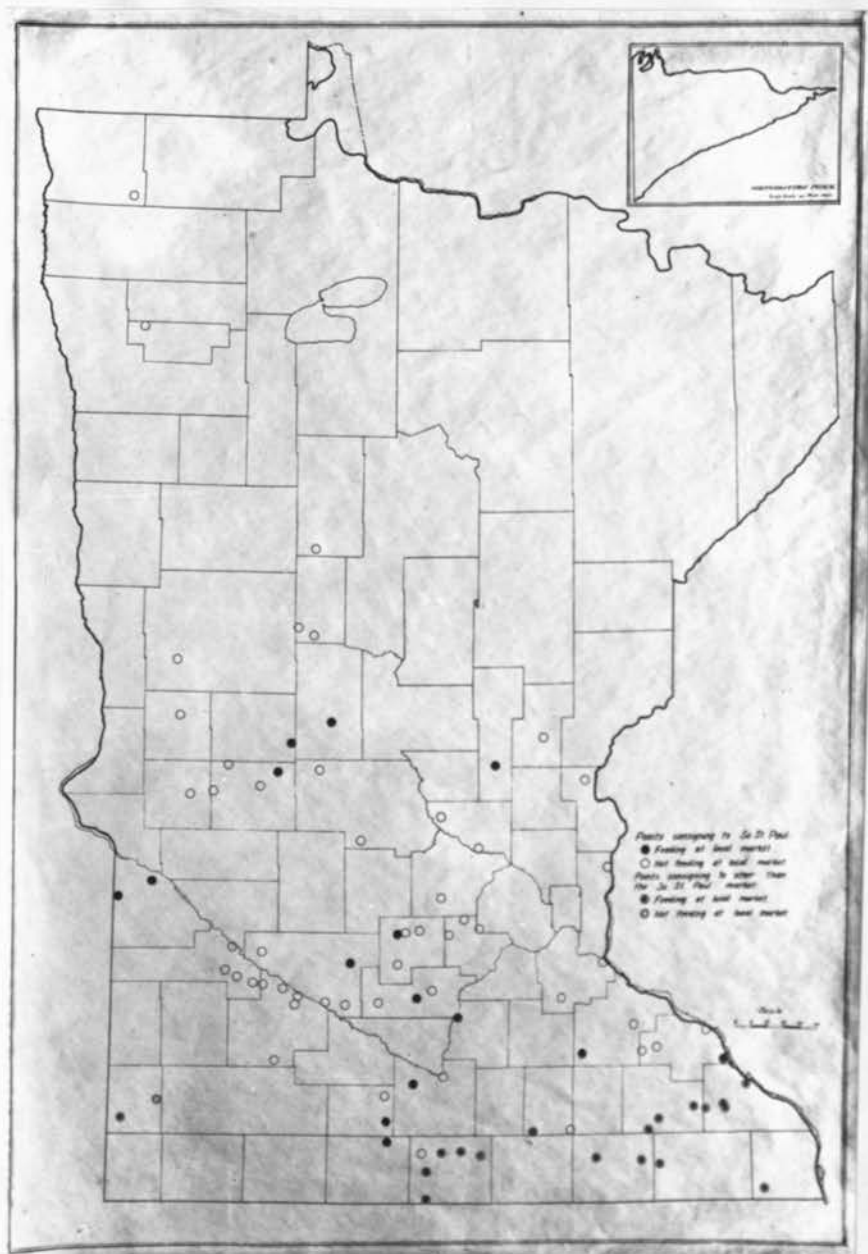


Fig. 10. Feeding Practice followed by 65 Associations Shipping to South St. Paul and 18 Associations Shipping to other Markets.

Managers of associations shipping to South St. Paul are divided on the question of local feeding. Some shippers maintain that animals take a much better fill at the terminal market if they are not filled at home or in the car. They contend that the time to have weight is when crossing the scales at the central market and hence making the livestock go without feed for ten to twenty hours before reaching ^{the} central market sharpen appetites and makes for larger scale weight. Others say that withholding feed, especially from hogs in summer, serves to keep the animal cool and cuts the loss from death and also the shrinkage. On the other hand, some shippers contend that feeding before shipping or putting feed in the car quiets the animals and gives them a good start on the journey.

The practice of feeding salt and other things to animals before shipping so as to induce an unnatural fill not only gives the association a bad name, but often actually decreases returns. Abnormal fills are certain to be noticed, and the association's reputation tends to suffer and buyers tend to allow for such practices when buying the stock. Often such livestock is sickened in transit and will neither eat nor drink when in the yards.

Bedding and Icing: All shippers agree that before loading any car in either winter or summer, it should be well cleaned and bedded. In winter a good bed of straw is recommended for all species of stock. In summer the best bedding is about two or three inches of clean wet sand. Cinders can often be easily obtained and make a good substitute.

In cold weather, especially when it is blowing or snowing, the windward side of the car should be lined with heavy building paper, roofing or tar paper. Animals can ordinarily stand moderate cold, but a sharp wind accompanied by snow often raises the loss from shrinkage and deaths quite materially.

Hogs present the greatest problem in hot weather, and the best

practice is to wet the inside of the car thoroughly. In extremely hot weather, ice may be used to advantage. Two systems of icing are in common use:

1. Chunks of ice weighing 15 to 20 pounds are scattered in the car.
2. Five or six sacks each containing 50 to 50 pounds of ice are suspended in the car. These cool the air in the car and the dripping ice water cools the animals and the floor.

Both systems of icing appear to be giving satisfaction, some shippers preferring one and some the other. Green grass or weeds are also sometimes used, but this use is not satisfactory.

Shrinkage is discussed more fully on page .

Local Stock Yard Facilities: At the local shipping point, railroads put in the spur, build the yards, and supply water. An association wanting these facilities makes petition to the Minnesota Railroad and Warehouse Commission at St. Paul, whose business it is to take up such matters with the railroad company in question.

Often the association can secure a water connection with a city or village water system. Pumping water by hand for the livestock and for wetting the cars is not a pleasant job on a hot summer day. This is when the need for rates is the greatest, and under such circumstances cars frequently start to market in poor condition.

Scales must now be supplied by the shippers if they are desired. Formerly railroads supplied scales, but this practice has been discontinued, the scales which were installed having been sold to local dealers.

Transportation Problems: Usually three days before shipping, the manager must order the necessary cars. Such orders should always be in writing and should specify the number of cars wanted, the date when wanted, and the size and style of car. A carbon copy of this order is useful in cases where cars other than those ordered are substituted at the convenience of the railroad.

Of the 75 associations visited, 96 per cent declared that they had

little trouble securing cars. On some lines, however, this was not the case. When there is trouble in securing cars, the proper procedure is lodging a complaint with the Railroad and Warehouse Commission.

The most troublesome problem in transportation appears to be the delay in transferring cars at the Minneapolis and St. Paul Transfer Yards. Managers complain that cars of livestock are often delayed several hours in the switching yard. But delay alone is not the whole cause of complaint. In addition, cars are often held closely packed between other cars in hot summer weather. Many losses in transit are often attributed to this cause. (Railroad claims will be considered later).

The shipping weight used as a basis of freight charges on carloads of livestock is obtained at South St. Paul by taking the scale sales hoof weight and allowing certain fixed amounts for filling. The following excerpt from Circular number 111 of the South St. Paul Livestock Exchange gives the rules governing freight weights.

"Where proper facilities are provided at destination for obtaining hoof weights, the weight so obtained after the stock has been fed and watered will be the proper basis for assessing freight charges, with the following fill allowances:

| | |
|---|---------------|
| Cattle, carloads, enroute 12 hours or less----- | 500 lbs. |
| " " " over 12 hours ----- | 800 lbs. |
| Hogs, single-deck cars ----- | 300 lbs. |
| " double-deck cars----- | 600 lbs. |
| Sheep and goats ----- | No deduction. |

"If stock has not been filled and watered, destination hoof weight will be used without deduction for fill.

"On mixed carloads of livestock, the fill allowance as shown above for the class of stock governing the carload minimum weight will govern.

"When two or more carloads of the same kind of livestock are offered by the same owner on the same day from the same station, destined to a market point at which the hoof weight is the basis for assessing freight charges, the aggregate weight of the shipment will be divided between the number of cars in the shipment, subject to the established carload minimum weights. In the event

more than one kind of livestock is so shipped, each class shall be dealt with separately. Cattle weight cannot be added to hog weights, nor sheep and goat weights to either of the others.

"All weights furnished at market points will be subject to verification by the Western Weighing & Inspection Bureau.

"(Note: The term "hoof weight" as used herein signifies "hoof selling weights" whenever "hoof selling weights" are obtained.)"

Control of Shrinkage: No problem connected with livestock shipping is so important as controlling losses due to shrinkage, death, or crippling of animals in transit. The exact importance of the numerous factors presumably influencing shrinkage has not as yet been determined. Very little investigating has thus far been done on this subject. Part VI of the Report of the Federal Trade Commission on the Meat Packing Industry (December 1919) gives some results taken from an investigation made by the Bureau of Markets during 1917 and 1918 relative to the cost of marketing cattle, hogs, and sheep. An attempt was made to determine the amount of shrinkage resulting from moving livestock to market, and how shrinkage varies with the different seasons, with the length of time in transit, with the size of the carload, with the treatment given the livestock, and with the fill at destination. The conclusions reached indicate that certain of these factors have in the past been given greater weight than the facts warrant. The data represent averages of shipment from several states and hence cannot be directly applied to any one shipping point or market. Following are some of the conclusions reached in this investigation:

Cattle: "The shrinkage of range cattle in transit over 70 hours during a normal year is from five to six per cent of their live weight. If they are in transit 36 hours or less, the shrinkage of fed cattle does not differ greatly from that of range cattle for equal periods of time. It varied from about three per cent with all of the silage-fed cattle and 4.2 per cent with the corn-fed cattle, when both classes of these animals were in transit for less than 36 hours, to 5.4 per cent for the pulp-fed cattle which were in transit from 60 to 120 hours." (p/ 156)

Hogs: "The most striking features shown are that the use of feed en route did not appear to influence materially the shrinkage of the hogs in transit,

especially for those shipments en route less than 30 hours; that the hogs shipped by farmers showed a lighter shrinkage than those shipped by dealers; that after the first 20 or 30 hours en route the shrinkage increased in direct ratio with the increase of time in transit; that during the first 20 or 30 hours the average shrinkage fluctuated very little, ranging between one and two per cent for dealer shipments and from a slight gain to less than one per cent with farmers' shipments, and that the average shrinkage for both farmers' and dealer shipments did not exceed three per cent until shipments had been transit approximately fifty hours or more." (page 174).

As the weight of the load increased there was a general tendency for the hogs to lose weight proportionately. Dealer shipments weighing between 15000 and 19000 pounds showed the least fluctuation in average shrinkage throughout the year. The lighter loads of dealer shipments showed the least shrinkage during the winter months, while those loads weighing more than 18000 pounds showed the greatest shrinkage during hot weather.

"Dealer shipments receiving feed en route showed a more uniform rate of shrinkage than those not receiving feed. The shrinkage on dealer shipments with feed en route ranged between one and three per cent for loads of all weights. The figures showing average shrinkage on farmer shipments receiving feed en route ranged from a gain in weight of more than two per cent to a loss of a like amount, and a total range of more than four per cent. Dealer shipments without access to feed showed a range in average shrinkage of almost four per cent. Those loads which averaged slightly more than 15,000 pounds which were shipped in the spring and fall weighed slightly more at the market than at loading stations. The data on farmer shipments without access to feed en route were not sufficiently complete to show any uniform tendency as to effect of weight of load on shrinkage. An average of all the data on dealer and farmer shipments without regard to season showed that feed in car or en route appeared to exert little or no influence on the shrinkage or gain. Hogs shipped without access to feed in car or en route showed greater fluctuations in shrinkage than those with access to feed. Dealer shipments showed a uniform tendency to lose weight in proportion to the increase in the weight of the load. Farmer shipments below 17,000 pounds in weight, with and without feed, showed a tendency to gain in weight en route in market, rather than to lose weight. Loads exceeding 17,000 pounds in weight showed a shrinkage which increased sharply as the weight of load increased beyond 18,000 pounds. Dealer shipments showed uniform tendency to shrink from $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent for loads of all weights. An average of all data by season, but without regard to shipping agency or feed in transit, shows that the least shrinkage with hogs took place during the spring and fall months, and the greatest on extremely light and extremely heavy loads in the winter months. Loads weighing between 14,000 and 18,000 pounds sustained the greatest shrinkage during the summer months. The average shrinkage on all the loads weighing less than 18,000 pounds did not exceed 2 per cent and loads weighing less than 20,000 pounds did not exceed an average of more than 2.6 per cent." (p. 178 and 179)

Effect of Size of Hogs on Shrinkage: For working this analysis, car loads were divided into three classes according to average weight of the hogs as follows: 135-195 pounds, 195-225 pounds, and 255-400 pounds. "The minimum shrinkage was recorded on those loads containing the lighter-weight animals, the average shrinkage for this group (135-195 pounds) being 1.09 per cent and for the heavy-weight hogs, averaging 277 pounds, 1.77 per cent. The conclusion is that the increase of net shrinkage is directly proportional to the weight of the animals". (page 180)

"Summarizing all the data on shrinkage of hogs in transit to central market, the most striking features brought out are that farmers ship hogs to centralized markets with a smaller shrinkage than that sustained by local dealers; that the shrinkage on local dealer shipments is more uniform for loads of all weights and for the different seasons than on farmer shipments; that feed in cars or en route does not seem to affect the amount of shrinkage materially for animals in transit less than 30 hours; that as the weight of load increases there is a tendency for the amount of shrinkage to increase, and this continues until the loads exceed 20,000 pounds, after which the amount does not appear to be affected by weight of load; and that as the weight of the hogs increases the net shrinkage increases proportionately." (p. 181)

Undoubtedly some loss in transit is to be expected, However, if certain precautions are taken, losses can be reduced to a minimum. Following are several suggestions for preventing losses and shrinkage of animals in transit. These suggestions apply especially to hogs.

1. A balanced ration should be fed to animals. Fattening hogs on corn alone produces crippled and dead animals in shipping. Hogs thus fed are weak and undernourished in spite of their fat, and do not stand the trip to market as well as others.
2. Hogs especially should be given exercise. Association managers frequently complain that some fat hogs which they receive have had so little exercise that they can scarcely be driven at all with safety.
3. On the day of shipping and also the day before, care should be taken in feeding. Animals on a succulent or wet feed should be given a drier feed. Since cattle are fed hay and hogs are given corn at the central market, these animals should be given these feeds before the shipping date. It is a good plan also to get the animals used to drinking from troughs such as are used at the yards. Animals that are used to warm water in winter are apt to drink very little cold water when they get to the yards. Many managers advocate feeding ground oats to cattle before shipping. Many advocate cutting off the water supply in part at least. Whether this is wise or not depends, of course, somewhat on the

distance to local market. Before hauling hogs to the local yards it is not advisable to feed heavily or to try to stuff the animals. Such "over-filled" animals either get sick before reaching the local yards or go off feed and eat nothing at the central market. A natural or even a reduced feed is much better.

4. Hogs, sheep and calves are usually hauled if the distance is over two or three miles. In warm weather it is always best to make the journey in the cooler part of the day. Hogs should be loaded in stock racks whenever possible, as tight wagon-boxes shut off all air. If a box must be used, the sideboards should be raised. Straw should be put in the bottom of the rack or box in winter, and clean wet sand makes the best summer bed.

If hogs become overheated on the way, water should not be thrown directly upon them, but it should be run under them instead. The shock of cold water is often disastrous.

5. All livestock should be at the loading station early enough to allow time for resting and cooling before loading. When the animals have become cool, a limited amount of water should be given. Wallows and shade for hogs and shade for other animals should be provided.
6. Feed should be limited, especially in summer when livestock is going a long distance. A little feed may serve to quiet the animals, but a big feed heats them and is not desirable ordinarily. With a light feed at shipping point, the animals usually fill better at central market and this lessens the shrinkage.
7. In hot weather especially the car should be well cleaned. Manure and decaying straw ferments and gives off heat, thus raising the temperature.
8. Dry straw, hay or shavings should be used for bedding, in winter, and wet sand or cinders in summer. Two to four inches of wet sand makes a good bed. Clay or loam are not good substitutes since these make the car slippery.
9. In hot weather it is well to drench with water the sides and top of the car and the bedding or sand.
10. In extremely hot weather five or six chunks of ice suspended from the ceiling of the car in bags, or 15 to 25 chunks thrown on the sand in different parts of the car, will give good results.
11. Loading should be slowly and carefully done, excitement and bruising being especially avoided. The loading should be done about an hour before train time so that the animals may become somewhat settled before being moved.

12. Putting feed in cars is not usually thought advisable, at least, within a reasonable distance of the central market, although a few shippers think otherwise. When no feeding is done at the terminal market, the situation is quite different.
13. Boars, sows, bulls, etc. which show a tendency to fight should be partitioned off or should be tied with a short rope. Tying is perhaps preferable, as partitions are now costly and are often broken down. Cows with young calves should be partitioned off.
14. In mixed cars the various species must be separated by partitions.
15. In hot weather it is probable that with hogs under 250 pounds the carload minimum weight cannot be reached with safety. In such cases it is better that the car be underloaded than that loss be invited by heavy loading.
16. On the longer hauls, notations of "drenching upon arrival at all division points" should be put in the bill of lading.

Handling Livestock at South St. Paul: Actual handling of livestock at the central market is usually in charge of the commission firm to whom the livestock is consigned. It is presumed that the best practices as to feeding, watering, and general care of the livestock are followed by the agents to secure the best results. Before weighing, livestock is usually allowed a good fill. Water is before the animals at all times. Generally, any suggestions offered by the shipper or person in charge of livestock is accepted and followed if thought wise.

When livestock reaches South St. Paul, it is unloaded by the St. Paul Union Stock Yards Company employees, who notify the commission firms to whom the livestock is consigned by posting lists in the yards. The livestock is then driven to the pens of the commission firms where it is sorted, if this is deemed necessary. When the animals have been fed and watered, they are ready for sale. Animals are usually given a good feed before being weighed. After being sold, the livestock is driven to the scales by the employees of the commission firm and the selling weights obtained. The buyer and seller are each given a scale ticket for each draft of animals. A sample scale ticket is here

shown:

Form 2.

Official Certificate of State Weight issued only by the RAILROAD AND WAREHOUSE COMMISSION, and is void unless Weight is properly registered and signed by an Official State Weigher.

Weighed from _____

To _____ 19 _____

Owner _____ Acc't of _____

| Weight | Dock | Price | Amount | Cattle | Calves | Hogs | Sheep |
|--------|------|-------|--------|--------|--------|------|-------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Stags Corn B P Scale No. 17

Sows Hay D

Weigher.

These scale tickets, together with a note of the feed and bedding used are then turned over to the commission firm clerks who make out the account sales sheet and issue a check to the manager to cover the difference between receipts and expenses. The association manager is also given an account sales sheet showing to whom the stock was sold, the number of animals, brand, weight, price and expenses of the shipment. If the commission firm does the pro-rating, work sheets and individual account sales accompany the account sales.

Dead stock is sold to the rendering plant at a small price. (3¢ per pound in 1919).

Cripples are usually sold subject to inspection. In such cases no return is made for such animals in the account sales of the shipment, a notation to this effect being made on the account sales sheet and the account is settled later. The following account sales illustrate the handling of subject animals.

C. S. FORSYTH, PRESIDENT

ALEX (SCOTTY) SMITH, SECY.-TREAS.

TELEPHONES: N. W. CONCORD 68 T. S. 79 264



SMITH-FORSYTH CO.

LIVE STOCK COMMISSION

321 EXCHANGE BLDG., UNION STOCK YARDS

SOUTH ST. PAUL, MINN.

11/11/19

Sold for account of Far. Ship. Assn.

Lawson, Minn.

| BUYER | CATTLE | BRAND | HOGS | SHEEP | WEIGHT | DEDUCTIONS | | | PRICE | AMOUNT. | TOTAL. |
|--------------|--------|-----------|----------------|-------|------------|-------------|------------|------|-----------|-------------|--------|
| | | | | | | STAGS 70 | SOVS 40 | LBS. | | | |
| <i>Swift</i> | | <i>1c</i> | <i>Subject</i> | | <i>840</i> | | | | <i>6-</i> | <i>5040</i> | |
| | | | <i>Parade</i> | | | | | | | | |

\$ 5040

| CAR NO | WEIGHT | RATE | CHARGES | FREIGHT, (Including charges in transit) | |
|--------|--------|------|---------|---|-------------|
| | | | | YARDAGE, | |
| | | | | HAY, _____ BALES | |
| | | | | CORN, _____ BU. | |
| | | | | BEDDING _____ BALES, | |
| | | | | TOTAL PAID U.S. YARD CO. | |
| | | | | FIRE INS. 20 Cents Per Car | |
| | | | | INSPECTION ON HOGS 15 Cents | |
| | | | | M.C.O. | |
| | | | | COMMISSIONS, | |
| | | | | NET PROCEEDS, | <i>5040</i> |
| | | | | CASH | |
| | | | | DRAFT | |
| | | | | CHECK | |

RAILROAD

E. & O.E.

PLEASE WRITE FOR EXPLANATION OF ANYTHING UNSATISFACTORY

C. S. FORSYTH, PRESIDENT

ALEX (SCOTTY) SMITH, SECY.-TREAS.

TELEPHONES: N. W. CONCORD 68 T. S. 79 264



SMITH-FORSYTH CO.

LIVE STOCK COMMISSION

321 EXCHANGE BLDG., UNION STOCK YARDS

SOUTH ST. PAUL, MINN.

11/4/19

Sold for account of Carpa Hanson - Fair Ship. Rain.
Dawson, Minn.

| BUYER | CATTLE | BRAND | HOGS | SHEEP | WEIGHT | DEDUCTIONS | | | PRICE. | AMOUNT. | TOTAL. |
|---------|-----------------|-------|---------|-------|--------|-------------|------------|------|------------------|----------------|------------|
| | | | | | | STAGS 70 | SOVS 40 | LBS. | | | |
| Rachman | 1 ^c | x | | | 1000 | | | | | 60 00 | |
| Swift | | | 20 | | 59 00 | | | | 14 ²⁵ | 840 75 | |
| | 1 ^c | W | Subject | | 840 | | | | 6- | - Report later | |
| Simon | 1 st | 1 | | | 370 | | | | 5 ⁵⁰ | 2035 | |
| Hanson | 1 ^c | 11 | | | 960 | | | | 5 ⁵⁰ | 5280 | |
| | 1 ^c | 111 | | | 990 | | | | 5 ⁵⁰ | 5445 | |
| | 1 ^c | 1111 | | | 820 | | | | 5- | 41 00 | |
| Swift | 2 ^{cf} | v | | | 250 | | | | 13- | 3250 | |
| | 1 ^c | v | | | 120 | | | | 11- | 1320 | |
| | 3 ^c | 886 | | | 490 | | | | 17- | 8330 | |
| Mg 57 | 1 st | 1X | | | 810 | | | | 6- | 4860 | |
| Hanson | 1 ^c | X | | | 1080 | | | | 7- | 7560 | |
| | 15 | | 20 | | 13630 | | | | | | \$1,322.55 |

| CAR NO | WEIGHT | RATE | CHARGES | FREIGHT (Including charges in transit) | |
|--------|--------|------|---------|--|---------|
| 101340 | 20,000 | 1.85 | 37 93 | 43 19 | |
| | | | | YARDAGE, | 580 |
| | | | | HAY, 2 BALES 1.35 | 270 |
| | | | | CORN, 2 BU. | 400 |
| | | | | BEDDING 1 BALES, | 90 |
| | | | | TOTAL PAID U.S. YARD CO. | 5659 |
| | | | | FIRE INS. 20 Cents Per Car | 20 |
| | | | | INSPECTION ON HOGS 15 Cents | 15 |
| | | | | M.C.O. | 05 |
| | | | | COMMISSIONS, | 14 00 |
| | | | | NET PROCEEDS, | 7099 |
| | | | | CASH | |
| | | | | DRAFT | |
| | | | | CHECK | 1251.56 |

RAILROAD
E.&O.E.
PLEASE WRITE FOR EXPLANATION OF ANYTHING UNSATISFACTORY

C. S. FORSYTH, PRESIDENT

ALEX (SCOTTY) SMITH, SECY.-TREAS.

TELEPHONES: N. W. CONCORD 68 T. S. 79 264



SMITH-FORSYTH CO.

LIVE STOCK COMMISSION

321 EXCHANGE BLDG., UNION STOCK YARDS

SOUTH ST. PAUL, MINN. 11/14/19

Sold for account of Stradberg Sheep Rais.
Stradberg N.D.

| BUYER | CATTLE | BRAND | HOGS | SHEEP | WEIGHT | DEDUCTIONS | | | PRICE | AMOUNT. | TOTAL. |
|---------------------|------------|-------|-------------------------|-------|------------|------------|---------|------|-----------|--------------|--------|
| | | | | | | STACS TO | 50WS 40 | LBS. | | | |
| <i>Swift</i> | <i>1st</i> | | <i>Subject</i> | | <i>670</i> | | | | <i>6-</i> | <i>40 80</i> | |
| <i>July 103 647</i> | | | <i>1 Head condemned</i> | | | | | | | <i>2 25</i> | |
| <i>12/10/19</i> | | | | | | | | | | | |

73855

| CAR NO | WEIGHT | RATE | CHARGES | FREIGHT, (Including charges in transit) | YARDAGE | HAY, BALES | CORN, BU. | BEDDING, BALES | TOTAL PAID U.S. YARD CO. | FIRE INS. 20 Cents Per Car | INSPECTION ON HOGS 15 Cents | M.C.O. | COMMISSIONS | NET PROCEEDS | CASH | DRAFT | CHECK |
|--------|--------|------|---------|---|---------|------------|-----------|----------------|--------------------------|----------------------------|-----------------------------|--------|-------------|--------------|------|-------|-------|
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73835

RAILROAD
 E.&O.E.
 PLEASE WRITE FOR EXPLANATION OF ANYTHING UNSATISFACTORY

C. S. FORSYTH, PRESIDENT

ALEX (SCOTTY) SMITH, SECY.-TREAS.

TELEPHONES: N. W. CONCORD 68 T. S. 79 264



SMITH-FORSYTH CO.

LIVE STOCK COMMISSION

321 EXCHANGE BLDG., UNION STOCK YARDS

SOUTH ST. PAUL, MINN. 12/18/19

Sold for account of J. C. Jensen
Strandburg, S. D.

| BUYER | CATTLE | BRAND | HOGS | SHEEP | WEIGHT | DEDUCTIONS | | | PRICE | AMOUNT. | TOTAL. |
|---------------|----------|-------|------|-------|------------|-------------|------------|------|-----------|---------------|--------------|
| | | | | | | STAGS 70 | SOWS 40 | LBS. | | | |
| <i>Jensen</i> | <i>1</i> | | | | <i>870</i> | | | | <i>5-</i> | <i>43.50.</i> | |
| | | | | | | | | | | | <i>20.53</i> |
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| CAR NO | WEIGHT | RATE | CHARGES | FREIGHT, (Including charges in transit) |
|--------|--------|------|---------|---|
| | | | | YARDAGE, |
| | | | | HAY, _____ BALES |
| | | | | CORN, _____ BU. |
| | | | | BEDDING _____ BALES, |
| | | | | TOTAL PAID U.S. YARD CO. |
| | | | | FIRE INS. 20 Cents Per Car |
| | | | | INSPECTION ON HOGS 15 Cents |
| | | | | M. C. O. |
| | | | | COMMISSIONS, |
| | | | | NET PROCEEDS, |
| | | | | CASH _____ |
| | | | | DRAFT _____ |
| | | | | CHECK _____ |

RAILROAD
E. & O.E.
PLEASE WRITE FOR EXPLANATION OF ANYTHING UNSATISFACTORY

In the 11/6/19 shipment, the Brand "W" indicates that the animal was condemned and sent in by the State. On such animals special compensation is often allowed by the State.

The next sheet shows that the animal shipped 11/11/19 passed inspection. A second check is sent covering this sale.

The 11/14/19 steer had the head condemned and consequently \$2.25 was deducted.

The 12/18/19 cow was condemned but had a salvage value of \$20.53.

Claims.

In cases where shippers have claims against the railroad companies, the associations have several methods of collection open to them. They may handle claims through claim agencies, through attorneys, or through the facilities provided by the South St. Paul Live Stock Exchange. Formerly commission firms undertook the collection of claims for their shippers, but the South St. Paul Live Stock Exchange now has a claim bureau which handles all claims for the firms. Most associations handle their claims through the claim facilities of the Live-stock Exchange.

In cases of a claim, the manager makes a statement giving the details of the shipment, and appoints the South St. Paul Live Stock Exchange his agent with full power of attorney to handle the claim. If fair settlement is not obtained and legal liability appears to exist, the Traffic Manager of the Exchange is requested to turn the case over to an attorney. Limits of charges are set in both cases. The Claim Department charges 10 per cent of the amount collected, and attorney fees may not be over 33 per cent. Collection of claims through this agency appears to be giving satisfaction.

The bases of claims in order of their importance are as follows:

1. Delay in Transit (Fall in market
(Shrinkage & losses
(Extra feed costs, (delay)

2. Freight overcharge.
3. Rough handling.
4. Shortage of animals.

Delay in transit is the cause of approximately 80 per cent of the claims. Delay in transit may occur between the shipping point and the Minneapolis and St. Paul switching yards, or in the transfer yards. Schedules have been worked out which show the approximate number of hours carloads of livestock from various shipping points should be in transit. When shipments are delayed along the route so that the animals do not get to the market in the usual time, shippers have reason for claims. Often delays necessitate holding the animals for a later market, (as when the shipment is unloaded at South St. Paul at 3.00 o'clock in the afternoon instead of in the morning). When a certain day's market is "missed", claims may be filed for extra feed charges or loss due to a fall in market prices. When animals are held in the switching yards, claims may arise from loss due to shrinkage and deaths. Chapter 4381 of the General Laws of Minnesota for 1919 state that "all livestock arriving at any terminal over any line of railroad in this state, which is billed to any stock yard within twenty miles of said terminal where livestock is bought, sold, or transferred, shall be delivered to chutes of such stockyards within five hours after its arrival at such terminal unless prevented by an act of God". This rule gives a direct basis for claim where the livestock is delayed in the switching yards.

Claims for freight overcharge arise where the wrong rate or wrong weight has been used in calculating the freight charge.

Accompanying Cars:

Most managers accompany their stock to market unless they are short of time. Out of 66 associations reporting on this point, 28 accompany cars always, 25 accompany part of the time, and 13 go only occasionally or not at all.

Some of the important reasons for accompanying the livestock to the central market are:

1. To become thoroughly familiar with the marketing process.
2. To become familiar with the grading of the commission men. The manager must be well acquainted with classes and grades, docking methods and the like if he is going to be able to distribute returns fairly among the shippers in any car. This is especially true where the commission firms do the prorating. These firms often say that they cannot use the managers' grades in prorating because the grading is so inaccurate.
3. To see the condition in which their livestock reaches the market. This gives the manager a chance to try different methods and note the effects of all changes.
4. To be able to mix with other managers and shippers, getting new ideas as to shipping and prorating methods.
5. To compare the stock of his community with that shipped by other associations. Some farmers are forever blaming their manager because the livestock which they ship in is not getting the top price. Oft times, the entire trouble lays with the livestock itself. Some shippers cannot see why any animal fed "three years on good feed" should bring only average returns, never stopping to think that the type of animal grown may have much to do with it.
6. To enable the manager to satisfy himself as to feeding, watering, and selling practices at the stockyard.
7. While at the central market the manager gets acquainted with the salesmen and office force of various commission firms, and can thus compare the different firms as to their relative merits and ability. Often it will be found that certain firms get exceptionally good results on certain classes of stock. Often one firm, for example, has an especially good hog force while the

cattle salesmen are not so good. These things should be taken into consideration in selecting the firm. Results are expected of the manager and he should carefully watch all the angles to see that he is getting the best of everything for his constituents.

Most managers think they get better results when they change firms occasionally or perhaps have two or three firms to which they ship quite regularly. For comparative purposes, managers should occasionally test results by

TABLE XXXII

Number of Commission Firms Used

| Number of firms | Number of associations |
|--|------------------------|
| Shipping to one firm regularly. | 12 |
| Two to four firms regularly. | 17 |
| Shifting often - splitting up among several firms. | 28 |

shipping to various commission firms. Table XXXII indicates that most managers have followed this plan.

Handling the Prorating: One of the biggest jobs and also one of the most important duties of the manager is the prorating, or distributing the returns from each car of stock shipped. Most managers prefer to do this work themselves, maintaining that they are in the best position to do it. This is generally true. The manager knows his own systems of marking and grading and can usually see the connection between his grades and the way the stock was sold at the central market as the story is told in the account sales and the explanations sent by the commission firm. Often too, the manager has seen the stock sold and is in a position to straighten out any difficulties resulting from confusion of brands. Also the manager has first hand knowledge of the condition in which the stock was received at the local market, whether it was overfilled, sick, whether driven or hauled, and length of haul. Sometimes managers make certain allowances for livestock hauled a long distance, the theory being that the livestock hauled several miles will

not shrink as much in transit as stock which has come a short ways.

In some associations the prorating is done by commission firms, by local bankers, or by association secretaries. Table VIII summarizes the practices as to prorating. Prorating methods will be discussed later.

Handling losses: Any losses which occur after the stock has been taken over by the manager are paid by the association - that is, any livestock which is crippled or dies in loading, en route, or at destination, is paid for out of the sinking fund at the price it would have sold for if it had not been injured. Animals which are sick when delivered at the local yards are shipped at the owner's own risk. The association is protected against such losses by its "insurance" or fund. Naturally this sinking fund charge varies with distance to market and with certain home factors. (The range of charges for this purpose were given in Table XXIII.) The sinking fund rates should, of course, be only high enough to cover net losses; that is, losses for which no claims are collected. In setting such rates, past records must be depended upon.

Dockage of animals not marked or noticed by manager. Although managers may pay particular attention to animals liable to be docked, occasionally some animals will be docked the ownership of which is in doubt. The usual practice in such a case is either to add such dockage to the shrinkage, or to pay it from the protection or sinking fund. Of these two, the latter would seem to be the better method, since in that way the charge is spread over many shipments rather than being levied on one shipment only.

When to sell: In the case of elevators of potato marketing associations where the commodities are bought outright and the association has full control of the time of marketing, selling time becomes a question of great importance. With livestock shipping associations, however, each member has the privilege of shipping his stock on certain set days of the week. The association therefore do not directly face the question of when to sell. They can, however, be of

considerable service, much more service than they have been in the past, in helping members make correct decisions in this matter.

The subject of prices cannot be adequately covered in a short discussion, nor can a certain definite time be set as a universal "best time" to sell. It is possible only to set forth certain statistical results and discuss some of the influencing factors. In general, two considerations should be kept in mind; namely, the expense of production; and the selling price. High net profit is the desired end and not a high sale price or a low production cost taken separately.

Due to certain climatic conditions, livestock is most cheaply produced at certain periods of the year. This tends to make shipments to markets heavy at certain periods of the year. For example, grass-fed livestock tends to come to market in October, November, and fat hogs in early winter. Table XXXIII shows the average monthly receipts of livestock at South St. Paul over the seven-year period, 1910 - 17. These years were chosen to exclude the war period.

TABLE XXXIII
AVERAGE LIVESTOCK RECEIPTS AT SOUTH SAINT PAUL
By Months, 1910-16 inclusive, 7-years average.*

| Month | Cattle | Hogs | Sheep | Calves |
|-----------|---------|-----------|---------|---------|
| January | 25,620 | 179,353 | 45,032 | 6,735 |
| February | 24,463 | 135,971 | 39,159 | 7,415 |
| March | 36,723 | 126,398 | 37,985 | 12,038 |
| April | 29,555 | 101,720 | 12,827 | 12,255 |
| May | 25,892 | 127,908 | 11,202 | 14,778 |
| June | 26,194 | 119,282 | 10,475 | 14,889 |
| July | 30,445 | 89,014 | 19,894 | 11,928 |
| August | 52,522 | 53,437 | 32,452 | 12,215 |
| September | 75,396 | 56,832 | 110,915 | 12,299 |
| October | 98,491 | 119,268 | 208,253 | 12,283 |
| November | 62,195 | 183,081 | 142,891 | 9,621 |
| December | 32,983 | 194,279 | 49,267 | 6,737 |
| Total | 520,479 | 1,486,534 | 730,352 | 134,195 |

* Taken from St. Paul Union Stockyards Company year book for 1917.

Cattle receipts are heaviest in the September, October, and November period, with October averaging the highest month. 45 per cent of the average year receipts reaches market in these three months.

Hog receipts are highest in the November-December-January period with December averaging the highest in the seven-year period taken. An average of 13 per cent of the total receipts is received in December, and of 37 per cent in the three-month period, November, December, and January.

Sheep receipts vary to a greater extent than do either hogs or cattle receipts. The highest month in point of receipts is October (28 per cent) followed by November (19 per cent) and September (15 per cent). The receipts during the September-October-November period are 63 per cent of the yearly total.

TABLE XXXIV
Average Prices of Livestock by Months at South Saint Paul,
7-years average, 1910-16 inclusive

| Month | Best Lambs, Good to Choice. | Hogs | Veal Calves Good to Choice | Good to Choice Feeding Cows. | Fair to Good Killing Cows. | Good to Choice Killing Cows. | Good to Choice Feeding Steers. | Fair to Good Killing Steers. | Good to Choice Killing Steers. |
|-------|--------------------------------------|------|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|---|---------------------------------------|---|
| Jan. | 7.62 | 7.25 | 7.95 | 3.94 | 4.87 | 5.79 | 5.66 | 6.18 | 7.31 |
| Feb. | 7.73 | 7.52 | 7.61 | 4.08 | 4.97 | 5.81 | 5.74 | 6.23 | 7.24 |
| Mar. | 8.20 | 8.14 | 7.61 | 4.24 | 5.17 | 6.04 | 6.05 | 6.29 | 7.25 |
| Apr. | 8.31 | 8.19 | 6.98 | 4.57 | 5.29 | 6.28 | 6.37 | 6.36 | 7.28 |
| May. | 8.97 | 7.93 | 7.47 | 4.74 | 5.57 | 6.55 | 6.41 | 6.55 | 7.47 |
| June | 8.02 | 7.91 | 7.89 | 4.62 | 5.50 | 5.61 | 6.17 | 6.66 | 7.65 |
| July | 7.75 | 7.79 | 8.11 | 4.19 | 5.24 | 6.44 | 5.87 | 6.63 | 7.63 |
| Aug. | 7.33 | 8.05 | 8.51 | 4.19 | 5.05 | 6.34 | 5.98 | 6.46 | 7.46 |
| Sept. | 7.05 | 8.28 | 8.94 | 4.18 | 4.97 | 6.23 | 5.92 | 6.29 | 7.35 |
| Oct. | 7.09 | 7.91 | 8.47 | 4.02 | 4.92 | 6.01 | 5.89 | 6.11 | 7.30 |
| Nov. | 7.50 | 7.29 | 8.41 | 3.85 | 4.81 | 5.83 | 5.76 | 5.91 | 7.24 |
| Dec. | 7.88 | 7.22 | 8.25 | 3.94 | 4.83 | 5.85 | 5.86 | 5.92 | 7.25 |

Average of Monday Prices. ("Price Fluctuations in South St. Paul Livestock Market", J. H. Rhoads).

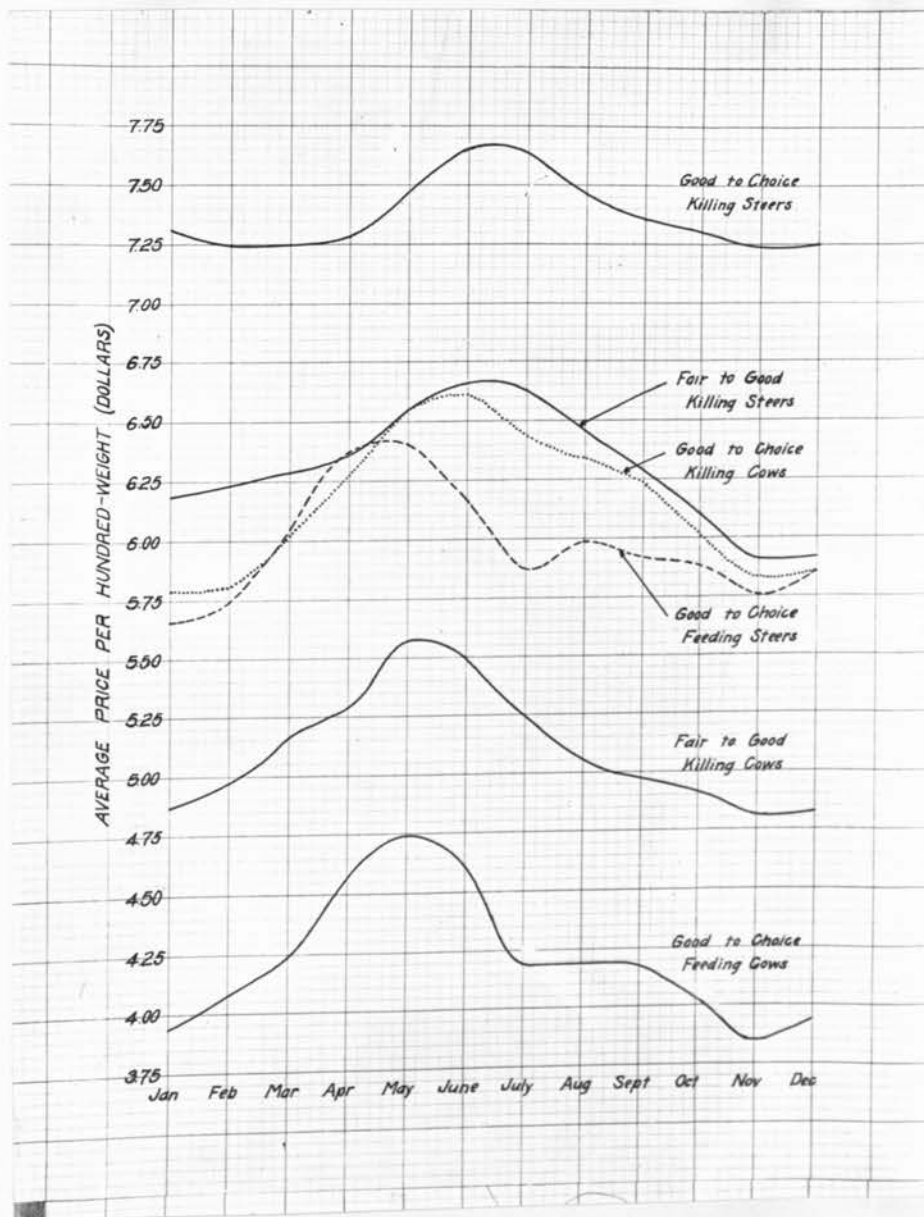


Figure 11. Average Seasonal Range in Prices
of Various Classes of Livestock at South St. Paul, 1910-17

The flow of calves is more even throughout the year than of the other classes. May and June show the highest average receipts over the seven-year period, with, however, only 22 per cent of the average year's supply.

Table XXXIV and Figure 11 show the seven-year average monthly livestock prices of various classes of livestock at South St. Paul for the years 1910-17. Since no single price includes all classes of cattle, prices of several classes and grades have been included. For all classes of killing cattle except fair to good killing cows, there is the same yearly cycle, a high price in May and August and a general low period in November, December, and January. But the prices for both classes of feeders and of fair to good killing cows have their crest in April, May, June, and feeders show a tendency to sag in July and to strengthen again in August and September. This is perhaps largely due to the demand for feed-lot animals to utilize the summer crops.

Hog prices show a crest in April followed by a decline in May and June and then reach the high point in August and September, dropping away rapidly to the December and January low mark or trough.

Lamb prices show a fairly uniform cycle, the high point coming in May and the low point in September and October.

Veal calf prices follow a cycle almost the converse of that of sheep prices, the crest coming in May and the low point in September.

Table XXXV shows the receipt and price data arranged together and Figure 12 presents these data graphically. Although the prices of only one class of each kind of animal are used in the graph, the prices taken are fairly indications of the prices of the various classes of each species - only the price level will be different for the different classes. With cattle, this does not hold entirely, or is brought out by Figure 13. In this figure the prices of four classes of cattle were reduced to indices, using the average yearly price of each

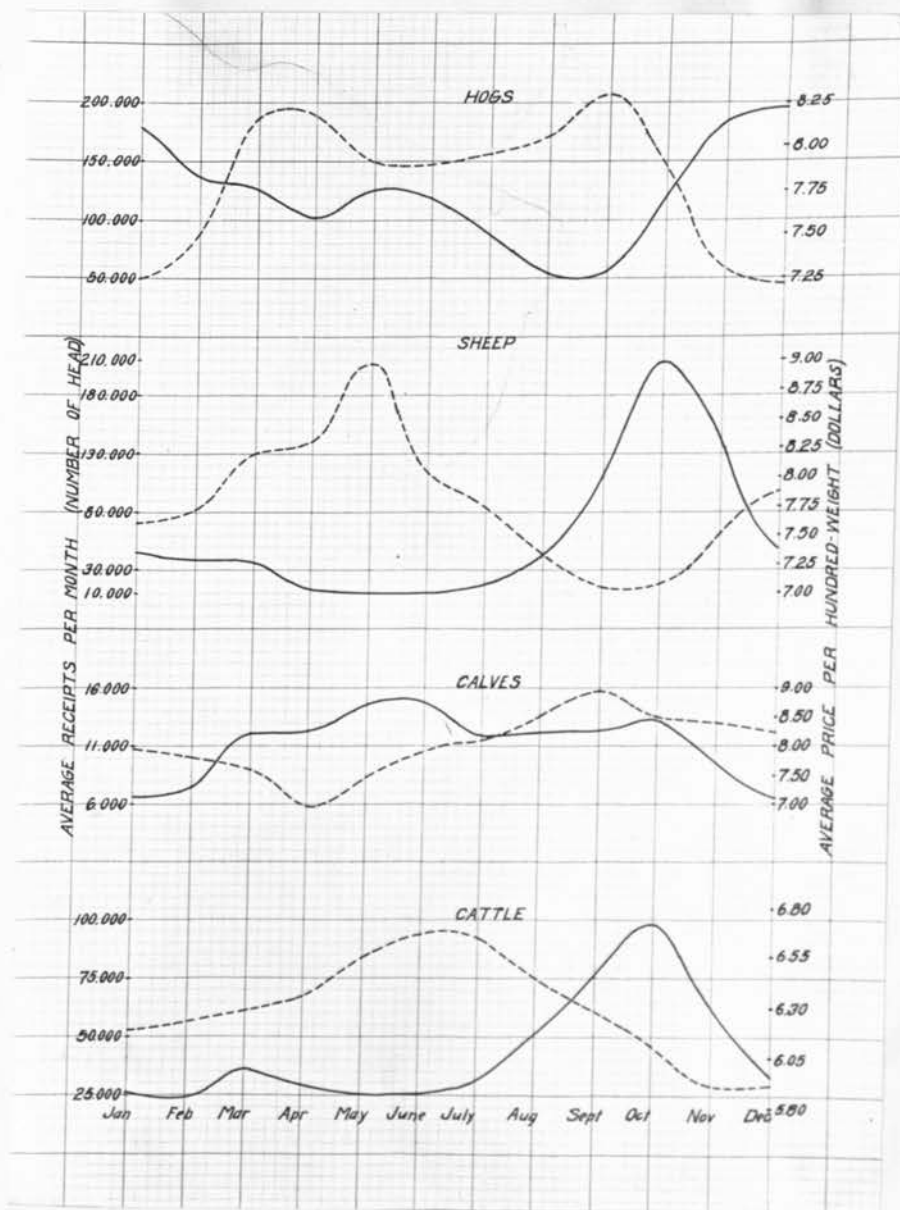


Figure 12. Average Seasonal Range in Receipts and Prices* of Livestock at South St. Paul 1910-17.

Legend - - - - - Price
 - - - - - Receipts.

* Sheep prices are for good to choice lambs.
 Calf prices are for good to choice calves.
 Cattle prices are for fair to good killing steers.

TABLE XXXV

Correlation of Receipts and Prices at South St. Paul.

7-year average, 1910-16 inclusive.

| Month | Hogs | | Cattle | | Sheep | | Calves | |
|--------|----------|--------------------|----------|--------------------|----------|--------------------|----------|---------------------|
| | Receipts | Price ^D | Receipts | Price ^x | Receipts | Price ^l | Receipts | Price ^{xx} |
| Jan. | 179353 | \$7.25 | 25620 | \$6.18 | 45032 | \$7.62 | 6735 | \$7.95 |
| Feb. | 135971 | 7.52 | 24463 | 6.23 | 39159 | 7.73 | 7415 | 7.81 |
| Mar. | 126398 | 8.14 | 36723 | 6.29 | 37985 | 8.20 | 12038 | 7.61 |
| Apr. | 101720 | 8.18 | 29555 | 6.36 | 12827 | 8.31 | 12255 | 6.98 |
| May | 127908 | 7.93 | 25892 | 6.55 | 11202 | 8.97 | 14778 | 7.47 |
| June | 119282 | 7.91 | 26194 | 6.66 | 10475 | 8.02 | 14889 | 7.89 |
| July | 89014 | 7.97 | 30445 | 6.63 | 19894 | 7.75 | 11929 | 8.11 |
| August | 53437 | 8.05 | 52522 | 6.46 | 42452 | 7.33 | 12215 | 8.51 |
| Sept. | 156823 | 8.28 | 75396 | 6.29 | 110915 | 7.05 | 12299 | 8.94 |
| Oct. | 119268 | 7.91 | 98491 | 6.11 | 208253 | 7.09 | 13283 | 8.47 |
| Nov. | 183081 | 7.29 | 62195 | 5.91 | 142891 | 7.50 | 9621 | 8.41 |
| Dec. | 194279 | 7.22 | 32983 | 5.92 | 49267 | 7.88 | 6739 | 8.25 |

^D Average cost to packers. ^l Lambs - good to choice.
^x Fair to good killing steers. ^{xx} Good to choice calves.

class as a base for that class. Table XXXV shows clearly that the seasonal fluctuations in price are less violent in the higher classes than in the lower classes of livestock. The indices of good to choice killing steers show much less fluctuation than do those of good to choice killing cows, and the indices of good to choice feeding steers show less fluctuation than those of good to choice feeding cows.

The receipts and price curves for hogs and sheep show close inverse correlation - a rise in receipts is accompanied by a fall in prices, and a fall in receipts by a rise in prices. With hogs a rise in receipts means a correspond-

ing fall in prices - a straight-line relationship. Sheep, however, show a curve relationship - an increase in receipts is accompanied by a decrease in prices, but not at a corresponding rate; and at a much higher rate during the seasons of heavy run than at the off seasons. This means that the demand for mutton is rather inelastic at the higher prices.

The receipt and price curves for cattle and calves show little inverse correlation. With cattle particularly, this may be due to the use of all cattle receipts as related to the prices of a particular grade of a given class of cattle. An inverse correlation might be expected if the proportions of each class of cattle to total cattle receipts were the same for each month. Such may not be the case, since the proportion of killing cows to feeding cows may be greater in May than in October. A scatter diagram of average seasonal South St. Paul cattle receipts and average seasonal prices of fair to good killing cows gives results somewhat similar to the sheep correlation - prices decrease as receipts increase, but the relationship is a curve.

The important points brought out by the price and receipt curves are briefly as follows: Hogs receipts are highest in November, December, January period while prices are highest in March, April and August, September and early October. Either by shortening the hog summer growing and fattening period so as to reach the September and early October market, as by lengthening the fall and early winter feeding period to reach the March, April market, growers would be able to take advantage of a higher market price. If hogs are to reach fall market, the spring pigs must come early, early pasturage must be provided and corn must either be held over from the preceding year, or an early corn crop must be provided for use in early September. Reaching the March market requires a late farrowing and a lengthening of the growing period or fall farrowing. Under these methods, certain additional expenses are involved, such as extra feed, extra interest charges on feed or stock carried over, extra shelter, extra losses from

inclement weather, perhaps some extra labor. These must be balanced against the increased return of a higher market. Each farmer must decide such a question largely as an individual problem.

Lamb prices reach the crest in May while receipts are highest in September, October, November. Lambs born in April, May and kept on pasture during the summer are ready for market in September-October-November. The situation is somewhat similar as for hogs, but it would seem that for Minnesota to have the lambs come later in the spring and carry them over into the March to May period is better than trying to rush lambs on an early fall market. The lamb price curve ascends quite rapidly from November to May, and hence any lengthening of the growing period which can be accomplished without a proportional increase in expenses is advantageous.

The calf price curve is highest in the August-September-October period. From the view point of calf prices it would seem well to have cows freshen in the June-July-August period. However, since calves are a by-product, little importance can be attached to this view, calving time being governed by factors not dependent on the calf-price situation.

Cattle price crests vary somewhat with the different classes and grades. Both good to choice feeding steers and feeding cows reach the price crests in April-May-June. At this time of year the demand for feeding stock to utilize pasture is naturally high. These animals tend to be returned to the market as killing animals in late September or in October. Many April-May feeding animals which should be returned to the market in September and October as killers, actually are returned in poor condition and are either sold as low grades of the killer type, or as stockers. In October, prices for feeder cattle are low. The conclusion, as pointed out by Mr. W. L. Cavert in Minnesota Farmers' Institute Annual, Number 32, is that a sufficient number of feeding cattle should be sold in the high April-May market so that

those kept will have a good pasture throughout the pasture season and can be sold as killers in September-October.

The price crest of the better grades of killing animals is reached in May-June-July, the low points being reached in November and December. To buy feeders in the low November-December market and feed for the high May-June-July market would require a five month feeding period. The method to use would depend largely on the kind of feed to be utilized; such feed as cornstalks must necessarily be fed in the early winter rather than held for early spring feeding.

In making any calculation involving market prices, it must be remembered that the prices given are averages and that in any given year the actual price may vary from the average.

Receipts also vary greatly by days of the week. In "The Farmer" of July 23, 1921 (page 1118) Mr. L. W. Kube, traffic manager of the St. Paul Union Stock Yards Company, present statistics for 1920 showing that an average of 28 per cent of the week's run of stock was received on Monday, 17 per cent on Tuesday, 26 per cent on Wednesday, 13 per cent on Thursday, 12 per cent on Friday, and 4 per cent on Saturday. These figures, based on the year's average, disclose that 54 per cent of the week's run is received on two days, Monday and Wednesday. However, during the fall, Mr. Kube explained, "frequently 40 per cent of the week's run is received in one day."

While the monthly fluctuation of receipts are closely related to cheap producing periods, the concentration of receipts on certain days of the week is probably chiefly due to the fact that shippers have the notion that the early part of the week is the best time to reach the market, and to the practice of running special livestock trains on certain days of the week. On certain railroads, special livestock trains are run on certain days of the week. It so happens that three of the railroads handling 56 per cent of the livestock

shipments to South St. Paul run such special livestock trains.⁰ Also those railroads run their special trains on such days that the livestock shipped over these roads reaches South St. Paul on Monday, Wednesday, and Thursday. If there is one special train per week, it reaches South St. Paul for the Monday market; if two trains, then Monday and Wednesday; and if three trains are run, then Monday, Wednesday, and Thursday.

No inverse relation between prices and the wide daily receipt fluctuation is readily discoverable in the case of hogs. Hog daily receipts and prices were tabulated for one ten and one eleven week period in 1921. Tables XXXVI and XXXVII give the results of those tabulations. Wednesday has the highest receipts in both tabulations, with Monday and Tuesday second and third in table XXXVII, and Tuesday and Monday second and third in table XXXVI. In table XXXVII, the days in order of their prices are Thursday, Saturday, Friday, Wednesday, Tuesday, and Monday. In Table XXXVI, the days in order of the prices are Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. In the period covered by Table XXXVI, the market steadily declined, making prices usually lower at the end of any week than at the beginning. If, however, there were any outstanding inverse correlation between daily prices and receipts, Wednesday should have shown a low price in both tables. This was not the case, Wednesday prices ranking third in one tabulation and fourth in the other.

The seeming absence of any inverse relation between daily prices and receipts may be largely the result of speculator activities, this class of dealers acting as somewhat as a sponge, taking up extra receipts in case the prices show a tendency to momentary weakness.

Although the evidence given shows no inverse relation between receipts and prices, more extensive study of the data is needed before their conclusion can be accepted. If there is a difference in the expense of holding animals on

⁰ The three railroads with their 1920 South St. Paul shipments are:
(Taken from St. Paul Union Stock Yards Company .1920 Livestock Report)

TABLE XXXVI

Daily Receipts and Prices^D of Hogs at South St. Paul,February 14 to May 1st 1921^E

| Week | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|---------------|--------|----------|---------|----------|-----------|----------|----------|----------|--------|----------|----------|----------|
| | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts |
| February 14 | 9.04 | 8,775 | 9.08 | 12,918 | 9.95 | 21,278 | 8.93 | 6,682 | 8.86 | 5,575 | 8.85 | 738 |
| " 21 | 8.78 | 7,460 | 8.95 | 11,599 | 9.17 | 20,586 | 9.28 | 6,352 | 9.35 | 9,750 | 9.45 | 1109 |
| " 28 | 9.32 | 8,323 | 9.66 | 12,061 | 9.97 | 16,978 | 10.20 | 5,859 | 10.00 | 8,701 | 10.11 | 1057 |
| March 7 | 9.76 | 8,631 | 10.06 | 10,595 | 10.32 | 13,618 | 10.46 | 6,177 | 10.30 | 6,897 | 10.02 | 1415 |
| " 14 | 10.28 | 9,183 | 10.01 | 10,291 | 9.33 | 17,302 | 9.10 | 4,805 | 9.22 | 6,510 | 9.40 | 234 |
| " 21 | 9.94 | 6,605 | 9.82 | 6,995 | 9.29 | 13,125 | 9.66 | 5,141 | 9.63 | 4,904 | 9.64 | 387 |
| " 28 | 9.45 | 6,973 | 9.01 | 8,841 | 8.76 | 11,382 | 9.01 | 3,704 | 8.88 | 5,462 | 8.96 | 423 |
| April 4 | 8.82 | 7,577 | 8.91 | 7,034 | 8.77 | 10,144 | 8.79 | 3,664 | 8.63 | 4,438 | 8.50 | 444 |
| " 11 | 8.43 | 5,365 | 8.01 | 7,380 | 7.83 | 11,458 | 7.92 | 3,309 | 7.98 | 5,165 | 7.91 | 512 |
| " 18 | 8.14 | 4,890 | 8.15 | 8,741 | 7.96 | 13,084 | 7.63 | 5,037 | 7.42 | 6,677 | 7.37 | 284 |
| " 25 | 7.31 | 6,051 | 7.28 | 9,757 | 7.40 | 17,823 | 7.57 | 3,451 | 7.70 | 7,622 | 7.72 | 777 |
| Average - - - | 9.02 | 7,257 | 8.99 | 9,655 | 8.98 | 15,162 | 8.96 | 4,925 | 8.91 | 6,518 | 8.90 | 671 |

^D Average cost to packers.^E Taken from the South St. Paul Reporter.

TABLE XXXVII

Daily Receipts and Prices ⁰ of Hogs at South St. Paul,
 May 9th to July 17, 1921 - - -

| Week | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | |
|---------|--------|----------|---------|----------|-----------|----------|----------|----------|--------|----------|----------|----------|
| | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts | Price | Receipts |
| May 9 | 8.10 | 6,300 | 7.85 | 9,500 | 7.85 | 12,500 | 8.25 | 3,500 | 7.85 | 5,300 | 7.75 | 400 |
| " 16 | 7.85 | 7,500 | 7.85 | 5,800 | 8.00 | 13,000 | 8.00 | 4,800 | 8.00 | 6,500 | 7.40 | 800 |
| " 23 | 8.10 | 7,400 | 7.85 | 9,000 | 7.60 | 15,000 | 7.35 | 4,500 | 7.15 | 9,500 | 7.20 | 1000 |
| " 30 | 7.15 | 6,200 | 7.30 | 2,500 | 7.35 | 8,000 | 7.55 | 3,500 | 7.35 | 5,000 | 7.30 | 600 |
| June 6 | 7.25 | 6,900 | 7.60 | 6,500 | 7.60 | 10,000 | 7.60 | 3,000 | 7.75 | 5,500 | 7.80 | 350 |
| " 13 | 7.80 | 8,500 | 7.35 | 8,500 | 7.40 | 9,500 | 7.25 | 3,300 | 7.35 | 5,500 | 7.35 | 700 |
| " 20 | 7.60 | 7,500 | 8.00 | 6,200 | 8.00 | 11,500 | 7.85 | 3,300 | 7.85 | 5,500 | 7.75 | 660 |
| " 27 | 7.60 | 10,000 | 7.85 | 7,300 | 8.00 | 11,500 | 8.00 | 4,300 | 8.10 | 4,500 | 8.25 | 600 |
| July 4 | 0 | 0 | 8.35 | 4,400 | 8.60 | 5,200 | 8.85 | 3,800 | 8.40 | 7,500 | 9.25 | 800 |
| " 11 | 8.85 | 10,000 | 8.50 | 5,000 | 8.25 | 9,000 | 8.60 | 3,200 | 9.00 | 3,500 | 9.25 | 900 |
| Average | 7.82 | 7,811 | 7.85 | 6,470 | 7.87 | 10,520 | 7.93 | 3,720 | 7.88 | 5,830 | 7.93 | 681 |

0 No market quoted.

2 No Market quoted.

3 Bulk sales price used.

4 Taken from daily report of South St. Paul Reporter.

farms and at the central market, then some inverse correlation between receipts and prices would normally be expected, even though this correlation might be slight.

Even granting that there is no direct relation between daily receipts and prices at South St. Paul, yet smoothing out the daily fluctuation in receipts would enable the South St. Paul market to handle the same volume of livestock with a smaller force, thus reducing terminal expenses in general. That is, terminal agencies must have such facilities as will enable them to handle the heavy receipts, even though on other days their forces may be idle. Any smoothing of the receipt fluctuations therefore, would allow these agencies to reduce their forces and equipment, which would normally result in reduced expenses to shippers.

Market News: Market news can be secured from several sources. At South St. Paul the "South St. Paul Reporter" is devoted largely to receipts and price movements and other livestock information. In addition to this, certain commission firms send out limited reports.

The office of the Bureau of Markets and Crop Estimates cooperating with the Minnesota Agricultural Department at South St. Paul sends out a daily market report covering the South St. Paul market in detail and general movements at the other principal markets. The Bureau of Markets information is available to shipping association managers and livestock raisers gratis.

In addition to this information the Bureau of Markets and Crop estimates of the United States Department of Agriculture publishes a weekly paper, "The Market Reporter", which gives livestock market news along with market news of other farm products.

| | | |
|-----------------------------|-------|-----------|
| (Great Northern - - - - - | 18470 | carloads) |
| (Northern Pacific - - - - - | 11184 | ") |
| (Soo - - - - - | 12008 | ") |
| (All railroads - - - - - | 73590 | ") |

Either the South St. Paul Reporter or the daily livestock report of the Bureau of Markets and Minnesota Agricultural Department contain full information as to the daily markets. The South St. Paul Reporter perhaps includes more detail in its report and of course includes general market news which would not be included in the Bureau of Market and Minnesota Agricultural Department report. All associations should certainly have reference to one or the other of these two reports.

Bookkeeping Systems: Among the duties of the manager named in the by-laws of an association is commonly found the following: "He shall keep a record of the number of cars and the amount and description of stock shipped in such cars during the year. He shall also keep an account of all disbursements and receipts for the association. At the annual meeting he shall have ready a detailed statement of all business done during the year." In short, the manager is required to keep a complete record of all shipments made during the year, the record including such information as the following: date of shipment, number cars, contents of cars, to whom consigned, home weight, shrinkage, net weight, and gross selling value of animals in each shipment by species, amount paid owners, local market expenses, including manager's fee, etc., and such other information and memoranda as he shall find necessary for explanatory purposes.

For the purpose of keeping these records, two record books have been devised. Either of these two systems has all the information necessary for the keeping of records of expenditures. If the records are to be used for figuring a flat rate, or for checking past rates, then more detailed records are necessary. The alternative is going through the account sale sheets annually or semi-annually and tabulating such additional information as is necessary in figuring a flat rate system. Neither of these forms, in itself, is suitable for keeping all the records necessary for an association having balance-sheet account.

It should be understood that the record books do not constitute the entire bookkeeping system used by associations. All associations use scale tickets, shipments manifests, account sales, prorating sheets, and individual account sales in addition to the record books. Record book entries are obtained from the other forms, samples of which are contained in Chapter VIII.

Form 3 shows a page of the record book recommended by commission firms and used quite extensively by associations. In this book each shipment is put on a line and the headings run across two pages. In this way, all material regarding each shipment is on the open double page.

Most of the headings are self explanatory, but a few brief explanations will probably serve to clear up some difficulties.

"Gross of Shipment" is the total gross amount for which the stock sold at terminal market. It equals the total of the "Gross Receipts" under the headings "Cattle", "Hogs", "Sheep", "Yard Expense" includes all terminal market charges plus freight and switching. "Net on Shipment" is "Gross on Shipment" minus "Yard Expense" and denotes the amount received at the local market, the amount of the check sent by the commission firm. (Local expenses not deducted).

"Paid Owners" indicates the amount paid to shippers, or "Net on Shipment" minus total home or local expenses plus the amount paid for losses out of the sinking or insurance fund. Total home or local expense includes the amount paid manager, the amount put into sinking fund, and other home expenses such as feed, bedding, ice, sand, stationery, and the like.

"Paid in" and "Paid out" of "Sinking Fund" indicates whether the sinking fund deduction of that particular shipment was more or less than enough to cover the losses. In other words, these two columns give a convenient method of determining the amount in the sinking fund at any time, the difference between the totals of the two columns giving the sinking fund balance.

-104-

FORM 3

Sample Page of Record Book Recommended by Commission Firms.

| Date | Shipt No | No. of Cars | CONTENTS | CONSIGNEE TO | CATTLE | | | | HOGS | | | | | SHEEP | | | | Gross of Shipment | Yard Expense | Net on Shipment | | | | | | | | | | | |
|------|-------------|-------------------|----------|-----------------|-------------|----------------|---------------|--------|-------|-------------|----------------|---------------|--------|-------|-------------|----------------|---------------|----------------------|-----------------|--------------------|--------|-------|--|--|--|--|--|--|--|--|--|
| | | | | | No. Head | Home Weight | Net Weight | Shrink | Gross | No. Head | Home Weight | Net Weight | Shrink | Gross | No. Head | Home Weight | Net Weight | | | | Shrink | Gross | | | | | | | | | |
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"Rate Expense per Hundredweight" indicates the rate charged on that shipment.

If the "Gain" and "Loss" columns are used, this system can also be made to serve under a "flat rate" or uniform charge system. In this case, the "Gain" and "Loss" columns show whether the actual expenses of a particular shipment exceed or are less than the uniform expense charge, and what the net effects are upon what in truth is the operating reserve account. Under such a system the "Rate Expense per Hundredweight" would be a fixed or uniform charge over long periods.

Form 4 is taken from an account book prepared by H. L. Halverson and adopted by the Minnesota Central Cooperative Livestock Shipping Association. This form covers practically the same ground as the form just reviewed, differences being of minor importance. Following are brief explanations of the headings:

"Total Checks" is the total of checks paid to owners for stock shipped, amount paid to manager, and amount paid out for local expenses.

"Checks for Stock" (a part of "Total Checks") is a total of the amounts paid shippers of stock. "Local Expense" includes all local expenses except manager's commission.

Under the large headings, Hogs, Cattle, Calves, Sheep, all headings are self-explanatory except perhaps "Expense". In case of a flat-rate system, "Expense" would be a set rate per hundredweight for each species. Under other systems, however, this "Expense" total would be obtained from the prorate sheet.

"Total Cash Returns" indicates the sum received at local market (gross selling amount at terminal market minus terminal charge and freight) plus any receipts from stock sold at local market. The "Loss" and "Gain" columns indicate whether or not the sinking fund rate was large enough to cover the

| Date | No. Shipt. | No. of Cars | Consigned to | Total Cash Returns | Loss | Sinking Fund | Gain | Total Checks | Checks for Stock | Manager's Comm. | Local Exp. | HOGS | | | | | | | |
|------|------------|-------------|--------------|--------------------|------|--------------|------|--------------|------------------|-----------------|------------|------|--------|--------|----------------|---------|----------|--|--|
| | | | | | | | | | | | | No. | Weight | Shrink | Gross Receipts | Expense | Net Paid | | |
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Form #4

losses of that particular shipment, a loss indicating that money was taken from the sinking fund, and vice versa.

"Sinking Fund" is the amount actually in the insurance fund, a "Loss" being deducted and a "Gain" added to the previous figure. Under a flat-rate or uniform-charge system, "Sinking Fund" could be used as signifying "Operating Reserve" in which case "Gain" or "Loss" would show whether the flat rate charge on that specific shipment was large enough to cover all expense of that shipment. In this case the "Sinking Fund" for insurance reserve would be swallowed up in the "Operating Reserve".

In computing flat-rate bases, detailed records of the expenses of each class of stock are necessary. Also straight and mixed carloads must be recorded separately. With such records available, rates can be derived which will cover the expense of shipping each class over a long period, conditions remaining the same. Unforeseen changes in railroad rates and the like would of course necessitate changes in the uniform rate charge.

Form 5 shows a detailed form for the analysis of the expenses of shipping hogs. Like records for cattle, calf, and sheep shipments should be kept, hay being substituted for corn.

For mixed shipments a slightly different form is necessary to care of the data on home weight, shrinkage, and gross selling amount of each species in the shipments. Form 6 includes all the data necessary for mixed shipments.

At the end of the period, a summary of the shipments of straight loads will give the basis for a uniform charge system on straight loads. In order to determine the amount which must be allowed to cover mixed shipments, the mixed shipment summary is used. As in the case of prorating mixed carloads under a detailed system, the dividing the freight charge is the biggest problem.

Form 5.

H O G S*

| No. Animals | Home Weight | Selling Weight | Gross Selling Cost | TERMINAL EXPENSES | | | | | | |
|-------------------------|----------------|---------------------|--------------------------|-------------------|---------------------|------------------|------------------------|---------------------------------------|---------------------|---------------------------|
| | | | | Commission | Prorating | Yardage | Weighing | Insurance | Straw | |
| | | | | | | | | Corn Bu. Cost | Straw Bales Cost | |
| | | | | | | | | Inspection Bu. Cost & S. P. League | | |
| TRANSPORTATION EXPENSES | | | | | | | | | | |
| | | | | Freight Weight | Cost | Switching | Feed in Transportation | | | |
| LOCAL EXPENSES | | | | | | | | | | |
| Managers Commission. | Losses Paid | Claims Collected | | Corn Bu. Cost | Straw Bales Cost | Sand Quantity | Ice Cost | Rope | Lumber | Misc. Stationery Edwe. |

When these are bought in large quantities, separate records should be kept and prorated at the end of the year.

* Same for Cattle, Calves, and Sheep.

(Where only a few head of calves are included in a cattle shipment, that shipment may be classified as "Cattle")

12-21-63

Form 6.

-109-
MIXED CARLOADS.

| Cattle | | | Calves | | Same for | | Terminal Expenses. | | | | |
|---------------------|--------------------|-----------------------------|--------------------|--------------------|-----------------------------|--------------|--------------------|-----------|---------|----------|---|
| No. Home Weight. | Selling Weight. | Gross Selling Amount. | No. Home Weight | Selling Weight. | Gross Selling Amount. | Hogs & Sheep | Commission | Prorating | Yardage | Weighing | Insurance, Inspection & S.P League. |

(MIXED CARLOADS, CONTINUED)

| | | Terminal Exp. Cont. | | Transportation Expense | | | Local Expenses | | | | | | | | | |
|---------|------|---------------------|---------|------------------------|------|--------|-----------------|----------------------|-------------|------|--------|--------|------|-------|--------|--------|
| Corn | Hay | Straw | Freight | Switching | Corn | Hay | Feed in Transit | Manager's Commission | Losses Paid | | | | | | | |
| Bushels | Cost | Bales | Cost | Bales | Cost | Weight | Cost | Bu. Cost | Bales | Cost | Cattle | Calves | Hogs | Sheep | Cattle | Calves |

(MIXED CARLOADS, CONTINUED)

| Local Expense Continued) | | Losses Paid (Cont'd.) | | Corn | Hay | Straw | Sand | Ice | Rope | | | | | |
|--------------------------|-------|-----------------------|-------|------|-------|-------|----------|------|--------|------|--------|--------|------|-------|
| Hogs | Sheep | Bu. Cost | Bales | Cost | Bales | Cost | Quantity | Cost | Weight | Cost | Cattle | Calves | Hogs | Sheep |

(MIXED CARLOADS, CONTINUED)

| Local Expense Continued) | | Lumber | Misc-Hardware | Stationery | Miscellaneous | Annual | Charges |
|--------------------------|--|--------|---------------|------------|---------------|--------|---------|
|--------------------------|--|--------|---------------|------------|---------------|--------|---------|

This problem is taken up in Chapter VIII.

Annual Report: From the records kept under the two methods given on page _____ a business statement or annual report is compiled. In general, the annual reports show the following things:

Statistics of Shipments:

Number of carloads shipped--cars of cattle, hogs, sheep, and mixed.
Number of each class of stock--cattle, calves, hogs, and sheep.
Home weight of each class of stock--cattle, calves, hogs, sheep.
Average shrinkage per hundredweight of each class.

Receipts:

For cattle and calves (gross at local).
For hogs.
For sheep.
From sinking fund.

Disbursements:

Paid patrons.
Paid managers (May be detailed).
Home expense (

Sinking Fund:-

From general account (Amount paid out of fund)
Claims collected.
Membership fees.
Cash on hand.
Supplies and feed on hand.
Paid to general account for losses.
Director fees (Detailed if possible).
Miscellaneous expenses (Detailed if possible).
Total balance.

The form of the annual report is influenced by the records kept.

Annual reports tend to be too condensed rather than too detailed.

As noted, the record sheets given, make no provisions for balance sheet information. The balance sheet shows the condition of the business at any one time. Associations having capital stock, undivided patronage dividends, notes and accounts payable and receivable, taxes and interest, equipment, supplies, cash, reserves, and similar items should prepare a balance sheet in addition to the material usually presented in the annual report. The following

statement outlines a balance sheet for a shipping association.

BALANCE SHEET

| <u>Assets</u> | | <u>Liabilities</u> | |
|----------------------------|-------|---------------------|-------|
| Bank balance | _____ | Notes payable | _____ |
| Inventory | | Accounts payable | _____ |
| Corn | _____ | Accrued liabilities | _____ |
| Hay | _____ | Insurance reserve | _____ |
| Bedding | _____ | Capital stock | _____ |
| Accrued assets | _____ | Surplus | _____ |
| Buildings and equipment | _____ | | |
| Total assets | _____ | Total liabilities | _____ |

To obtain this balance sheet information, the Cash Journal given in Form 7 has been devised primarily by Frank Robotha. The Cash Journal provides a method of accurately accounting for the distribution of all association funds. Special columns are provided for such accounts as are desired. At the end of any given period, the totals of these columns can be posted to a ledger, or the balance can be obtained without the use of ledger accounts. These balances are then used in making up the balance sheet.

Auditing: The books of the association should be audited or checked at least once every year, and in the larger associations, preferably at least four times a year. Directors should keep in touch with the progress of the business, and before any report of the manager is accepted, should be certain that no errors have been introduced in the association records.

A few associations have a certified public accountant make the audit, but the great majority of associations have a committee do it. In this case, care should be exercised in the selection of the committee.

Combination with other businesses: At some points, the shipping of livestock is handled in connection with another cooperative enterprise. In such cases the livestock shipping is the sideline rather than the main enterprise. The most frequent combinations are with elevators, creameries, or cooperative stores. In such cases the elevator creamery or store is incorporated as a cooperative company and livestock is handled as a sideline on a straight commission basis, that is, the livestock is handled by the company just as it is by association managers. The livestock manager is hired by the company and is directly under the control of the manager of the company.

Such combinations of livestock shipping with other cooperative enterprises seem to work out well, particularly when the livestock shipping is not of sufficient volume to require one man's entire time. The livestock man can then divide his time between the shipping duties and the other cooperative work.

Such combinations of livestock shipping and other cooperative business also permit a division of certain overhead expenses, thus resulting in advantage to both enterprises. In such combinations, the accounting system should be such that expenses can be allocated to the various enterprises, so that the commission charged for livestock shipping may be a fair charge.

Federations: The Minnesota Central Cooperative Livestock Shipping Association is an association of cooperative livestock shipping associations for the purpose of "uniting the selling power of the constituent organizations wherever it can be done with mutual benefit to all concerned; aiding in establishing a uniform system of accounts for the local cooperative societies; serving as a clearing house of information to the local cooperative societies in its membership; and using its influence in promoting the cooperative shipping of livestock in general."

Membership in the Central Cooperative Livestock Shipping Association is open to any "local cooperative society engaged in the shipping of livestock

which shall have paid the apportionment of the expenses of the association charged to it, and whose president and secretary shall have signed the articles of incorporation".

The Association is organized without capital and its object is not to make profits and pay dividends. The incidental expenses are to be defrayed by a \$5.00 membership fee and the remaining deficit is to be made up by apportionment among the member associations according to their annual business.

Some of the legislative measure with which this association has been identified are as follows:

The hog trough bill requiring installation of feeding troughs in the stock yards.

Laws relative to a change in basis for charges in case of mixed carloads of stock. Chapter 301, General Laws of Minnesota for 1919 states, that, "Every such company shall furnish, at proper points designated by it, suitable cars for the transportations of livestock of all kinds, and shall transport the same at a rate not to exceed the highest rate and minimum weight charged by such company for any kind of stock in such car, except that the cattle rate and minimum weight will apply when by the use of some lower charger results, and the cattle rate will apply when the actual weight exceeds the cattle minimum."

The placing of the stockyards under the control of the Railroad and Warehouse Commission.

The passing of a twenty-mile five-hour limit bill providing that all livestock arriving at a terminal, billed to a stockyard within twenty miles, shall be delivered within five hours after the time of arrival at the terminal⁵.

In addition to the legislative measures with which it has been identified, the Central Association has adopted a record book which it recommends for associations,⁶ has fostered the Central Cooperative Commission

⁵ Chapter 322. General Laws of 1919)

⁶ See sample page given in Form 4.

Association at South St. Paul, and has held numerous meetings in the interest of cooperative livestock marketing.

The Central Association is apparently serving a good purpose. Through it the shipping associations are able to talk with force, and matters of interest to the associations in general can be brought before the proper parties.

Organization for Central Marketing: This topic will be only very briefly discussed, since the purpose of this thesis is to present the marketing of livestock by local cooperative associations. At meetings of the American Farm Bureau Federation held at Chicago in 1920, two committees were appointed, one to outline a national cooperative grain marketing system, and a second to outline a national system of marketing livestock. While the livestock committee has as yet made no comprehensive report, it is thought that part of its plan will include the installation of cooperative selling agencies at the principal markets.

In Minnesota, a law was passed in 1921⁵ making null and void any livestock exchange regulations prohibiting members of such exchanges from dealing with non-members. The South St. Paul Live Stock Exchange was effected by this law, this Exchange having a rule prohibiting members from dealing with commission firms not members. The disadvantage of not being able to deal with exchange members is likely to be particularly important in the matter of feeder stock.

The usual form of cooperative selling agency is a corporation, owned and controlled by cooperative shipping associations, which operate on a cooperative basis. In the market, the cooperative agency operates as any other commission firms, handling livestock on a commission basis and selling it wherever it can to the best advantage. At South St. Paul, the Central Cooperative Commission Association and the Equity Cooperative Exchange are such cooperative selling agencies. The organization of these cooperative agencies is given on page ___.

⁵ Chapter 344, S. F. No. 291—Passed April 16, 1921.

National Organization: Cooperative shipping associations have certain problems which are of vital interest to all associations. To obtain organized action on such questions, a national organization of cooperative shipping associations is desirable. Two types of national organization are possible, one like the Minnesota Central Cooperative Shipping Association, and one on the order of the California Fruit Growers Exchange.

If organized along the lines of the Minnesota Association, the national organization would confine itself to national legislation and general education and promotion work. If organized on the order of the California Exchange, the organization would directly engage in shipping work.

Under the second plan of organization, the National Association might engage in the cooperative commission business at many terminal markets, perhaps operating a national cooperative commission firm. However, such work would seem to be better carried out by market district or state organizations, the district perhaps constituting the best working unit. Such a plan would conform to the method followed in Minnesota. The National organization might better be figured for such matters as national legislations and reformation leaving the actual marketing plans to be worked out by the associations in various marketing areas.

Chapter VIII

PRORATING OR THE DISTRIBUTION OF RETURNS.

The problems connected with the distribution of the returns from a shipment of livestock among several owners center around several heads as follows: (a) the distribution of expenses; (b) the distribution of shrinkage; (c) the distribution of losses in transit; and (d), the adjustment of the price to the different grades of livestock.

Expense Prorating Methods

The original method of prorating was to let each shipment bear its own expense. As the associations grew, however, this system failed always to give satisfaction, and five new types of systems have been developed. Minor differences even exist within each of these five types. The five types with their general characteristics are as follows:

1. The detailed-cost single-shipment method.--Under this method each shipment bears its own expense and each expense item is distributed independently.
2. The single-shipment pool.--All expenses are pooled or added together and then distributed on a per hundredweight basis, the same for all animals in the shipment regardless of species.
3. The "general flat-rate" method.--A set charge per hundredweight is levied on all animals alike throughout the year or indefinitely, regardless of species, this charge covering all the expenses of marketing. This really is a long-period expense pool.
4. The "flat-rate by species" method.--like number 3, except that

cattle, calves, hogs, and sheep each have a special rate.

5. The combination method, under which a flat-rate per hundredweight per species for certain expenses is combined with a per head charge for other expenses.

Bases for Distributing Expenses.

Before we can analyze the merits of each of these prorating methods, we must decide what is the proper basis for allocating the various expenses. The ultimate purpose of all prorating is to charge each shipper exactly his share of the expenses, shrinkage, and losses, and to allow him the exact market price for his grades of livestock. Distribution between different shippers is therefore the aim. But since different shippers ship different species and different classes of livestock, the problem resolves itself largely into distribution between species and market classes.

Local Expenses

Manager's commission: Minnesota associations use four bases for paying managers; a per hundredweight basis, a per carload basis, a per month basis, and a per day basis. We must decide what basis to use in distributing manager's remuneration and also whether it should be prorated on a per shipment basis or whether it should be pooled over a period of time. These questions can be best discussed in connection with the various methods of paying the manager. For prorating, we need not be concerned with the merits of the various methods of paying managers, rather assuming that the basis used for paying managers is satisfactory and just.

If the association manager is paid on a per hundredweight basis, then the charge per hundredweight of animals shipped would be the same whether this item were prorated for each shipment separately or whether it were pooled over a long period of time. If, however, this item were to be prorated per head or on a percentage of receipts basis, then the question of prorating this expense for each

shipment separately or pooling it over a given period of time becomes important.

In deciding whether manager's commission should be prorated as a per hundredweight, a per head, or as a percentage charge, we must decide which is most closely correlated with the managerial effort. It seems that managerial effort is largely in proportion to shipments or carloads. In distributing a per carload charge, either number of animals or weight of animals gives satisfactory results. Because most per carload expenses are best distributed as a hundredweight basis and because managers are usually paid on a per hundredweight basis, it would seem that the balance is somewhat in favor of the hundredweight method as a basis for distributing manager's pay. It is recognized, however, that the hundredweight basis has little advantage over the per head basis. Having decided that the hundredweight basis is the best for prorating manager's commission, it makes no difference whether this expense is pooled over a period or prorated for each shipment separately in associations paying the manager on a hundredweight basis.

In associations paying the manager on a carload basis, however, a method of prorating which distributed the per-car charges to the animals on a hundredweight basis would result in varying rates according to the variation in carload weights. Pooling the manager's expense over a period would be more equitable since no shipper is thus penalized for shipping in a light shipment.

In associations paying the manager on a day or month basis, the expense should be prorated over a period using a uniform rate as with the carload basis.

Feed: In most associations, feed is ~~only~~ ^{only} used at the local yards when the livestock is held over, due to unforeseen events. When such is the case, the expense should be pooled over a season. If every car is fed before being loaded or is fed enroute, this expense should be prorated for each shipment

or carload separately, since shrinkage is ordinarily not pooled over a period, and feed and shrinkage are closely associated.

Feed charges must be charged by species, since it is only just that corn expense be prorated to hogs, and hay charges to sheep and cattle.

The hundredweight basis is better than either the head or percentage basis for distributing feed expenses. While animals do not consume feed in direct proportion to their weight, yet there is obviously a closer correlation here than between number and amount of feed or selling price and amount of feed.

Bedding and Sand: These expenses should be pooled over a season for each species since these are per car expenses and a variation in the size of the carload would cause a variation in the rate of individual carloads. In mixed carloads, bedding and sand expense should be divided between the species according to the space occupied. ~~The species charge should be the space occupied.~~ The species charge should be allocated to the individual animals on a hundredweight basis, since the number of animals in a given space depends upon the weight of the animals.

Ice: Ice should be charged to hogs only. When it is necessary to use ice, presumably the shrinkage is directly lowered. Therefore ice should be charged directly to each shipment or carload. As before, a hundredweight basis is the best basis for distributing this expense.

Lumber and Rope: Of these two items, lumber is the most expensive. Lumber is mostly used in mixed cars. However, shippers delivering livestock on shipping days when mixed carloads must be shipped should not be required to pay for this expense, but rather it should be pooled over a period. The incidence of this cost will vary with associations. In some localities, sheep are responsible for
Either
a large number of mixed shipments. Cattle or hogs may either be more largely responsible according to locality. Each manager can judge as to this himself

and act accordingly. However, the expense is a small one and probably the incidence of the expense is roughly in proportion to the number of the various species shipped. Prorating this expense on either a per head or per hundredweight basis therefore would not introduce serious error. For convenience, the per hundredweight basis of distributing this expense will be used in this thesis.

Miscellaneous Expenses: Miscellaneous expenses, as stationary, office expense, and directors' fees are mostly incurred only at intervals and therefore expense should be pooled over a period. None of the three usual bases for prorating expenses makes a really good division of these expenses, but inasmuch as many of these expenses are really per carload charges, a per hundredweight basis will be used in this thesis.

Transportation Expenses.

Freight: Because of the underloading of many cars and the minimum weight systems, freight should be pooled over a period. Since different species have different freight rates, the freight charge should be pooled by species. As freight is levied on a per hundredweight basis, it should be prorated on this basis. When mixed carloads are shipped, the shippers participating should not be expected to carry all of the extra expense. The pool rate for each species should be high enough to cover the extra expense on mixed shipments.

Switching: Switching is charged per carload. Because of the variation in weight of carloads, this expense should be pooled over a period and prorated on a hundredweight basis, all species alike, since space occupied in the car is nearly proportional to weight.

Tax: The transportation tax should be included with the expenses on which it is levied.

Central Market Expense.

Commission: Commission charges at South St. Paul are set by the South St. Paul

Live Stock Exchange as follows:

Section 1. The commission for selling live stock on the South St. Paul market shall be governed by a charge of .01% on gross proceeds on carload shipments with a minimum and maximum commission. No sales shall be made for less than 50 cents.

Section 2. CATTLE (cattle and calves one species) in cars not over 36 feet in length:

| | |
|------------------------------|------------------|
| Minimum | Maximum |
| \$14.00 per car. | \$20.00 per car. |
| Cars over 36 feet in length: | Maximum |
| | \$24.00 per car. |

Section 3. HOGS in cars not over 36 feet in length:

| | |
|---------------------------------|-----------------|
| Minimum | Maximum |
| Single decks \$12.00 per car | \$14.00 per car |
| Double decks \$15.00 per car | \$18.00 per car |
| In cars over 36 feet in length: | Maximum |
| | \$16.00 per car |

Provided that hogs originating in double deck cars, but for any reason arriving in single deck cars, when double deck freight rates are applied, shall be sold at the double deck rate of commission.

Section 4. SHEEP in cars not over 36 feet in length:

| | |
|---------------------------------|------------------|
| Minimum | Maximum |
| \$14.00 per car. | \$20.00 per car. |
| In cars over 36 feet in length: | Maximum |
| | \$24.00 per car. |

Section 5. MIXED CARLOADS. Mixed carload is one containing more than one species of live stock (cattle and calves one species).

Cars not over 36 feet in length:

| | |
|---------------------------------|------------------|
| Minimum | Maximum |
| \$14.00 per car. | \$20.00 per car. |
| In cars over 36 feet in length: | Maximum |
| | \$24.00 per car. |

Paragraph A.--Less than carloads and driven in:
Cattle \$1.00 per head less than 15 head.
Calves \$.50 per head less than 28 head.
Hogs \$.50 per head less than 24 head.

Sheep, Goats, \$.25 per head less than 40 head.

Paragraph B. On carloads of live stock having more than one owner, the charge for pro-rating shall be \$2.00 per car in addition to the regular commission. Where a portion of a car is turned over for sale by the consignee to another member of the Exchange the commission shall be charged pro-rata at the rate charged on the balance of the car; the consignee shall notify the member receiving such turned-over stock the pro-rata rate to be charged."

The commission charges as set by the Minnesota Railroad and Warehouse Commission, effective July 18, 1921, are as follows: (Not quoted verbatim).

"Section 2. Cattle (cattle and calves one species) in cars not over 36 feet.

Cattle - - - - - 70 cents per head) Maximum per carload - \$18.
Calves - - - - - 30 cents per head)

For carloads over 36 feet the maximum shall be \$20.

Section 3. Hogs - 20 cents per head, - \$12. per carload maximum for 36 foot single deck car.
\$18. per carload maximum for 36 foot single deck car.
\$14. per carload maximum for single deck car over 36 feet in length.
\$20. per carload maximum for double deck car over 36 feet in length.

Providing that hogs originating in double decked cars, but for any reason arriving in single decked cars, whenever double-deck freight rates are applied, shall be sold at the double deck rate of commission.

" Section 4. Sheep in cars over 36 feet in length the maximum shall be \$14. for single-deck, and \$20. for double-deck cars.

" Section 5. Mixed carloads. (Cattle and calves one species).

Per head charges as under straight carloads, but the maximum for cars not over 36 feet shall be \$20. and for cars over 36 feet in length, \$22.

The charge in any case must not exceed the maximum charge for the hogs in the car, plus the per head charge for the other live stock in the car, according to prices fixed in Paragraph A.

Paragraph A.-Less than carloads and driven in:
Cattle 80 cents per head for less than 15 head.
Calves 35 cents per head for less than 28 head.
Hogs 30 " " " " " " 25 " .
Sheep 25 " " " " " " 30 " .

When central market commission charges are levied on a percentage basis, this same basis should be used in prorating the expenses to the shippers. Inasmuch as there is a maximum and minimum commission charge per carload, however, a per hundredweight basis for prorating commission is defensible.

When central market commissions charges are levied on a per head basis, this per head basis should be used in prorating the expenses to the shippers, the per hundredweight basis again being allowable.

Under either of the two methods of levying the commission charge, the maximum charge is higher for mixed ~~cars~~ than for straight cars, and with the percentage method, the minimum charge is higher. Also under the percentage system light can have a higher charge.

Fluctuations per animal in the prorated commission expenses are therefore encountered. It is desirable, therefore, that commission expenses be pooled by species over a period, thus making the charges uniform for the different species, regardless of whether this expense is prorated per head, per hundredweight, or on a percentage basis. Because prices are usually lower in the fall months, the pooling period under a percentage commission system should separate this season from the remainder of the year.

Yardage: Yardage is levied as a per head charge and should be prorated on this basis. It is presumed that the yardage charges for each species are proportional to space and cost. This charge is uniform regardless of the size of the shipment or the value. No advantage is gained by pooling this expense over a period.

Feed: See local feed.

Insurance: Insurance is levied at a set rate per carload regardless of size of carload or value of animals. This charge should be prorated on a hundredweight basis. Since the charge per hundredweight would vary with cars of differ-

ent weights, this item should be pooled over a period.

Weighing is levied as a per-head charge as is yardage and should be prorated in the same way--on a per-head basis.

Prorating: This charge is levied per carload regardless of sale value, number, or weight of animals. Since the weight of animals determines the number in the car, weight is the best base for distributing the prorating charge. Here again the expense should be pooled over a period rather than distributed for each carload separately.

Shrinkage: For all animals which are marked and weighed separately at both local and central markets, each bears its own shrinkage. When animals of several owners are weighed in one group at the central market, shrinkage is prorated as a percentage of home weights. The importance of factors influencing shrinkage has not been determined. Presumably, ordinary shrinkage is largely under the control of the producers in each shipment and should be borne by them. In unusual cases, of extraordinarily heavy shrinkage, shrinkage may be closely allied to losses and should be paid out of the loss insurance reserve.

Losses in transit: If the same analysis used for shrinkage were applicable to losses, they might be borne by producers. However, losses are generally due to unusual events (except where animals were sick when delivered to the local yards, in which case they should be accepted at the owner's risk) and shippers apparently prefer to protect themselves against unusual losses by the use of an insurance fund - really pooling losses over a long period. Losses vary for different species, and hence each species should have its own insurance fund rate.

Although associations usually place the insurance charge on a hundred-weight basis, a percentage of sales value basis is, of course, more accurate. If all animals are of a uniform grade, a per hundredweight basis would give the same result.

Although associations usually place the insurance charge on a hundred-weight basis, a percentage of sales value basis is, of course, more accurate. If all animals are of a uniform grade, a per hundredweight basis would give the same result.

Dockage: When animals are docked, dockage is taken directly from the selling weight of the docked animals. When ^{an} animal is docked, the ownership of which cannot be ascertained, such loss should be pooled over a period. Accurately, the charge to cover this expense should be levied on a percentage basis. Since the item is usually very small, no great wrong is done if this item is included in the loss basis, - a per hundredweight charge.

In the foregoing discussion, it has been pointed out that the expenses for manager commissions (if manager is paid per carload or per day or month), feed (if used only in case of unusual delay, etc.), bedding and sand, lumber and rope, miscellaneous local market expense, freight, switching, central market commission, insurance (at stock yards), prorating, losses, and dockage (when ownership is not certain) should be pooled over a period. For most of these expenses the fiscal year can be conveniently taken as the pool period. Certain expenses, as feed, bedding and sand, and losses, probably are somewhat heavier in winter than in summer. Accurately, then, the pool period should be by seasons of the year for these expenses. This point is perhaps not of great importance, however, little injustice being done if these expenses are pooled over the year since most members ship both winter and summer.

The Detailed-Cost Single-Shipment Method

This system in its simplest form assumes that all expenses should be figured on the basis of a single shipment at a time. It then attempts to distribute each kind of expense according to the way in which it is charged or affects the cost of marketing. Almost always, of course, some of the expenses

that are difficult to handle on a single car basis, such as losses in shipment, are paid out of a sinking fund which is collected for that purpose. This method is most used by associations just starting.

Following is prorated by this method a carlot of cattle including 15 calves. Each item of expense is here first prorated separately, although in practice, as indicated later, those which are prorated on the same basis are grouped. Accompanying is the "account sales" for the car. (Form 6).

In prorating, the first step under any method is to get the shrinkage and net weights. Since the cattle were weighed separately according to brands, the net weights are given. For the calves, shrinkage must be prorated on the basis of home weights. The home weights of the lot of 12 calves was 1507 pounds, and the selling weight 1440 pounds, the shrinkage being 67 pounds, or 4.65 per cent. In applying this percentage to each of the weights, the shrinkage is taken as the nearest pound which will give the correct total shrinkage. The net weight thus obtained is multiplied by the price to get the sale price for each calf.

The next step is to prorate the 13 items of expense listed on the account sale. The basis upon which these items are distributed represents the prevailing practice.

Most associations use central market weights for distributing home expenses, so as to have the same weights used as a basis in all the distributing. A good many associations, however, use home weights as a basis for distributing home expenses. Whether home weights or central market weights are used makes little difference in the results. Central market weights are used in the following:

Freight: \$33.00 plus tax of 3 per cent - \$33.90

Per hundredweight (total hundredweight) - 224.4), using central
market weights, 15.1¢ $\frac{(\$33.90)}{224.4}$

Form 8
ACCOUNT SALES

SOUTH ST. PAUL, Minn. 19

SOLD FOR ACCOUNT OF A Shipping Association.

| Buyer | Cattle | Hogs | Sheep | Weight | Deductions Stags Sows Lbs. | Price | Amount | Total |
|-------|---------------|------|-------|-------------|-------------------------------|-------------|---------------|----------------|
| | 1d VII | | | 980 | | 5.35 | 52.43 | |
| | 1c IX | | | 970 | | 5.35 | 51.89 | |
| | 1c XI | | | 570 | | 5.35 | 29.92 | |
| | 3ct XI | | | 1450 | | 5.50 | 79.75 | |
| | 1c XII | | | 920 | | 6.00 | 55.20 | |
| | 1b XIII | | | 770 | | 5.35 | 41.19 | |
| | 1c XIV | | | 940 | | 6.00 | 56.40 | |
| | 2c XI | | | 2000 | | | 145.00 | |
| | 1c IV | | | 800 | | 5.35 | 42.80 | |
| | 1c V | | | 970 | | 5.35 | 87.00 | |
| | 1c X | | | 960 | | 5.35 | 51.36 | |
| | 3cf I | | | 270 | | 13.50 | 36.45 | |
| | 6c II | | | 5600 | | 5.35 | 299.60 | |
| | 12cf | | | 1440 | | 14.00 | 201.60 | |
| | <u>4ctIII</u> | | | <u>3800</u> | | <u>6.00</u> | <u>228.00</u> | <u>1458.59</u> |
| | 39 | | | 22440 | | | | |

| Car No's. | R.R. | Wt. | Rate | (Frt. Including Switching Chge) | |
|-----------|-------|------|-------|-----------------------------------|-------|
| | | | | | 38.11 |
| | | | | (Yardage- - - - -) | 10.20 |
| 10643 | 22000 | 15 | 33.00 | (Hay 3 Bales- - - - -) | 4.20 |
| | | Swg. | 4.00 | (Corn - - -Bus - - - - -) | |
| | | Tax | 1.11 | (Bedding - Bales - - - - -) | |
| | | | 38.11 | (State Weighing Charge - - - - -) | .78 |
| | | | | (Inspection on Hogs - - - - -) | |
| | | | | (Fire Ins. 20¢ per Car - - - - -) | .20 |
| | | | | (Commission 2 - - - - -) | 14.59 |
| | | | | | 68.08 |

NET PROCEEDS \$1390.51

Home expenses:

| | |
|-------------------|--------|
| Straw----- | \$1.50 |
| Hay----- | 1.50 |
| Misc.----- | .50 |
| Sinking Fund----- | 4.49 |
| Mg'r. Com. 2----- | 20.20 |

Switching: \$4.00 per car plus 3 per cent tax = \$4.12..

Per hundredweight, (1.84¢ ($\frac{\$4.12}{224.4}$))

Yardage: \$10.20. Per head, 30¢ for cattle, 20¢ for calves.

Hay (central) \$4.20. Per hundredweight of cattle (calves not included),
2.03¢ ($\frac{\$4.20}{224.4} = 17.1$)

Weighing charge: \$.78. Per head, 2¢ for both cattle and calves.

Commission: \$14.59. One per cent of gross selling amount (\$1458.59).

Fire insurance in yards: 20¢ per car. Per hundredweight, .00089¢ ($\frac{\$20}{224.4}$)

Manager's commission: In this case, 9¢ per hundredweight was the rate.

Hay: (local) \$1.50. Distributed as is the central market charge.

($\frac{\$1.50}{224.4} = 17.7$) = 0.724¢ per hundredweight).

Straw: \$1.50. Per hundredweight, 0.668¢ ($\frac{\$1.50}{224.4}$).

Miscellaneous expense: \$.50. Per hundredweight, .233¢ ($\frac{\$.50}{224.4}$)

Sinking fund: 2¢ per hundredweight.

By applying these various rates per hundredweight, per head, and per centum separately to each lot of livestock in the shipment, and adding the result, the expenses chargeable to each shipper are obtained.

Obviously, however, much time can be saved by adding the various expenses chargeable by the hundredweight and getting a combined rate, and doing the same for the expense chargeable per head and per centum. The expenses chargeable by the hundredweights (freight, switching, transportation, tax, fire insurance straw, and miscellaneous local expense) total \$40.31, or \$.1796 per hundredweight for calves. To this must be added \$.11 per hundred for manager's commission and sinking fund, making a total of \$.2896 per hundredweight for calves. To this must be added \$.0274 per hundredweight for hay to get the rate of \$.3170 per hundredweight for cattle.

The expenses chargeable per head (yardage and weighing) are \$.52 for cattle and \$.22 for calves.

The commission charge is the only per centum charge.

Following is a "work sheet" (form 9) showing charges prorated on this basis.

Form 9
Work Sheet: Cattle Shipment Prorated by Detail-Cost
Single-Shipment Method

| Weight | Selling Amount | No. Head. | Per cwt. Calves-Cattle | (Per Head) | (Percentage) 1% of gross selling amount. | Total Expense. | Net Amount Paid Shippers. |
|--------|----------------|-----------|------------------------|------------|--|----------------|---------------------------|
| 5600 | \$299.60 | 6 | \$17.76 | \$1.92 | \$2.99 | \$22.67 | \$276.93 |
| 2800 | 228.00 | 4 | 12.05 | 1.28 | 2.28 | 15.61 | 212.39 |
| 800 | 42.80 | 1 | 2.54 | .32 | .43 | 3.29 | 39.51 |
| 970 | 87.00 | 1 | 3.08 | ..32 | .87 | 4.27 | 82.73 |
| 2000 | 145.00 | 2 | 6.34 | .64 | 1.45 | 8.43 | 136.57 |
| 980 | 52.43 | 1 | 3.11 | .32 | .52 | 3.95 | 48.48 |
| 970 | 51.89 | 1 | 3.08 | .32 | .52 | 3.92 | 47.97 |
| 960 | 51.36 | 1 | 3.04 | .32 | .51 | 3.87 | 47.49 |
| 570 | 29.92 | 1 | 1.81 | .32 | .30 | 2.43 | 27.49 |
| 1450 | 79.75 | 3 | 4.60 | .96 | .79 | 6.35 | 73.40 |
| 920 | 55.20 | 1 | 2.92 | .32 | .55 | 3.79 | 51.41 |
| 770 | 41.19 | 1 | 2.44 | .32 | .41 | 3.17 | 38.02 |
| 940 | 56.40 | 1 | 2.98 | .32 | .56 | 3.86 | 52.54 |
| 270cf. | 36.45 | 3 | .78 | .66 | .36 | 1.80 | 34.65 |
| 266cf. | 37.24 | 2 | .77 | .44 | .40 | 1.61 | 35.63 |
| 341cf. | 47.74 | 3 | .99 | .66 | .48 | 2.13 | 45.61 |
| 237cf. | 33.18 | 2 | .68 | .44 | .33 | 1.45 | 31.73 |
| 475cf. | 66.50 | 4 | 1.38 | .88 | .67 | 2.93 | 63.57 |
| 121cf. | 16.94 | 1 | ..35 | .22 | .17 | .74 | 16.20 |
| 22440 | 1458.59 | 39 | 70.70 | 10.98 | 14.57 | 96.27 | 1368.32 TOTAL |

Form 10.

PRORATE SHEET

| Owner | C | H | S | Brand | Home Weight | Shrinkage | Net Weight | Dock. | Price | Amount | Expense, etc. | Net. |
|--------|----|---|----|-------|-------------|-----------|------------|-------|---------|---------|---------------|---------|
| Farmer | A | 3 | cf | I | 277 | 7 | 270 | | \$13.50 | \$36.45 | \$1.80 | \$34.65 |
| " | B | 6 | c | II | 5750 | 150 | 5600 | | 5.35 | 299.60 | 22.67 | 276.93 |
| " | C | 4 | st | III | 3920 | 120 | 3800 | | 6.00 | 228.00 | 15.61 | 212.39 |
| " | D | 1 | c | IV | 825 | 25 | 800 | | 5.35 | 42.80 | 3.29 | 39.51 |
| " | E | 1 | c | V | 1000 | 30 | 970 | | 5.35 | 87.00 | 4.27 | 82.73 |
| " | F | 2 | c | VI | 1900 | est. | 2000 | | for | 145.00 | 8.43 | 136.57 |
| " | G | 1 | c | VII | 1010 | 30 | 980 | | 5.35 | 52.43 | 3.95 | 48.48 |
| " | H | 1 | c | IX | 995 | 25 | 970 | | 5.35 | 51.89 | 3.92 | 47.97 |
| " | I | 1 | c | X | 985 | 25 | 960 | | 5.35 | 51.36 | 3.89 | 47.49 |
| " | J | 1 | c | XI | 582 | 12 | 570 | | 5.35 | 29.92 | 2.43 | 27.49 |
| " | J | 3 | st | XI | 1527 | 77 | 1450 | | 5.50 | 79.75 | 6.35 | 73.40 |
| " | K | 1 | c | XII | 943 | 23 | 920 | | 6.00 | 55.20 | 3.79 | 51.41 |
| " | L | 1 | h | XIII | 798 | 28 | 770 | | 5.35 | 41.19 | 3.17 | 38.02 |
| " | M | 1 | c | XIV | 987 | 47 | 940 | | 6.00 | 56.40 | 3.86 | 52.54 |
| " | B | 2 | cf | II | 278 | 12 | 266 | | 14.00 | 37.24 | 1.61 | 35.63 |
| " | C | 3 | cf | III | 357 | 16 | 341 | | 14.00 | 47.74 | 2.13 | 45.61 |
| " | F | 2 | cf | VI | 248 | 11 | 237 | | 14.00 | 33.18 | 1.45 | 31.73 |
| " | G | 4 | cf | VII | 498 | 23 | 475 | | 14.00 | 66.50 | 2.93 | 63.57 |
| " | H | 1 | cf | IX | 126 | 5 | 121 | | 14.00 | 16.94 | .74 | 16.20 |
| | 39 | | | | 23006 | 566 | 22440 | | | 1458.59 | 96.27 | 1362.32 |

From this working sheet, the manager now makes out a prorate sheet, (Form 10), and then an account sales for each shipper, which shows the receipts, expense, and net balance for his livestock. Form 11 shows a sample account sale made out to one of the shippers.

FORM 11
STATEMENT

_____ 19 _____

Farmer B. _____

IN ACCOUNT WITH

X Shipping Association _____

_____ Manager.

| Animals | Brand | No. | Home Wgt. | Shrink. | Net | Price | \$ | Cts. |
|---|-------|-----|-----------|---------|-----|-------|------------------------|----------|
| Hogs | | | | | | | | |
| Hogs | | | | | | | | |
| Cows | | 11 | 6 | 5750 | 150 | 5600 | 5.35 | 299 60 |
| Cows | | | | | | | | |
| Heifers | | | | | | | | |
| Steers | | | | | | | | |
| Steers | | | | | | | | |
| Bulls | | | | | | | | |
| Veals | | 11 | 2 | 278 | 12 | 266 | 14.00 | 37 24 |
| Sheep | | | | | | | | |
| | | | | | | | Total----- | \$326.94 |
| | | | | | | | Total Expense----- | 24.28 |
| | | | | | | | TOTAL NET BALANCE----- | 302.66 |
| Total Expenses Include Freight, Yardage, Commission, Feed, Sinking Fund and Manager's Commission. | | | | | | | | |

Following are the account sales (Form 12), work sheet (Form 13) and prorate sheet (Form 13) of a car of hogs. The difference between the handling of this car and the car of cattle is that no brands are used. The manager, when receiving the stock at local, made certain notations on the scale slips so that he would be able to identify animals of different owners. Where the hogs are all of one grade, no distinctions need be made, but when there are animals of several grades, the manager must make such notation as will enable him to identify the various animals and associate certain animals with various prices.

Yardage on hogs is 10¢ per head and weighing charge is 1½¢ per head.
FORM 12

ACCOUNT SALES, CAR OF HOGS.

| Buyer | Hogs | Weight | Dock. | Price | Amount | Total |
|---------|----------|------------|-------|-------|--------------|---------|
| Swift | 70 | 16430 | | 14.00 | 2300.20 | |
| Central | <u>1</u> | <u>300</u> | 70 | 9.00 | <u>20.70</u> | 2320.90 |
| | 71 | 16730 | | | | |

| Car No. | Weight | Rate | Charge | | |
|---------|-----------|------|--------------|-------------------------|--------------|
| | | | | Freight----- | 32.14 |
| | 17000 | 16 | 27.20 | Yardage----- | 7.10 |
| | Switching | | 4.00 | Weighing--1½¢----- | 1.07 |
| | Tax | | .94 | Corn - 7 bu - 2.00----- | 14.00 |
| | | | <u>32.14</u> | Bedding - 1 bale----- | .90 |
| | | | | Fire insurance----- | .20 |
| | | | | Commission----- | 14.00 |
| | | | | | <u>69.41</u> |
| | | | | | 2251.49 |

Home Expenses

| | |
|-------------------------------------|-------|
| Manager's Commission - 9¢ cwt.----- | 15.06 |
| Sinking Fund - 3¢ ----- | 5.02 |
| Straw----- | 1.50 |
| Miscellaneous----- | .50 |

\$22.08
69.41 TOTAL \$91.49

The expenses chargeable on the hundredweight basis amount to \$.414 per hundredweight ($\frac{\$69.32}{167.3}$)
 The per head charges are \$.115 per head.

FORM 13

WORK SHEET, STRAIGHT CAR OF HOGS (By Detail-Cost Single-Shipment Method).

| Weight | Selling Amount | No. of Head | Per Cwt. (\$.414) | Per head (\$.115) | Percentage (.603%) | Total Expense. | Net Amount Paid Shippers. |
|--------|----------------|-------------|----------------------|----------------------|-----------------------|----------------|---------------------------|
| 300 | 20.70 | 1 | \$ 1.24 | \$.11 | \$.13 | \$ 1.48 | \$ 19.22 |
| 3525 | 493.50 | 15 | 14.61 | 1.73 | 2.98 | 19.32 | 474.18 |
| 2680 | 403.20 | 12 | 11.93 | 1.36 | 2.43 | 15.74 | 387.46 |
| 2500 | 350.00 | 10 | 10.36 | 1.15 | 2.11 | 13.62 | 336.38 |
| 1800 | 252.00 | 8 | 7.46 | .92 | 1.52 | 9.90 | 242.10 |
| 2025 | 283.50 | 9 | 8.39 | 1.04 | 1.71 | 11.14 | 272.36 |
| 1610 | 225.40 | 7 | 6.67 | .81 | 1.36 | 8.84 | 216.56 |
| 928 | 129.92 | 4 | 3.84 | .46 | .78 | 5.08 | 124.84 |
| 1162 | 162.68 | 5 | 4.82 | .57 | .98 | 6.37 | 156.31 |
| *** | | | | | | | |
| 16730 | 2320.90 | 71 | 69.32 | 8.17 | 14.00 | 91.49 | 2229.41 |

#135-

FORM 14

PRORATE SHEET, STRAIGHT CAR OF HOGS (By Detailed-Cost Single-Shipment Method).

| No. | Kind | Pr. Weight | Shrink. | Net Weight | Dock. | Price | Amount | Expense | Net |
|-----|------|------------|---------|------------|-------|---------|----------|---------|----------|
| 1 | Boar | 320 | 20 | 300 | 70 | \$ 9.00 | \$ 20.70 | \$ 1.48 | \$ 19.22 |
| 15 | h | 3596 | 71 | 3525 | | 14.00 | 493.50 | 19.32 | 474.18 |
| 12 | h | 2937 | 57 | 2880 | | 14.00 | 403.20 | 15.74 | 387.46 |
| 10 | h | 2550 | 50 | 2500 | | 14.00 | 350.00 | 13.62 | 336.38 |
| 8 | h | 1836 | 36 | 1800 | | 14.00 | 252.00 | 9.90 | 242.10 |
| 9 | h | 2066 | 41 | 2025 | | 14.00 | 283.50 | 11.14 | 272.36 |
| 7 | h | 1642 | 32 | 1610 | | 14.00 | 225.40 | 8.84 | 216.56 |
| 4 | h | 947 | 19 | 928 | | 14.00 | 129.92 | 5.08 | 124.84 |
| 5 | h | 1185 | 23 | 1162 | | 14.00 | 162.68 | 6.37 | 156.31 |
| 71 | | 17079 | 349 | 16730 | | | 2320.90 | 91.49 | 2229.41 |

Forms 15, 16, and 17 show the account sales, work sheet, and prorate sheet for a mixed car containing cattle, calves, hogs, and sheep. As appears from the following calculations, five separate rates need to be computed. Freight is also distributed by a slightly different system, one which preserves the usual per hundredweight difference between the charges on different species. The total freight charge (\$37.39) is distributed between the three species as \$10.89 for the cattle, \$22.49 for the hogs, and \$4.02 for the sheep, and from these is computed a special per hundredweight charge for each species.

The Single-Shipment Pool

It is evident that prorating according to the detailed-cost single-shipment method involves an excessive amount of work. Mainly because of this fact, a record system has been developed, under which all expenses of one shipment are pooled or thrown together and then distributed on a per hundredweight basis over all species of alike. Under the detailed-cost method of prorating, only three

FORM 15

Account Sales, Mixed Car

| Buyer | Cattle | Brand | Sheep | Hogs | Weight | Dockage | Price | Amount | Total |
|-------|--------|-------|-------|------|--------|---------|-------|---------|---------|
| | 1 cf | VI | | | 110 | | 13.50 | 14.85 | |
| | 3 cf | VI | | | 390 | | 17.50 | 68.25 | |
| | 1 cf | I | | | 340 | | 5.75 | 19.55 | |
| | 1 c | V | | | 830 | | 5.50 | 45.65 | |
| | 1 c | I | | | 1300 | | 7.00 | 91.00 | |
| | 1 c | III | | est. | 1000 | | for | 125.00 | |
| | 1 st | II | | | 790 | | 6.00 | 47.40 | |
| | | | | 31 | 9220 | | 14.40 | 1327.68 | |
| | | I | 4 | | 400 | | 14.00 | 56.00 | |
| | | II | 3 | | 320 | | 14.00 | 44.80 | |
| | | III | 5 | | 600 | | 13.50 | 81.00 | |
| | | II | 2 | | 280 | | 10.00 | 28.00 | |
| 9 | | | 14 | 31 | 15580 | | | | 1949.18 |

| Car No. | Weight | Rate | Charge | Freight | Yardage | Hay | Corn | Straw | Fire Insurance | Weighing | Commission | NET PROCEEDS. |
|---------|-----------|-------|--------|---------|---------|-----|------|-------|----------------|----------|------------|---------------|
| 22000 | 16½ | 36.30 | 41.51 | 41.51 | 6.42 | .70 | 4.00 | | .20 | .79 | 19.49 | 73.11 |
| | Switching | | 4.00 | | | | | | | | | |
| | Tax | | 1.21 | | | | | | | | | |
| | | | 41.51 | | | | | | | | | |
| | | | | | | | | | | | | 1876.07 |

Local Expenses:

| | |
|-------------------------|-------|
| Manager's Commission | 14.02 |
| Sinking Fund | |
| 2¢ on cattle and calves | .95 |
| 3¢ on hogs and sheep | 3.25 |
| Partition | 1.50 |
| Corn | 2.50 |
| Straw | 1.50 |
| Hay | .50 |
| Miscellaneous | .50 |
| | 97.83 |

| Freight: | Weight | Rate on 36 ft car= | Amount | Percentage of Total (\$24.53) |
|----------|--------|--------------------|-------------|-------------------------------|
| Cattle | 4760 | 15 | \$ 7.14 | 291 |
| Hogs | 9220 | 16 | 14.75 | 601 |
| Sheep | 1600 | 16½ | <u>2.64</u> | <u>108</u> |
| | | | 24.53 | 100 |

Applying the percentages to the actual freight charge of \$37.39, we have

| | <u>Amount</u> | <u>Per Hundredweight</u> |
|--------|---------------|--------------------------|
| Cattle | \$10.89 | \$.2286 |
| Hogs | 22.49 | .2438 |
| Sheep | <u>4.02</u> | .2514 |
| | \$37.39 | |

Summarizing:-

Per hundredweight all species alike.

| | | |
|----------------------------------|--------------|--------------------------------------|
| Switching and tax----- | \$ 4.12 | |
| Fire insurance----- | .20 | |
| Straw at local----- | 1.50 | \$20.34 = \$.1306 per hundred weight |
| Miscellaneous local expense----- | .50 | 155.8 |
| Manager's commission----- | <u>14.02</u> | |
| | 20.34 | |

| Per head: | Cattle | Calves | Hogs | Sheep | Total |
|-----------|------------|------------|-------------|-------------|------------|
| Yardage | \$.30 | \$.20 | \$.10 | \$.08 | \$6.42 |
| Weighing | <u>.02</u> | <u>.02</u> | <u>.01½</u> | <u>-.01</u> | <u>.79</u> |
| | .32 | .22 | .11½ | .09 | 7.21 |

Per centum: Commission--1% on all species.

To hogs alone--Divided on basis of hundredweight.

| | | |
|-------------------|--------------|----------------------------|
| Corn----- | 6.50 | |
| Sinking Fund----- | 2.77 | \$32.26 = \$.3499 per cwt. |
| Partition----- | .50 | 92.2 |
| Freight----- | <u>22.49</u> | |
| | 32.26 | |

To cattle and calves:

| | | |
|-------------------|----------------|----------------------------|
| Freight----- | \$10.89 | |
| Sinking Fund----- | .95 | \$12.33 = \$.2590 per cwt. |
| Partition----- | .50 | 47.6 |
| | <u>\$12.34</u> | |

To sheep only:

| | | |
|-------------------|--------|---------------------------|
| Freight----- | \$4.02 | |
| Hay(½)----- | .60 | |
| Partition----- | .50 | \$5.60 = \$.3500 per cwt. |
| Sinking fund----- | .48 | 1.6 |
| | 5.60 | |

To cattle alone:

| | | |
|--------------|-------|---------------------------|
| Hay (½)----- | \$.60 | \$.60 = \$.0153 per cwt. |
| | | 39.2 |

FORM 16

WORK SHEET, MIXED CAR (By Detailed-Cost Single-Shipment Method)

| Weight | Selling Amount | No. Head | Per Hundredweight* | Per Head [Ⓢ] | Per Centum | Total Expense | Net Amount Paid Shippers. |
|--------|----------------|----------|--------------------|-----------------------|------------|---------------|---------------------------|
| 110 | \$14.85 | 1 cf | .43 | \$.22 | \$.15 | \$.80 | \$14.05 |
| 390 | 68.25 | 3 cf | 1.52 | .66 | .68 | 2.86 | 65.39 |
| 340 | 19.55 | 1 cf | 1.33 | .22 | .20 | 1.75 | 17.80 |
| 830 | 45.65 | 1 c | 3.36 | .32 | .46 | 4.14 | 41.51 |
| 1300 | 91.00 | 1 c | 5.26 | .32 | .91 | 6.49 | 84.51 |
| 1000 | 125.00 | 1 c | 4.05 | .32 | 1.25 | 5.62 | 119.38 |
| 790 | 47.40 | 1st | 3.20 | .32 | .47 | 3.99 | 43.41 |
| 1520 | 218.88 | 5 hgs | 7.30 | .58 | 2.19 | 10.07 | 208.81 |
| 1643 | 236.59 | 6 " | 7.90 | .69 | 2.37 | 10.96 | 225.63 |
| 1310 | 188.64 | 4 " | 6.29 | .46 | 1.88 | 8.63 | 180.01 |
| 2330 | 335.52 | 8 " | 11.19 | .92 | 3.35 | 15.45 | 320.06 |
| 2417 | 348.05 | 8 " | 11.61 | .92 | 3.48 | 16.01 | 332.04 |
| 400 | 56.00 | 4 shp | 1.92 | .36 | .56 | 12.84 | 53.16 |
| 320 | 44.80 | 3 " | 1.54 | .27 | .45 | 2.26 | 42.54 |
| 600 | 81.00 | 5 " | 2.88 | .45 | .81 | 4.14 | 76.86 |
| 280 | 28.00 | 2 " | 1.35 | .18 | .28 | 1.81 | 26.19 |
| 15580 | 1949.18 | | 71.13 | 7.21 | 19.49 | 97.83 | 1851.35 |

* Cattle-\$.4049; calves \$.3896; hogs\$.4804; Sheep, \$.4806.

Ⓢ Cattle- .32; calves \$.22; hogs \$.11½; sheep \$.09.

All per hundredweight charges combined:

| Cattle | Calves | Hogs | Sheep |
|--------------|-------------------|-------------------|-------------------|
| \$.1306 | \$.1306 | \$.1306 | \$.1306 |
| .2590 | .2590 | .3499 | .3500 |
| <u>.0153</u> | <u> </u> | <u> </u> | <u> </u> |
| .4049 | .3896 | .4804 | .4806 |

FORM 17

PRORATE SHEET, MIXED CAR (By Detailed-Cost Single-Shipment Method).

| No. | Kind. | Brand. | Weight. | Shrink. | Net Weight. | Dock. | Price. | Amount. | Expenses. | Net. |
|-----|-------|--------|---------|---------|-------------|-------|---------|---------|-----------|---------|
| 1 | cf | VI | 119 | 9 | 110 | | \$13.50 | \$14.84 | \$.80 | \$14.05 |
| 3 | cf | VI | 402 | 12 | 390 | | 17.50 | 68.25 | 2.86 | 65.39 |
| 1 | cf | I | 350 | 10 | 340 | | 5.75 | 19.55 | 1.75 | 17.80 |
| 1 | c | V | 855 | 25 | 830 | | 5.50 | 45.65 | 4.14 | 41.51 |
| 1 | c | I | 1339 | 39 | 1300 | | 7.00 | 91.00 | 6.49 | 84.51 |
| 1 | c | III | 1030 | 30 | 1000 | for | | 125.00 | 5.62 | 119.38 |
| 1 | st | II | 814 | 24 | 790 | | 6.00 | 47.40 | 3.99 | 43.41 |
| 5 | hgs | | 1550 | 30 | 1520 | | 14.40 | 218.88 | 10.07 | 208.81 |
| 6 | hgs | | 1676 | 33 | 1643 | | 14.40 | 236.59 | 10.96 | 225.63 |
| 4 | hgs | | 1336 | 26 | 1310 | | 14.40 | 188.64 | 8.63 | 180.01 |
| 8 | hgs | | 2377 | 47 | 2330 | | 14.40 | 335.52 | 15.46 | 320.06 |
| 8 | hgs | | 2465 | 48 | 2417 | | 14.40 | 348.05 | 16.01 | 332.04 |
| 4 | shp | I | 421 | 21 | 400 | | 14.00 | 56.00 | 2.84 | 53.16 |
| 3 | shp | II | 337 | 17 | 320 | | 14.00 | 44.80 | 2.26 | 42.54 |
| 5 | shp | III | 630 | 30 | 600 | | 13.50 | 81.00 | 4.14 | 76.86 |
| 2 | shp | I | 294 | 14 | 280 | | 10.00 | 28.00 | 1.81 | 26.19 |
| | | | 15995 | 415 | 15580 | | | 1949.18 | 97.83 | 1851.35 |

items were not distributed on a per hundredweight basis, namely commission, yardage, and the weighing charges. Furthermore, these charges constitute only a small portion of the total expense. The error introduced by handling them on a hundredweight basis is therefore small and not enough to offset the saving in labor. As a matter of fact, on straight carloads,--those containing only one species--the method is fairly accurate, but on mixed carloads some injustices appear.

For the car of cattle and calves (account sales, Form 8) the rate per hundredweight, according to this method is \$.4290 ($\$96.27 \div 224.4$); for the carload of hogs, \$.5469 per hundredweight ($\$91.49 \div 167.3$ - Form V); for the mixed carload, \$.6279 per hundredweight ($\$97.83 \div 155.8$ - Form VII). Form 18 shows expenses for the car of cattle prorated by this method, and the table to the left (Table XXXVIII) compares the expenses by the two methods. The expenses on calves are smaller and those of cattle are larger than under the first method. This difference is largely caused by the per-head charges of yardage and weighing and the per cent charge for commission. Since in this shipment calves brought almost twice as much per hundredweight as did cattle, the per centum charge for commission is twice as high per hundredweight as cattle. Yardage, when reduced to a per hundredweight basis, is also much larger for calves than for cattle. If no calves, however, had been included in the shipment, these two methods would have shown little difference.

This is brought out quite clearly in the shipment of hogs prorated both ways, presented in Table XXXIX. Here there is only a slight difference in the results from the two systems, the greatest difference being in the case of the 300 pound animals. Thus it is only for animals not of a uniform weight and grade that there is much difference between the results from these two methods.

When the single-shipment pool method is used with the mixed shipment, however, a large variation enters into our figures. (See table XL). Apparently

Form 18.- Prorate Sheet, Straight Car of Cattle (By the Single-Shipment Pool Method).

Table XXXVIII Comparison with Detailed-Cost Single-Shipment Method.

| Animals | Net Weight | Amount | Expenses | Net Amount. | Expense Detailed Method | Difference | |
|---------|------------|----------------|--------------|----------------|-------------------------|-------------|-------------|
| | | | | | | Plus | Minus |
| 3 cf | 270 | \$ 36.45 | \$ 1.16 | \$35.29 | \$ 1.80 | \$ | \$.64 |
| 6 cf | 5600 | 299.60 | 24.03 | 275.57 | 22.67 | 1.36 | |
| 4 st | 3800 | 228.00 | 16.30 | 211.70 | 15.61 | .69 | |
| 1 c | 800 | 42.80 | 3.43 | 39.37 | 3.29 | .14 | |
| 1 c | 970 | 87.00 | 4.16 | 82.84 | 4.27 | | .11 |
| 1 c | 970 | 145.00 | 8.58 | 136.42 | 8.43 | .15 | |
| 2 c | 2000 | 52.43 | 4.20 | 48.23 | 3.95 | .25 | |
| 1 c | 980 | 51.89 | 4.16 | 47.73 | 3.92 | .24 | |
| 1 c | 970 | 51.36 | 4.12 | 47.24 | 3.87 | .25 | |
| 1 c | 960 | 29.92 | 2.45 | 27.47 | 2.43 | .02 | |
| 1 c | 570 | 79.75 | 6.22 | 73.53 | 6.35 | | .13 |
| 3 st | 1450 | 55.20 | 3.95 | 51.25 | 3.79 | .16 | |
| 1 c | 920 | 41.19 | 3.30 | 37.89 | 3.17 | .13 | |
| 1 h | 770 | 56.40 | 4.03 | 52.37 | 3.86 | .17 | |
| 1 c | 940 | 37.24 | 1.14 | 36.10 | 1.61 | | .47 |
| 2 cf | 266 | 47.74 | 1.46 | 46.28 | 2.13 | | .67 |
| 3 cf | 341 | 33.18 | 1.02 | 32.16 | 1.45 | | .43 |
| 2 cf | 237 | 66.50 | 2.04 | 64.46 | 2.93 | | .89 |
| 4 cf | 475 | 16.94 | .52 | 16.42 | .74 | | .22 |
| 1 cf | 121 | | | | | | |
| | | <u>1456.59</u> | <u>96.27</u> | <u>1362.32</u> | <u>96.27</u> | <u>3.56</u> | <u>3.56</u> |

12-21-64

Table XXXIX Comparison of Total Expenses for Hogs as Calculated by the Detailed-Cost and Single-Shipment Pool Methods.

| Net Weight Animals | Number Head | Total Expense, Detailed-Cost | Total Expense, Shipment Pool | Difference. | |
|-----------------------|----------------|---------------------------------|---------------------------------|-------------|--------|
| | | | | Plus. | Minus. |
| 300 | 1 | \$ 1.48 | \$1.64 | \$ | \$.16 |
| 3525 | 15 | 19.32 | 19.28 | .04 | |
| 2880 | 12 | 15.74 | 15.75 | | .01 |
| 2500 | 10 | 13.62 | 13.67 | | .05 |
| 1800 | 8 | 9.90 | 9.84 | .06 | |
| 2025 | 9 | 11.14 | 11.07 | .07 | |
| 1610 | 7 | 8.84 | 8.80 | .04 | |
| 928 | 4 | 5.08 | 5.08 | | |
| 1162 | 5 | 6.37 | 6.36 | .01 | |
| 16730 | 71 | 91.49 | 91.49 | .22 | .22 |

The lighter animals, whatever the species or class, carry a smaller expense under the single-shipment pool method.

Table XL. Comparison of the Prorated Expenses under the Detailed-Cost and Single Shipment Pool Methods, for a Mixed Shipment Containing Cattle, Calves, Hogs, and Sheep.

| Number of Animals | | | | Net Weight | Total Expense, Detailed Cost | Total Expense, Shipment Pool | Difference | |
|-------------------|---------|--------|-------|------------|---------------------------------|---------------------------------|------------|--------|
| Cattle. | Calves. | Sheep. | Hogs. | | | | Plus | Minus |
| | 1 | | | 110 | \$.80 | \$.69 | | \$.11 |
| | 3 | | | 390 | 2.45 | 2.45 | | .41 |
| | 1 | | | 340 | 1.75 | 2.13 | .38 | |
| 1 | | | | 830 | 4.14 | 5.21 | 1.07 | |
| 1 | | | | 1300 | 6.49 | 8.16 | 1.67 | |
| 1 | | | | 1000 | 5.62 | 6.28 | .66 | |
| 1 st | | | | 790 | 3.99 | 4.96 | .97 | |
| | | | 5 | 1520 | 10.07 | 9.54 | | .53 |
| | | | 6 | 1643 | 10.96 | 10.32 | | .64 |
| | | | 4 | 1310 | 8.63 | 8.23 | | .40 |
| | | | 8 | 2330 | 15.46 | 14.63 | | .83 |
| | | | 8 | 2417 | 16.01 | 15.18 | | .83 |
| | | 4 | | 400 | 2.84 | 2.51 | | .33 |
| | | 3 | | 320 | 2.26 | 2.01 | | .25 |
| | | 5 | | 600 | 4.14 | 3.77 | | .37 |
| | | 2 | | 280 | 1.81 | 1.76 | | .05 |
| 4 | 5 | 14 | 31 | 15580 | 97.83 | 97.83 | 4.75 | 4.75 |

It would seem, then, that for straight cars of animals of like size, the second method gives a satisfactory division of expense, but for mixed cars, or when there is a variation in the weight of animals, the first method gives markedly more accurate results.

The "General Flat Rate" Method.

This method is like the foregoing except that the expenses are all pooled over a pooling period of a season, year, or indefinitely. It has already been pointed out that most of the expenses need to be pooled over a period in order to secure equitable distribution of costs between members shipping at different times or in different cars. For one shipment may have a car loaded to capacity while the next shipment, due to unforeseen events, may be loaded far below the required minimum. Also one shipment may be a straight load of cattle, while the next may be a mixed car. The per-hundredweight expenses on the light cars or mixed cars are sure to be heavier than upon straight cars.

This method is also desirable because of its simplicity. Having arrived at a satisfactory rate, the prorating difficulties are greatly lessened. Perhaps it is this side of the proposition which proves so attractive to many managers.

The practical difficulty with this method, of course, is in the determining of the rate. The rate set is a straight rate per hundredweight. It is determined by getting an average rate per hundredweight of past shipments, allowance being made for any changes in shipping expenses. The rate wanted is one which will just cover the year's expense, resulting in neither deficit nor surplus. Often it is found that the rate set is either high or low, and adjustments have to be made later. Proper accounting, as already explained, is needed to furnish the data upon which the rate is based.

The serious shortcoming of this method is that it makes no allowance for actual differences in expenses per hundredweight of shipping cattle, calves, hogs, and sheep.

The "Flat Rate by Species" Method.

This method is like the general-flat-rate method in that expenses are pooled over a period, and in that prorating difficulties are lessened once

the rates are determined. The method goes a step farther than the general flat-rate method, however, by making allowances for the actual differences in expenses per hundredweight of shipping cattle, calves, hogs, and sheep. As pointed out in chapter VI, average central market expenses per hundredweight for cattle, hogs, and sheep are highest for sheep and lowest for cattle. Also average transportation expenses are highest for sheep and lowest for cattle. These results show the desirability of setting separate rates for cattle, calves, hogs, and sheep.

As with the general flat-rate method, the practical difficulty is in determining a rate which will result neither in a surplus nor deficit. Records such as outlined on page___ need to be kept in order that proper information may be had for setting these rates.

With this system, still one error is not eliminated, the error that comes because of variation in size of animals. With cattle varying from 400 to 2000 pounds, this method will not give strict accuracy because of the per head yardage and weighing expenses, and the per head or percentum commission expense.

The "Combination" Method.

The combination method attempts to eliminate the error of the flat-rate-by-species method by combining a per head charge for cattle, calves, hogs, and sheep to cover yardage, weighing, and commission (if levied per head), with per hundredweight rates for the remaining expenses. This method has the advantages of the preceding two methods in regard to pooling and lessening prorating difficulties, and also has the same practical difficulty in setting the per hundredweight rates.

This system is probably the best one as yet developed, although it may be argued that the percentum charge for commission introduces a slight error

(when commission is levied as a percentage charge). Inasmuch as per carload maximums and minimums are in force, with the percentage commission charge, a per hundredweight basis for distributing this item is not untenable.

In Table XLI, the comparison is made between the various systems of prorating. In this table, ^a general flat rate of 57 cents was used; a flat rate by species of 51 cents per hundredweight for cattle, 59 cents for hogs, and 71 cents for sheep and calves; and a combination rate of 32 cents per head and 49 cents per hundredweight for cattle, $11\frac{1}{2}$ cents per head and 54 cents per hundredweight for hogs, 9 cents per head and 63 cents per hundredweight for sheep, and 22 cents per head and 51 cents per hundredweight for calves. These rates were arrived at by reference to expenses as given in Chapter VI, allowance being made for mixed shipments.

Table XLI shows that under the general flat rate method, the flat rate-by-species, and the combination systems, the total expenses charged against the 15,580-pound mixed carload by the association was smaller than the actual expenses levied on that car. This brings out the main purpose of any long-time pooling method,—the expense of light carloads and mixed carloads is distributed over all shipments.

Under the general flat-rate system, calves, hogs, and sheep bear a smaller expense, and cattle a higher rate than under the detailed-cost single-shipment method. In other words, cattle really bear part of the expense rightly belonging to sheep and calves.

Under the flat-rate by species method, small animals of any species bear less of the expense than they do under the detailed-cost method. This difference is shown in the comparison of the expenses under the flat-rate-by-species and combination methods. Here small animals bear a higher expense than they do under the flat-rate-by-species methods. The reasons or causes of the difference between the expense when the various methods of prorating are used

Table XLI-Comparison of the Prorated Expenses for a Mixed Carload
Containing Cattle, Calves, Hogs, and Sheep, under the Five
Systems of Prorating.

| Number of Animals | | | | Net Weight | Total Expense By Various Prorating Systems | | | | |
|-------------------|--------|-------|------|---------------|---|-----------------------------|-----------------------------------|--------------------------------------|--------------------------|
| Cattle | Calves | Sheep | Hogs | | Detailed- Cost- Single-Ship- ment. | Single- Shipment Pool | General ¹ Flat-Rate | Flat-Rate ² by-Species | Combination ³ |
| | 1 | | | 110 | \$.80 | .69 | .63 | .78 | \$.22 .56 \$.78 |
| | 3 | | | 390 | 2.45 | 2.45 | 2.22 | 2.77 | .66 1.99 2.65 |
| | 1 | | | 340 | 1.75 | 2.13 | 1.94 | 2.41 | .22 1.73 1.95 |
| 1 | | | | 830 | 4.14 | 5.21 | 4.73 | 4.23 | .32 3.98 4.30 |
| 1 | | | | 1300 | 6.49 | 8.16 | 7.41 | 6.63 | .32 6.24 6.56 |
| 1 | | | | 1000 | 5.62 | 6.28 | 5.70 | 5.10 | .32 4.80 5.12 |
| 1 st | | | | 790 | 3.99 | 4.96 | 4.50 | 4.03 | .32 3.79 4.11 |
| | | 5 | | 1520 | 10.07 | 9.54 | 8.66 | 8.97 | .58 8.21 8.79 |
| | | 6 | | 1643 | 10.96 | 10.32 | 9.37 | 9.69 | .69 8.87 9.56 |
| | | 4 | | 1310 | 8.63 | 8.23 | 7.47 | 7.73 | .46 7.07 7.53 |
| | | 8 | | 2330 | 15.46 | 14.63 | 13.28 | 13.75 | .92 12.58 13.50 |
| | | 8 | | 2417 | 16.01 | 15.18 | 13.78 | 14.26 | .92 13.05 13.97 |
| | 4 | | | 400 | 2.84 | 2.51 | 2.28 | 2.84 | .36 2.52 2.88 |
| | 3 | | | 320 | 2.26 | 2.01 | 1.82 | 2.27 | .27 2.02 2.29 |
| | 5 | | | 600 | 4.14 | 3.77 | 3.42 | 4.26 | .45 3.78 4.23 |
| | 2 | | | 280 | 1.81 | 1.76 | 1.60 | 1.99 | .18 1.76 1.94 |
| 4 | 5 | 14 | 31 | 15580 | 97.83 | 97.83 | 88.81 | 91.71 | |

1. General flat rate of 57 cents per hundredweight used.
2. Flat-rate by species; Cattle 51 cents per hundredweight; hogs, 59 cents per hundredweight; calves and sheep, 71 cents per hundredweight.
3. Combination rates: cattle, 32 cents per head plus 48 cents per hundredweight; calves, 22 cents per head plus 51 cents per hundredweight; hogs 11½ cents per head plus 54 cents per hundredweight; sheep, 9 cents per head plus 63 cents per hundredweight.

have been pointed out in discussing the methods.

Prorating Price

One more problem in prorating or distribution remains, the problem of the distribution of the selling price, arising in connection with the practice of selling animals in bunches. Selling in bunches is especially practiced in the case of hogs and to a lesser extent in the case of calves. For example, a carload of hogs may be sold in one bunch for one price. The load may be absolutely uniform, but in the majority of cases it will not be. If the group were split up, some groups would be sold for a higher price than if the whole car were sold as a unit, and some groups would be sold for less. It is apparent, therefore, that if the carload is sold in one bunch, some allowance should be made for any existing differences in quality of the animals when the distribution of returns is made. This is increasingly true when the spread between classes is wide. That this problem is important is often recognized, but in the majority of cases no account is taken of it in prorating returns.

A common method of handling this problem is to ignore differences in quality and to pay the same price for all animals. Such a practice favors the poorer grades at the expense of the better grades in the shipment. Furthermore, since some growers always market high-quality animals and others always market low-quality animals, the error tends to be cumulative.

Some managers handle the problem by instructing commission firms to split up the shipments according to quality. While this practice takes care of difference in quality of the various animals, yet a certain additional return is sacrificed because the animals are not grouped to advantage.

Under another system, hogs and calves are graded by the local manager when he receives the stock at the local market. If he chooses, he may also mark them. At the central market, the load is sold in the manner which will bring the greatest return. In distributing or prorating the returns, however, allow-

ance is made for differences in quality of the animals. The basis for this allowance is the market report for that day, or the commission firm may suggest that certain animals would have sold at a premium if sold alone. With this information as a basis, the manager is in a position to distribute the returns in a manner which will take account of the differences in quality of the animals. Following is an example of this method taken from an actual case. A certain load of hogs was divided and sold in two bunches by the commission firm. One group brought \$13.75 and the other \$15.00 per hundredweight. The animals in the two groups graded into each other, however, and in prorating, the following prices were used: \$13.50, \$13.25, \$14.00, \$14.25, \$14.50, \$14.75, \$15.00, and \$15.25. The \$15.25 was the top price at the yards that day. Evidently there was a wide spread between grades on the market at this time.

It is rather difficult, however, to establish a set of prices for different grades which will give the same price for the car as it sold for. Some managers use a trial-and-error method, assigning prices, trying them, and correcting for error. Another method of approaching this problem is the following: Let us take the shipment of hogs whose account sales is given on Form 12, -70 hogs, weight 16,430 pounds, sold in one bunch at \$14 per hundredweight for a total of \$2300.20. Let us then assume that if these had been broken up into these groups, the weight and prices would have been as follows:

| Number Animals | Net Weight | Price | Amount |
|----------------|------------|---------|----------|
| 17 | 3825 | \$14.25 | \$545.06 |
| 31 | 7225 | 14.00 | 1011.50 |
| 22 | 5380 | 13.75 | 739.75 |
| 70 | 16,430 | | 2,296.31 |

These prices, of course, are the best estimate of the market prices on

this day for the quality of hogs in these three groups. The spread of 25 cents per hundredweight represents market conditions as near as can be ascertained. At these prices, however, the car brings not \$2300.20, but \$2296.31. The problem is how to correct the prices. Following is a method for doing this:

Let x = the base price or revised price of the bunch of 22 hogs.
 Then $x + .25$ = price of group of 31 hogs,
 and $x + .50$ = price of group of 17 hogs.
 Also $x \times 53.80 = 53.80x$, or value of group of 22.
 (x plus $.25$) times 72.25 = $72.25x + 18.0625$, or value of group of 31.
 (x plus $.50$) times 38.25 = $38.25x + 19.125$ or value of group of 17.
 Total value = 2300.20 (Account Sales)

Therefore $164.30x + 37.1875 = 2300.20$
 $164.30x = 2300.20 - 37.1875$, or 2263.0125
 $x = \frac{2263.0125}{164.30} = 13.774$, or base price per hundredweight.
 13.774 plus $.25 = 14.024$, or price of second group.
 13.774 plus $.50 = 14.274$, or " " third " "

- By this means, a set of three prices has been obtained which will figure up to exactly \$2300.20 for the carload. Using these prices in the prorate sheet, (Form 14), the results are as given in Form 19.

Form 19. Prorate Sheet With Price Distribution Used. (Form 14 revised).

| Number | Kind | Net Weight | Dockage | Price | Amount | Expense | Net |
|--------|------|------------|---------|---------|---------|---------|---------|
| 15 | h | 3525 | | \$14.02 | 494.33 | 19.32 | 475.01 |
| 12 | h | 2880 | | 13.77 | 396.68 | 15.74 | 380.94 |
| 10 | h | 2500 | | 13.77 | 344.34 | 13.62 | 330.72 |
| 8 | h | 1800 | | 14.27 | 256.93 | 9.90 | 247.03 |
| 9 | h | 2025 | | 14.27 | 289.04 | 11.14 | 277.90 |
| 7 | h | 1610 | | 14.02 | 225.78 | 8.64 | 216.94 |
| 4 | h | 928 | | 14.02 | 130.14 | 5.08 | 125.06 |
| 5 | h | 1162 | | 14.02 | 162.96 | 6.37 | 156.59 |
| 71 | | 16730 | | | 2320.90 | 91.49 | 2229.41 |

A method of figuring, easier for some people to understand, will be the

following:

| | |
|--|-------------------------|
| 7225 pounds are to have a premium of 25¢ per hundredweight - | |
| | 72.25 x \$.25 = \$18.06 |
| 3825 pounds are to have a premium of 50¢ per hundredweight - | |
| | 38.25 x \$.50 = \$19.12 |
| Total premium | = \$37.18 |

Subtracting premium of \$37.18 from the gross amount of sales, \$2300.20, leaves \$2263.02 to be distributed equally to the 164.30 hundredweight in the carload, or at the rate of \$13.77 per hundredweight. Hence \$13.77 is the base price for the 53.80 hundredweight and the 25¢ and 50¢ premiums are to be added to this to get the price for the other two lots. This, of course, gives the same results as the other method.

The only error involved in this method of figuring is that a wrong spread between the different quality groups may be assumed in the first place.

The importance of correctly prorating prices cannot be over-emphasized. In the example of price distribution used, it was shown that by prorating the price, some owners received 27.4 cents more per hundredweight than they received when prices were not prorated. Under different systems of prorating expenses, the greatest difference per hundredweight was 15.7 cents. (Table XLI) Overlooking the price distribution problem where animals are sold in non-uniform groups, is, therefore, overlooking a phase of cooperative livestock marketing which should have attention.

Prorating prices for grouped animals requires that the manager grade. Because favoritism may influence the manager's grading, many associations do not allow grading. In such cases it is best that all animals be marked and sold strictly according to quality.

Summary: Prorating or the distribution of returns is a complex problem. The methods of prorating expenses have been gradually developed and the later systems

have eliminated many of the faults of the earlier systems. Under any system, over a period of time any shipper tends to be favored as often as he is penalized. However, where some shippers always handle a given class of a given species, the error is cumulative. Furthermore, prorating inaccurately tends to invite dissatisfaction and provides an opening for independent buyers. The basis for working out any accurate flat rate must be provided through accounts of past business.

An accurate prorating system takes account of the peculiarities of each item of expense as outlined on pages ___ to ___, charging some expenses on a hundredweight basis, some on a per head basis, and some on a percentum basis; allocating certain expenses directly, pooling some over a shipment, some over a season, and some over a year, and perhaps some over a longer period; differentiating between species for some expenses, and charging all species alike for certain other expenses.

Chapter IX

OTHER PROBLEMS OF MANAGEMENT

This final chapter considers a number of lesser problems of management and a few general matters relating to cooperative livestock shipping.

Control of quality: Nearly every set of by-laws that has been prepared for use of livestock shipping associations, specifies as a major purpose, the improving of the quality of the livestock in the community. This however, is only an ideal. It is probable that on the whole the private buyers have done fully as much in this respect as have the associations. Very little progress has been made thus far in standardizing the breeds of livestock produced in a given locality. Breeds of livestock change more slowly than varieties of potatoes or wheat. Until some general progress has been made along this line, one cannot expect much from the associations.

As to fitness for the market, no doubt manager/s frequently give advice to shippers as to when stock is in a condition to make a certain market grade. Nothing is done by them, however, directly to bring about uniformity in market grade. There is some question as to whether there is any object in doing this.

Problems of associations in sparsely settled territory: Livestock shipping associations in sparsely settled territory do not encounter the same difficulties as would cooperative organizations requiring a large investment. Since shipping associations in such territory have a small volume of business, a full-time manager cannot, of course, be hired. However, by marking all livestock and having the animals sold on a quality basis at the central market, prorating can be quite

satisfactorily handled by a local banker or by someone who can keep the records, and other managerial duties can be handled by a comparatively inexperienced person. When few shipments are made per year, flat rates are scarcely practicable.

Choice of a manager: The choice of a manager is the most important duty of the directors. The manager must necessarily be a good livestock man. He must have the ability to cooperate and work in harmony with the association members. He should have a good understanding of the accounts necessary in a livestock association. His integrity must be above question.

Usually in hiring managers, knowledge of livestock is the qualification to which directors pay most attention. Some attention is also given to their attitude towards cooperative business. Little attention is given to accounting ability, and since this duty can be delegated, perhaps this is as it should be. A better understanding of marketing and market prices in general is desirable.

Little attention has been given to training managers. Usually the best available man is chosen for the managerial post, and he receives his training in connection with the actual work. The Iowa Agricultural College is conducting schools or short courses for livestock shipping association managers in which the emphasis is placed on accounting. An intelligent association manager can get some instruction through letters and circulars, but this far sufficient material is not available.

Competition with buyers: Table XLII shows the percentage of carloads of livestock shipped by shipping associations from 762 points consigning livestock to South St. Paul. This table shows that there are 271 points having no associations. In the majority of cases, the points which do not have associations are those shipping less than ten or fifteen carloads of livestock per year.

Of 762 points from which livestock was shipped to South St. Paul during 1919, 218 or 29 per cent of the points have buyers who shipped two or more carloads

TABLE XLII

Percentage of Carloads of Livestock Shipped Cooperatively
to South St. Paul from 762 Minnesota Points-1919

| Percentage of carloads shipped cooperatively | Number of points |
|--|------------------|
| 00 | 271 |
| 1 - 10 | 26 |
| 10 - 20 | 18 |
| 20 - 30 | 27 |
| 30 - 40 | 35 |
| 40 - 50 | 41 |
| 50 - 60 | 36 |
| 60 - 70 | 43 |
| 70 - 80 | 44 |
| 80 - 90 | 66 |
| 90 -100 | 67 |
| 100 | 88 |
| All points | 762 |

of livestock during September and October. Table XLIII indicates the number of buyers per shipping point. It is apparent from this table that there were probably many buyers shipping less than two carloads during the September-October period. It is highly probable, however, that buyers shipping less than two carloads during this period have some other business.

TABLE XLIII

Number of Buyers per Shipping Point Consigning Livestock
to South St. Paul in September-October 1919*

| Buyers per shipping point | Number of shipping points |
|---------------------------|---------------------------|
| 0 | 544 |
| 1 | 189 |
| 2 | 27 |
| 3 | 2 |
| All points | 762 |

* Only those buyers shipping two or more carloads during September-October are included.

Associations, on the whole, handle a larger volume of livestock per association than do buyers. It was pointed out in Chapter I that the average

number of carloads of livestock handled per association is 58. In Table XLIV buyers are grouped as to the number of carloads handled. This table shows that 64 per cent of the buyers handle less than 25 carloads and 90 per cent handle less than 50 carloads.¹ In other words, buyers handle a much smaller volume of business, on the average, than do cooperative associations.

TABLE XLIV

Number of Carloads per Buyers for 249 Buyers Shipping
to South St. Paul from 218 Points.- 1919.*

| Carloads shipped per buyers. | Number of buyers. |
|---------------------------------|-------------------|
| 0 - 10 | 51 |
| 10 - 25 | 109 |
| 25 - 50 | 64 |
| 50 - 75 | 14 |
| 75 -100 | 9 |
| 100 -125 | 2 |
| All buyers | 249 |

* Only those buyers shipping two or more carloads during September-October are included.

Advantages of livestock shipping association: No figures are available to show the results which can be credited to cooperative livestock shipping associations. Many of the estimates made by various lecturers are doubtless excessive. However, cooperative livestock associations have certain characteristics which should enable them successfully to compete with private buyers. These characteristics are as follows:

1. Association managers do not travel over the surrounding territory buying livestock. This cuts the expense of traveling and also cuts the time necessary to assemble a shipment.

¹ If buyers shipping less than two carloads in September-October had been included, the percentage would have been even larger.

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1. Association managers do not gravel over the surrounding territory buying livestock. This cuts the expense of traveling and also cuts the time necessary to assemble a shipment.

¹ If buyers shipping less than two carloads in September-October had been included, the percentage would have been even larger.

2. One association can handle the business often handled by several buyers. One association can be supported more economically than can several buyers.

3. Associations charge shippers only exact expenses, no profit being included. To pay the same prices as associations, therefore, buyers would be compelled to work for wages only and even then would be unable to pay travel expense. This assumes, of course, that association managers are as efficient as private buyers.

4. All shippers receive the price for which their animals are sold in the terminal market. There is no possibility of one shipper, because of lack of knowledge or poor bargaining ability, receiving less for his livestock than a skilled bargainer who knows the market.

Reasons for failure: The most common cause of failure of associations is the tendency of members to succumb to the attacks of private buyers. Managers often observe that after an association has been organized, private buyers operate on little or no margin, many times paying prices which do not seem to be justified by the returns from central market prices above those which the associations can pay even though they operate without profit. The conclusion, of course, is that private buyers are deliberately trying to run the associations out of business. If it was certain that buyers would continue to pay fair prices, taking out only a normal spread, then the business might as well be handled by the buyers as by the association. However, it often seems that this high price situation continues only for a short time after which the buyers again widen their margins. When members are loyal and the association continues operation for a while such buyers as have been discussed frequently discontinue operation because of insufficient funds.

A second cause, which, while not always producing failure, tends to

split the association, is poor cooperative spirit. In any organization there is frequently a certain group which is always ready to break away and form a rival organization upon the slightest provocation. Often, therefore, because of differences in nationality or opinion, (not only on questions directly connected with the shipping of livestock, but on questions of politics, etc.) two or more associations are formed. Often, too, rival banks foster rival associations for the accounts. Such division of the shipping business between two or more associations is unnecessary and loses the advantages of a larger volume of business. Often a large volume of business attracts a good manager, who in turn influences the further strengthening and consolidation of interest in a single association. A minimum of losses, accurate prorating, and quick returns, all are more or less under the manager's control and good results make cooperation easy.

A third factor which frequently leads to dissatisfaction in associations is non-delivery of listed livestock. As previously discussed, small carloads mean heavier expenses. In associations using a single-shipment detail-cost or single-shipment pooling method of prorating, the expense of light carloads is particularly heavy. Naturally shippers participating in such light shipments tend to become discouraged by high shipping expenses.

A fourth cause bearing on association failure is dissatisfaction with prices received in "bunched" sales. The system of prorating commonly used in distributing price is, of course, the basis for this dissatisfaction.

Heavy loss in transit due to poor loading and management is a fifth cause of dissatisfaction in livestock associations. Heavy shrinkage, particularly, is one of the things which shippers first note.

When to organize: Before attempting to start a cooperative shipping association, enthusiasts should ascertain that conditions justify such an organization. At least three things should be considered,

(1) Whether there is need for such an association. Many times farmers start an association hoping to lower marketing costs when already their stock is handled on a margin barely covering expenses. If such be the case, the new association will almost certainly run into difficulties. The first shipment made by the young association will be watched carefully, and if returns are small as compared with those obtained through the local buyer, then many farmers will be very slow about joining the association. Often it is found that in localities where the stock is of uniform quality, when there is an even flow throughout the year, and there farmers have full knowledge of market conditions, buyers are operating on narrow margins. A study of conditions may often avert unnecessary difficulties.

(2) Whether there is enough business. While shipping associations do not necessarily need a large volume of business in order to succeed, yet it will be seen that the advantage tends to be with associations having the larger volume of business. This is true because: (a) with a large volume of business a high-grade manager can be employed; (b) shipments are more regular; (c) this is a possibility of shipping a greater percentage of straight carloads.

(3) Whether the cooperative spirit can be worked up. One or two men can often get an association started, but to have a really successful organization it is necessary that farmers give it their patronage.

Steps in organizing an association: To ascertain the attitude of the prospective members and to arouse interest, a meeting can be arranged at which the formation of an association can be discussed. If desired, a temporary organization may be formed to take charge of the work. After the formation of an association has been decided, the next question is the form of organization, incorporated or unincorporated. (A discussion of these forms appears on page ____).

If the organization is to be unincorporated, a committee should be

selected to draw up a constitution and by-laws. At a later meeting this committee's report can be received and if the constitution and by-laws are satisfactory they can be accepted, and thereafter the organization has rules for its government.

If the organization is to be incorporated, a committee should be appointed to draft articles of incorporation and by-laws. The provision of the articles of incorporation and the by-laws should, of course, conform to the requirements of the Minnesota co-operation law. (Sample articles of incorporation and by-laws are given in Appendix A.)

At the time of organization committee reports, the provision of the articles of incorporation and by-laws should be thoroughly read and discussed. If satisfactory the articles of incorporation should be signed, and signatures acknowledged, and the articles filed with the register of deeds of the county if the capital stock is \$25,000 or less, and with the secretary of state if capitalized for more than this amount. (Organizations with capital stock of \$50,000 or less must have at least seven incorporators, and those with capital stock over \$50,000 shall have at least fifteen incorporators.)

Before any sale of stock can be made, permission must be obtained from the state securities commission. Application blanks can be secured from the state securities commission, and these must be filled out and returned. Each vender of stock must be licensed by the securities commission. The cost of filing with the state securities commission is \$1.00 per \$1000 capital stock with a minimum charge of \$10.00, and each licence is \$3.00. The Association may commence business when 20 per cent of the capital stock has been subscribed and paid for.

Appendix A.

Articles of Association of the Cooperative Livestock
Shipping Association of _____, Minnesota.

We, the undersigned, residents of _____ County, State of Minnesota, do hereby associate ourselves together, for the purpose of forming a cooperative livestock shipping association, and to that end we do hereby adopt the following Articles of Association.

Article I. Name and nature of business.

The name of this association shall be the _____

The primary business of this association shall be to secure better results in grading, handling, and marketing the livestock of its members. To this end it shall have power to buy, build, own, sell, and control such buildings and other real estate and personal property as may be needed in the conduct of its operation.

This association shall also have power to affiliate and to cooperate by membership or otherwise with any other cooperative associations.

Article 2. Plan of business.

The principal place of transacting the business of this association shall be in the _____ of _____ County of _____, Minnesota.

Article 3. Time.

The time over which this organization shall extend shall be indefinite.

Article 4. Membership.

All producers of livestock shall be considered members of this association upon agreeing to the provisions of the articles of association and by-laws and paying the required fee as prescribed in the by-laws. The shipping of livestock through the association by non-members shall be considered application for membership, and the prescribed membership fee shall be deducted from the proceeds of the first consignment in addition to the regular shipping expense, whereupon such shipper shall be considered a member.

Article 5. Management.

The management of this association shall be vested in a board of

directors composed of ____ members. The names and addresses of the first board of directors are _____.

Officers of this association shall be a president, vice president, and secretary-treasurer, elected by and from the board of directors.

The officers and directors elected at the time of organization shall hold office until the next annual meeting, which shall be held on the ____ day of _____.

Article 6. Amendment.

These articles of association may be amended or repealed at any regular meeting by a two thirds vote of the members present plus those voting by mail.

Signed:

BY - LAWS OF THE
COOPERATIVE LIVESTOCK SHIPPING ASSOCIATION OF
MINNESOTA

ARTICLE I. (Meetings)

Section 1. The annual meeting of the association shall be held on the _____ of _____ of each year.

Section 2. Ten (10) days notice shall be given of all meetings of the members by publishing notice thereof in the local paper.

Section 3. The president shall call a special meeting upon the majority vote of the directors or at the written request of ten (10) per cent of the members. The notice for such special meeting shall state the time, place and purpose.

Section 4. The president of the association shall preside at all meetings of the members, and shall cast the deciding vote in all cases of a tie.

Section 5. No member shall be allowed to vote by proxy. Any member may vote by mail as well as in person at any regular or special meeting of the members, provided that in voting by mail such member shall have received a copy of the exact text of the motion or resolution or amendment, and that a copy of the same is forwarded with and attached to the vote as mailed by absent members. All members voting by mail shall be counted as present in determining a quorum for the consideration of a specific question. All officers shall be elected by ballot.

Section 6. A majority of members shall constitute a quorum for the transaction of business when the total number of members does not exceed one hundred (100), and twenty-five (25) per cent of the total number of members in all other cases, provided the total number present shall not be less than fifty (50).

Section 7. The board of directors shall hold at least _____ regular meetings each year, the exact time and place to be determined by the president.

Section 8. Special meetings of the board of directors may be called by the president or any members of said board. Each member of the Board of directors shall duly be notified of all such meetings.

Section 9. No business except that mentioned in the call for a special meeting of the board of directors, shall receive final action at said meeting; _____ directors shall constitute a quorum at all meetings of the board, and a majority vote of the members present shall decide all questions except the transfer of grounds and buildings, which shall require the presence of the whole board and a majority vote thereof.

Section 10. Order of business. The order of business at the annual meeting, and as far as possible at all other meetings of the members, shall be as follows:

- (1) Calling of the roll.

30. General Laws of State of Minnesota.
31. South St. Paul Reporter.
32. St. Paul Stock Yards Company Livestock Reports. 1910-20.
33. "Fundamental Principles of Cooperation in Agriculture", G. Harold Powell.
34. "Marketing of Farm Products". L. D. H. Weld.
35. "Agricultural Commerce" - G. G. Huebner.
36. Efficient Marketing for Agriculture - Theodore Macklin. 1921.
37. Marketing Agricultural Products. B. H. Hibbard. 1921.
38. "Economic Condition Causing the Two-Day-Cattle Market in Chicago".
R. H. Wilcox.
Journal of Farm Economics Volume 11 No. 4. October 1921.

- (2) Proof of the notice of meeting.
- (3) Reading and disposal of all unapproved minutes.
- (4) Annual reports of officers and committees.
- (5) Election of directors.
- (6) Unfinished business.
- (7) New business.
- (8) Adjournment.

ARTICLE II. (Membership)

Section 1. (Qualification)

Any person making use of the shipping facilities of this association may become a member of the associations by agreeing to comply with the requirements of these by-laws.

Section 2. Fees.

A membership fee of _____ shall be collected from all members.

Section 3. (Rights and duties)

Any member desiring to ship livestock through this association shall report to the manager when such livestock is ready for the market, the kinds, the number of each kind, and the approximate weight of each, which he desires to market through the association. He shall deliver the livestock at the shipping yard at the time designated by the manager of the association. In event that he fails to deliver promised stock at specified time, such charges as would have been incurred shall be charged up against him, and in event of non-payment, shall be added to his prorated share of the expenses of the next shipment in which he participates.

Shipment of stock in this association shall be made regardless of membership, and the delivery of stock to the manager and the acceptance thereof by him binds the shipper to the rules and by-laws of this association. In case a non-member fails to deliver promised stock at the specified time, such charges as would have been incurred shall be charged up against him, and in event of non-payment, shall be added to his prorated share of the expenses of the next shipment in which he participates.

Section 4. (Termination)

At any time, if a member shall cease to be a producer of farm products, or shall remove from the territory tributary to the center served by this association, or shall, for the period of one year, fail to patronize it or shall fail to comply with the requirements of these by-laws, such member shall automatically lose his membership standing.

Section 5. (Restrictions)

No member shall have more than one vote regardless of amount of stock shipped.

ARTICLE III. (Election of directors and officers)

Section 1. Directors of the associations shall be members of the associations and shall be elected by the members in the annual meeting assembled. The directors shall be elected at the first annual meeting, _____ to serve for one (1) year, _____ to serve for two (2) years, and _____ to serve for three (3) years, so that thereafter, there shall be _____ elected each year to serve for a term of three (3) years. The election shall be by ballot and each member of record shall be entitled to cast one vote, and only one vote, for each director to be elected.

Section 2. (Election of officers.)

The board of directors shall meet within _____ days after the first election, and after each annual election and shall elect by ballot a president, a vice-president, and a secretary-treasurer (or secretary and treasurer). Directors and officers shall hold office until their successors shall have been elected and qualified and shall enter upon the discharge of their duties.

Section 3. (Vacancies)

Any vacancy in the board of directors shall be filled for the unexpired term at any annual meeting or at any special meeting called for the purpose in the manner provided for the original election of directors. If any director shall cease to be a member, his office shall be declared vacant.

Section 4. (Compensation)

The compensation, if any, of the directors and officers other than the manager, shall be determined by the members of the association at any regular or special meeting of the association.

Section 5. (Removal)

Any director of the association may, for cause, at any annual or at any special meeting called for the purpose, at which a majority of the members shall be present, be removed from office by vote of not less than two-thirds of the members present. Such director shall be informed in writing of the charges preferred against him at least ten (10) days before such meetings, and at such meetings shall have an opportunity to be heard in person, or by counsel and by witnesses thereto.

ARTICLE IV. (Duties and powers of directors)

Section 1. (Management of business)

The board of directors shall manage the business and the affairs of the association, and make all necessary rules and regulations not inconsistent with law or with these by-laws, for the management of the business and the guidance of the affairs, employees and agents of the association.

Section 2. (Employment of manager)

The board of directors shall have the power to employ and to dismiss a business manager, and to fix his compensation.

Section 3. (Bonds for manager and officers)

The board of directors shall require the manager and all other officers, agents, and employees charged by the association with responsibility for the custody of any of its funds or property to give bond for the faithful performance of their official duties. Such bond shall be furnished by a responsible bonding company, or other surety suitable to the board of directors, and the cost thereof shall be paid by the association.

Section 4. (Audits)

The board of directors shall audit or have audited all accounts at or before their regular meetings.

ARTICLE V. (Duties and officers)

Section 1. The president shall:

- A. Preside over all meetings of the association and of the board of directors; be-ex-officio member of all committees.
- B. Sign as president, with the secretary-treasurer, all notes, deeds, and conveyances of real estate.

Section 2. In the absence or disability of the president the vice-president shall preside and perform the duties of the president.

Section 3. The secretary-treasurer shall:

- A. Keep a complete record of all meetings of the association and of the board of directors.
- B. Sign as secretary-treasurer, with the president, all notes, deeds, and other instruments on behalf of the association.
- C. Serve all notices required by law and by these by-laws.
- D. Be the custodian of all property and funds of the association.
- E. Keep, or cause to be kept, a complete record of all business of the association, make and submit at the annual meeting a detailed report of the current year's business, giving the total of number of head of each kind of livestock shipped and the gross amount received for each kind; the operating expenses in detail, and an itemized statement of all resources and liabilities, both at the beginning and at the end of the year. He shall submit such monthly reports as shall be required by the board of directors.
- F. Be the chief accounting officer of the association. He shall employ or cause to be employed in the association an adequate bookkeeping system.
- G. Perform such other duties as may be required of his association or the board of directors.

ARTICLE VI. (Duties of manager).

Section 1. (In general). The manager shall be at the yard on all days that shipments are to be made, to inspect, receive, weigh, mark, and load the stock. If so ordered by the board of directors, he shall receive all payments for stock sold and make disposition of such payments in accordance with Article VII, hereof. He shall keep a complete record of all shipments made and shall furnish to each shipper a statement showing the net weight, the price received and expenses for each shipment. If so directed, he shall keep all accounts of the association for which he shall be immediately responsible to the secretary who is the accounting officer.

Section 2. (Marketing). Subject to the order of the board of directors, and the by-laws and rules of the association, the manager shall have entire charge of the marketings of all livestock handled by the association. He shall secure information as to production and marketing conditions and furnish the same to the members on request.

Section 3. (Employees). Under the direction of the board of directors, the manager shall employ and discharge all employees, agents, and laborers.

ARTICLE VII. (Expenses and payments)

Section 1. Shippers shall receive payment after each shipment by the association upon the rendering of the account of sales by the consignee.

Section 2. Return to shippers shall be on the basis of the gross selling amount as shown by the account sales rendered by the commission firm handling the consignment, plus receipts from sales at local market less the following charges: (Flat rate per hundredweight plus per head charge.) Cattle _____ cents per hundred pounds of live weight of animal, plus 32 cents per head; calves _____ cents per hundred pounds of live weight, plus 22 cents per head; sheep _____ cents per hundred pounds of live weight, plus 9 cents per head, hogs 11½ cents per hundred pounds of live weight plus _____ per head. The per hundredweight charges shall be high enough to cover all the shipping expenses, including central market expenses (except the charges for yardage and weighing, which charges are covered by the per head charge), freight, and all local expenses, as manager's commission, insurance fund, feed and bedding, and other association expenditures connected with the shipping of livestock.*

Section 3. Any surplus at the end of the fiscal year resulting from an over-estimation of expense during the year may be distributed to members on the basis of livestock sold through the association.

ARTICLE VIII. (Sundry provisions).

Section 1. (Fiscal year.) The fiscal year of this association shall commence _____.

Section 2. (Unhealthy stock) All stock which must be sold subject to inspection at the central market except such as has been injured while in a healthy condition and while in charge of the manager, and all diseased animals, shall be received

* For other methods see following page.

at the owner's risk. He shall receive such payment therefore as is received by the commission firms, less all expenses and deductions figured pro rata on the shipment.

Section 3. (Amendments). These by-laws may be amended, repealed, altered in whole or in part, at any regular meeting of the members or at any special meeting, when such action has been duly announced in the call, by two-thirds vote of the members present and voting plus those voting by mail.

Other Methods to be Used.

(Any one of the following methods may be substituted for Section 2, Article VII).
(Detailed-cost single-shipment method)

Method A. For all central market expenses and freight as shown in the account sales sheet and all local expenses of the shipment, including an insurance charge and a charge to cover the manager's compensation. The deduction for insurance against losses shall be charged on the basis of hundredweight of animal, and shall be _____ cents for every hundredweight of cattle, _____ cents for every hundredweight of calves, _____ cents for every hundredweight of hogs, and _____ cents for every hundredweight of sheep. The amount thus retained by the association shall be used for the payments of losses that may occur to any stock from the time it comes into the hands of the manager until final disposition of it is made. Any shipper whose stock has been damaged by injury while in the hands of the manager shall receive the full amount for the same as though the stock had been uninjured, but he shall be subject to the same ratio of expenses on the shipment. The payment of the damage shall be based on the statement made by the commission firm having charge of the shipment. The statement shall show the amount, in the opinion of the commission firm, it would have brought uninjured. This statement shall be the final basis for settlement. The compensation of the manager shall be fixed by the board of directors.¹

Method B. (General flat-rate method).

_____ cents per hundredweight for cattle, calves, hogs, and sheep, this rate to be high enough to cover all the shipping expenses including an insurance reserve.

Method C. (Flat-rate by species method).

Cattle _____ cents per hundred pounds of live weight; calves _____ cents per hundred pounds; sheep _____ cents per hundred pounds; hogs _____ cents per hundred pounds. These per hundredweight charges shall be high enough to cover all the shipping expenses, including central expenses, freight and all local expenses, as manager's compensation, insurance fund, feed and bedding, and all other miscellaneous association expenditures connected with the shipping of livestock.

(1.) May be _____ cents per hundredweight; a percentage of selling amount; a definite amount per day, month, or year; or a definite amount per carload.

APPENDIX B

Appendix B, comprising a list of livestock Shipping Associations in the state, has purposely been omitted as probably not worth including in the thesis.

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