

378.788
A 8
1932
14
cop. 2

T H E S I S

A STUDY OF COOPERATIVE GRAIN ELEVATORS
IN EASTERN COLORADO

Submitted by

Perry V. Hemphill

In partial fulfillment of the requirements
for the Degree of Master of Science
Colorado Agricultural College
Fort Collins, Colorado

June 30, 1932

LIBRARY
COLORADO A. & M. COLLEGE
FORT COLLINS, COLORADO



U18400 9071545

COLORADO AGRICULTURAL COLLEGE

GRADUATE WORK

I HEREBY RECOMMEND THAT THE THESIS PREPARED
UNDER MY SUPERVISION BY Perry V. Hemphill
ENTITLED A STUDY OF COOPERATIVE GRAIN ELEVATORS IN
EASTERN COLORADO BE ACCEPTED AS FULFILLING THIS PART
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
SCIENCE MAJOR SUBJECT ECONOMICS

CREDITS 24

D. N. Donaldson
In Charge of Thesis

L. A. Moorhouse
Head of Department

Recommendation concurred in

L. A. Moorhouse
Geo. A. Roy
D. N. Donaldson
D. S. Klemmichson
J. G. Robertson
J. E. Stewart
Approved by Geo. A. Roy
J. E. Stewart
C. E. White

Committee on
Final Examination

Committee on
Advanced Degrees

7/14/32

ACKNOWLEDGMENTS

The writer wishes to acknowledge the help of Professors L. A. Moorhouse and D. N. Donaldson of the Department of Economics and Sociology for their counsel and guidance in preparing this thesis; appreciation is also extended to the other members of the department, and many others, for their assistance and suggestions.

The writer desires to thank the managers and directors of the farmers' elevators for their splendid co-operation.

TABLE OF CONTENTS

PART ONE

Introduction	Page 1
Purpose of Study	3

PART TWO

History of Farmers' Elevator Movement	4
---------------------------------------	---

PART THREE

Scope of Study and Methods Used in Making the Survey	8
---	---

PART FOUR

The Farmer's Elevator	11
Operating Methods and Practices	28
Financial Factors and Standards	57

PART FIVE

Conclusion	67
------------	----

PART SIX

Summary	79
---------	----

Bibliography

Appendix

PART ONE

Introduction

The early history of farmers' grain companies was fraught with failures, disappointments and bitter competition. With the coming of the present century they have become firmly established as a legitimate part of the grain marketing industry. In recent years new inventions, a more diversified buying basis and rapidly changing economic conditions have brought new difficulties to be overcome. Thus the present day elevator managers and directors are beset with many perplexing problems. The experiment stations of the grain states, in order to aid with these problems, undertook a number of elevator studies. The Bureau of Agricultural Economics of the United States Department of Agriculture cooperated with the experiment stations in making a number of these surveys. In order to initiate a prospective study for the hard wheat area representatives of the Bureau met with representatives of the experiment stations of Kansas, Nebraska, Oklahoma and Colorado at Manhattan, Kansas on May 14, 1928. At this conference it was found that Oklahoma and Colorado had less data and knowledge of the farmers' elevator movement than the other two states, hence it was thought advisable to make advance studies in Oklahoma and Colorado.

Preliminary work in Colorado was undertaken by Mr. D. N. Donaldson of the Department of Economics and Sociology of the Colorado Experiment Station and Mr. J. F.

Booth of the Division of Cooperative Marketing, United States Department of Agriculture, Washington, D. C. At this time managers of fifteen elevators were visited. In November, 1928, Mr. Donaldson called at seven more elevators. All of these elevator managers were keeping a fair set of books which were, with but two exceptions, audited by a certified public accountant at least once a year. However, it was apparent that considerable preliminary work would need to be undertaken in order to gain the confidence of a number of the managers, as some were very reluctant in giving information concerning their business.

Owing to the fact that the funds of some of the states were already allotted to other projects the four-state-elevator study was not started as soon as was anticipated. In July, 1929, Mr. Donaldson again visited the elevators chosen for study in Colorado and explained the reason for the delay. Later in the summer of 1929 the four-state elevator project was abandoned as changing conditions made it impossible to make a study of this type, especially in those states where a great deal of work with farmers' elevators had already been done.

At the Colorado station it was decided to continue the study as there had been no previous work with Colorado elevators. When the writer was assigned to the project in 1929 it was found that a number of the managers were rather indifferent or still in doubt as to the purpose of the enterprise. Others were willing and anxious

to aid the study in every way possible.

During September, 1931, in cooperation with the Federal Farm Board, a financial analysis of the business of each elevator was presented and explained to the board of directors and manager of each cooperating unit. As a result of this series of meetings the Colorado Experiment Station has received thirteen written and one oral request asking that the study be continued for at least one more year.

Purpose of the Study

The purpose of the study was to make a comprehensive survey of a selected group of Colorado farmers' elevators. It was necessary to make a comparative study of their form of organization and operating methods or practices in order to determine the factors that contribute to a successful growth. Such an analysis enables the Colorado Experiment Station, first, to aid the elevator managers and members in solving their problems and difficulties; second, it permits the accumulation of information which may serve as a clearing house for individuals who are interested in elevator problems; and third, to ascertain the services rendered by these institutions for their members and for the community.

PART TWO

History

The farmers' grain elevator was among the first co-operative ventures to be generally tried, in the United States. These date back to about the time of the Civil War. The sponsoring of the first cooperative elevators has often been attributed to the first Grange movement, but there is evidence that a few attempts preceded the coming of the Grange.¹

Due to the ^{force} impetus of the Grange movement many farmers' elevators and grain-shipping organizations sprang up during the decade 1870-80 but the vast majority of these were short lived and passed out of existence with the decline of the Grange. About the same time a large number of independent elevators were built throughout the wheat belt.

Many of the cooperative elevators passed into the hands of independent operators. At this time these small individual elevators were the dominating influence in the grain market. Soon, however, the line companies began to seek control and during the years which followed there was a continuous struggle between these larger groups and the small independent and, as a rule, locally owned elevator. Gradually the independent elevator came under the power of the line companies, because it was either that or ^{going out of business.} ~~extermination.~~ Thus competition was stifled and marg-

¹ Nourse, F. G. Fifty Years of Farmers' Elevators in Iowa. Iowa Agri. Exp. Sta. Bul. 21 1923 p 236

ins of profits became wider. The farmer received the same bid for his grain no matter where he offered it and soon saw evidence of the combine against him.

This condition revived the attempts of the cooperating marketing of grain. The farmers of this decade (1890-1900) were in rather stringent financial circumstances and the opposition to their organization was bitter, hence the growth in the number of farmers' elevators was slow. Because they had to meet a combination of railroads and commission men as well as the large elevator companies, many of these cooperatives failed. In fact, practically the only ones that survived were those that had adopted the so-called penalty clause. This clause stipulated that the member must pay a stated sum, usually one-half cent per bushel, whenever he sold his grain to another elevator. This made it possible and compelled the farmer to maintain his own company when taking advantage of the high price offered by the opposition in an effort to put the farmers' elevator out of business.

In the years 1902-04 the line elevator companies tried to put the cooperatives out of existence by using a boycott, that is, they notified all commission men that they would forfeit the trade of the line companies if they continued to do business with the farmers' organizations. As the business of these organizations was only a fraction of that of the line elevators or the independent elevators controlled by them, this threat, with the

What about their own business abilities?

exception of two instances, had the desired effect.

Happily for the cooperative elevators two commission firms not only refused to boycott them but began to make a specialty of their business. They also sent men into the wheat belt to organize additional farmers' elevators. One of these commission firms is still doing business today. The failure of the boycott and a governmental investigation instigated about the same time broke up the "combine" so that since 1904 the farmer elevator movement has not had such bitter opposition. Following this came a period of steady growth in the number of farmers' elevators which has continued until the present time. (The United States Department of Agriculture lists the active associations as follows:²

<u>Year</u>	<u>Number</u>	<u>Year</u>	<u>Number</u>
1905	306	1920	2,958
1910	757	1925	3,212
1915	1,450	1930	3,448

Others have placed the number at a higher figure, Steen³ placing it at 5,216 for 1921 and Filley⁴ at 4,300 for 1926.

Many of the earlier farmers' elevators were unincorporated, being usually a loosely formed joint-stock company. Those that had incorporated were organized as

² Elsworth, R. H. Agricultural Cooperative Associations. Tech. Bul. USDA 40 1928 p 76

³ Steen, Herman. Cooperative Marketing. 1923

⁴ Filley, H. Clyde. Cooperation in Agriculture. 1928

stock companies under the regular corporation laws, as there were no cooperative statutes at that time.

In Colorado the coming of the present farmer elevator movement is of comparatively recent date, the majority of them being organized since the passage of the first state cooperative law of 1913. In fact practically all of them began business during the years of 1913 to 1920 inclusive. A few of these replaced older cooperative or semi-cooperative ventures but the majority were started where no previous farmer-owned grain company had been attempted.

The Grange may have influenced the first attempt at cooperative grain marketing in the state but of the twenty-four elevators chosen for this study twelve were organized by the Equity Union and ten by the Farmers Union. The other two were probably influenced by the Farmers Union because of their proximity to elevators and locals of that organization. The Farmers Union sponsored elevators are located in the northern part of the wheat section of Colorado while the Equity elevators are to be found in the southern part of this section. There was some rivalry between the two organizations in at least two towns, for each of them organized an elevator. The elevators established by the Farmers Union have, to a large extent at least, dropped their affiliation with that national body while the Equity elevators have, in the main, retained their affiliation.

business

PART THREE

During this survey contacts were made with twenty-four elevators. These are located in the wheat region of northeastern Colorado at the following stations: Ault, Pierce, Briggsdale and New Raymer in Weld County; Willard, Peetz and Fleming in Logan County; Paoli and Holyoke in Phillips County; Laird, Wray, Eckley, Schramm and Yuma in Yuma County; Hyde and Akron in Washington County; Burlington, Bethune, Stratton, Vona and Seibert in Kit Carson County; and Limon in Lincoln County. Hereafter these elevators will be referred to by number in order that the

identities shall not be revealed. In selecting these associations the chief object was to secure, with the least possible mileage, approximately twenty elevators that would be representative of the various types found in Colorado. *add sentence here.*

The method used in this study was the field survey method, that is, personal visits were made to each elevator. Data were secured by interviewing the manager and by examining the records or books of the company. At first only preliminary or general questions were asked as it seemed advisable to gain the goodwill and active cooperation of the managers before inquiring into the financial or more personal aspects of the business.

During the earlier visits the major portion of the information was obtained from the managers but as the work progressed the auditors' reports, supplemented by personal examination of the company's books were the chief source of information. Schedules or outline forms were used in order that the data would be as uniform as possible. However, due to the many different bookkeeping systems and the variations in the audits, uniformity was not always possible.

Schedules or forms used in the spring wheat study (see Appendix A) were employed in this study to some extent, but as all were not applicable to conditions in this state, other forms were also used.

Omit

OK, Jan

After the close of the 1929-30 fiscal year auditors' reports, or copies of them, were collected, later to be transposed to larger ledger sheets (Appendix A). The sheet is so arranged that such items as assets, liabilities, profit and loss statement, surplus analysis, and expenses are all arrayed on one page. In fact this sheet makes it possible to record a summary of the financial business of an entire year. On the reverse side a statement of the total number of bushels handled can be tabulated. Thus, this one sheet, when properly compiled, gives a history of that year's operations.

OK, Jan

When the 1930-31 data were obtained these sheets were taken out to the elevators and the data recorded directly upon them. This procedure had some disadvantages as the sheet, being eighteen by twenty-four inches in size, was not easy to carry and took more working space than did the smaller forms used the previous year. However, the advantages outweighed the disadvantages. The data were copied directly from the original source which saved time and lessened the danger of errors. The various items were added and balanced and thus all errors could be corrected immediately. It was also possible to get the manager's explanation of any item or policy not clearly understood.

Omit

PART FOUR

The Farmer's Elevator

Colorado has had three laws that pertain to cooperative associations. The first was passed in 1913, the second in 1915 and the third in 1923. The most recent of these acts was not applicable to the farmers' elevators included in this study as they were all organized prior to the passage of the 1923 enactment. (Fig. 1) In fact, these elevators were all incorporated under the 1913 law. This law did not especially refer to the agricultural industry as agriculture or livestock was not even mentioned. Under this act a cooperative was defined as follows: "For the purpose of this act the words 'co-operative company, corporation or associations' are defined to mean any company, corporation or association which authorizes the distribution of its earnings in part or wholly, on the basis of, or in proportion to, the amount of property bought from or sold to members or to members and other customers, or of labor performed, or other service rendered to the corporation."⁵

Under this law ten or more persons could be associated together for the purpose of cooperatively transacting any lawful business. It was specified that this could include the construction of bridges, canals, railways, irrigation ditches or other works of internal im-

⁵ Colorado State Laws. p 787 Cooperative Associations.
(L '13 p 220 pp 1)

provement.⁶

The law of 1915 authorized three or more agricultural producers to form a cooperative association, without capital stock, to engage in the production, shipping or marketing of agricultural products.⁷ The act also stipulated that each association shall not be conducted for profit and that each member shall have but one vote.

Under the terms of the 1923 law a cooperative association shall be only those that are engaged in the marketing of agricultural products. The principal provisions of the law are: First, eleven or more persons engaged in the production of agricultural products may form a non-profit cooperative association, with or without capital; second, no stockholder may own more than one-twentieth of the common stock; third, a stockholder shall have but one vote irrespective of the number of shares he owns; fourth, stock dividends may be limited to 8 percent; fifth, each association may handle the products of non-members but this volume must not exceed that done with members; and sixth, those qualifying under the act are required to submit an annual report to the Colorado Director of Markets.

⁶ Colorado State Laws. p 788 Cooperative Associations.
(L '13 p 220 pp 2)

⁷ Farmers grain elevators are universally organized as stock companies, hence there have been but two Colorado cooperative laws under which they could incorporate. The majority of the farmers' elevators in Colorado were incorporated under the 1913 law, as only a few have been organized since 1923.

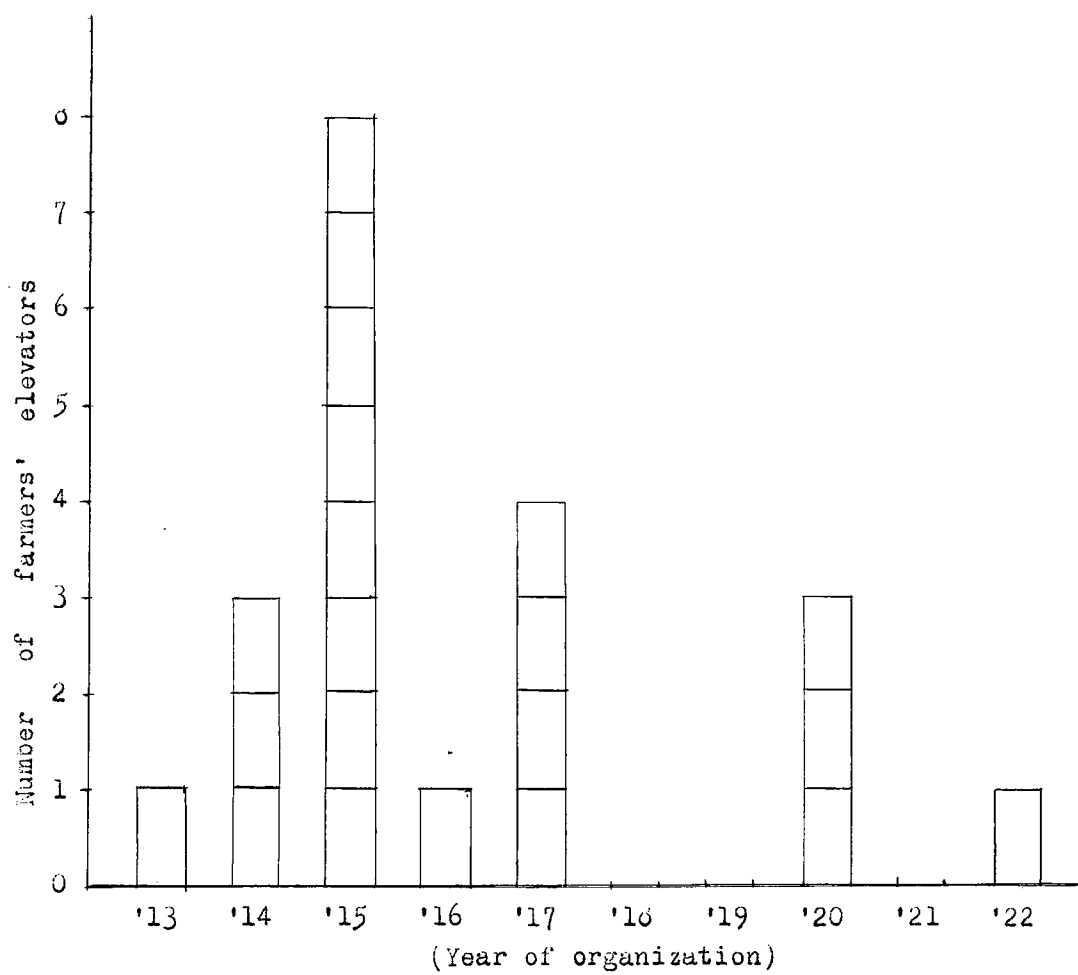


Fig. 1. Organization dates of twenty-one farmers' elevators.

As the farmers' elevators surveyed during this study were all organized during the period of 1913 to 1922 (Fig. 1) they were not required to include in their by-laws many of the features that today are commonly attached to cooperation in marketing. These features include the following requirements: First, all associations must be entirely owned and controlled by producers in agriculture; second, each member shall have but one vote; third, the dividend on stock shall not exceed 8 percent; fourth, a limit may be placed on the number of shares of stock a member shall own; fifth, the association may pay patronage dividends; and sixth, 51 percent of their business shall be with members. Table I indicates to what extent these elevators have adopted the above cooperative principles. (The latter or sixth provision was not included in the table because the amount of business which an elevator does with non-members varies from year to year.)

TABLE I
Cooperative Features of Twenty-one Farmers'
Elevators

Feature	Yes		No	
	Num- ber	Per cent	Num- ber	Per cent
Entirely farmer-owned and controlled	8	38.1	13	61.9
Each member has but one vote	19	90.5	2	9.5
Stock dividend 8% or less	19	90.5	2	9.5
Limited amount of stock per person	19	90.5	2	9.5
Patronage dividend provision in by-laws	19	90.5	2	9.5

Less than half of the twenty-one associations are entirely farmer-owned but it would be incorrect to state that they are not farmer-controlled as the majority of the stock of all the companies is in the hands of the farmers. They were all probably entirely farmer-owned when first started but gradually some of the stock passed into the hands of non-producers because no provision had been made in the by-laws to retire or transfer the stock of members who discontinued farming and entered other occupations. This is causing concern for several of the elevator companies as they are paying 8 to 10 percent on stock that is no longer active in bringing grain and other produce to the elevator. Situations of this kind interfere with volume of business, and they frequently interfere with the success of the enterprise.

The other features have, to a large extent, been adopted. This came about more in an attempt to conform with the Federal law, known as the Capper-Volstead Act, than to conform with the Colorado cooperative law of 1923. The intention or purpose was to gain exemption from Federal income taxes but the elevator management has since learned that the Bureau of Internal Revenue gives little or no weight to any cooperative law in determining exemption. The following quotation taken from a letter written by L. S. Hulbert, Chief Attorney for the Division of Cooperative Marketing, Federal Farm Board, emphasizes this

point: "In determining the eligibility of an association for exemption from income taxes the Bureau of Internal Revenue gives little, if any, weight to the Capper-Volstead Act. In fact, the question of exemption is resolved by that Bureau solely with reference to the exemption language appearing in Section 103 of the Revenue Act of 1928."⁸

As there is some disagreement between various laws and agencies as to what constitutes a true cooperative, the term "farmers elevator" rather than "cooperative elevator" is herein used, for the organizations under discussion are certainly farmers' organizations even though there may be some doubt as to whether they are all truly cooperative.

Various reasons for starting an elevator were given by members of these associations, the most frequent being that the local dealer took too large a margin. However, most reasons given resolve down to about the following: "We organized to secure higher prices and mutual benefit thru cooperative effort." Some claim that they were talked into organizing by outside interests. There may be some truth in this statement as thirteen of the twenty-one companies were aided by persons not residents of the local community.

⁸ From a letter dated Sept. 28, 1931, addressed to W. J. Hart, Associate Economist, Federal Farm Board.

Fifteen of the twenty-four elevators now owned by this group were bought from independent or line companies already doing business at that particular station. Six of these associations bought the only local elevator, hence they had no local competition.

TABLE II

The Number of Local Competitors of Twenty-four Farmers' Elevators

Number of local competitors	Number of farmers' elevators in respective groups	
	At time of organization	At time of this study
0	6	3
1	12	10
2	3	8
3	3	3

The above summary indicates that only three farmers' elevators are now without, and that none of them have to cope with more than three local competitors. The degree of competition is probably of as much importance as the number of competitors. At fourteen elevators it was stated that the local rivalry for business was keen. Eleven managers asserted that the competition of other stations was keen. This is especially true where stations on parallel railroads are competing for the grain of an area that lies between. A variance of but one cent a bushel will often divert a considerable volume of grain either one way or the other. Only two managers said that

their volume was not affected by prices offered at other stations.

The farmers' elevators have, as a rule, been able to obtain a fairly liberal share of the grain coming to their respective stations. During the three calendar years of 1927-1929 inclusive, the farmers' organizations, comprising 45 percent of the elevators, handled as an average, 49 percent of the grain that moved out of these stations. The percentage shipped by the farmers' elevators during each of the three years was:

1927	-----	53%
1928	-----	50%
1929	-----	46%

The average percent shipped by each producer association is shown in Table III. In only three instances did they fail to receive their proportionate share of grain. At each of three stations supporting three elevators the farmers' companies secured more than half of the volume. In two towns having but two elevators the farmers' company handled three-fourths or more of the volume. One of these elevators handled, as a three year average, 84 percent of the grain. In 1927 they bought and sold 88 percent of the grain brought to that station.

The above data were furnished by the railroad companies and, when converted into bushels, reveal that the volume handled by the farmers' elevators ranged from a low of 36,166 to a high of 498,870 with an average of

162,218 bushels of grain.

A further analysis indicates that as a group they had a fairly satisfactory turnover.⁹ Table IV shows their average turnover for the years 1927-1928 and 1929 to be ~~8.5~~ ^{8.5}, ~~exactly 8~~ ^{the majority} ~~Two-thirds~~ of these elevators, however, had a turnover of less than 8, ⁶two being less than 4.

Table V gives the same information for the fiscal years of 1929-30 and 1930-31.¹⁰ It can be readily seen that there is considerable variation in the volume handled by the farmers' grain elevators. The average turnover of the group for the 1930-31 season was nearly twice that of the previous season, being ~~18.1~~ ^{18.1} as compared with ~~9.8~~ ^{9.8}. Ten of the twenty elevators handled a volume of more than double that handled during 1929-30, yet there were ~~three~~ ^{two} companies whose volume was still very low. Obviously some of the farmers' organizations are handicapped because of an insufficient volume. To meet the situation they handle sidelines in an attempt to utilize more advantageously the buildings and equipment in which the members have already invested their money. This, of course, is not the only motive for handling sidelines.

⁹ Turnover equals number of times the bin capacity of the elevator has been utilized during one year.

¹⁰ The data used in this case were secured from the management of the various elevators and are based (as are all the data used in this thesis unless otherwise stated) upon the fiscal year of the company which, as a rule, begins either on June first or July first.

TABLE III

Carlot Shipments of Grain by Twenty-one Farmers' Elevators Compared with the Total Shipments from these stations, three-year average, 1927-29.

Station No.	Total number cars of grain shipped from station	Number of cars shipped by farmers elevators	Percent shipped by farmers elevators	Number of elevators at station ^{1/}
92	60	58	97	1
21	175	88	50	2
24	144	78	54	3
61	290	245	84	2
82	347	179	51	3
53	556	241	43	3
20	574	174	30	3
85	270	153	57	4 ^{2/}
50	38	36	95	1
13	121	61	50	2
74	111	68	61	2
2	466	283	61	3
10	102	76	75	2
73	195	87	45	3 ^{2/}
32	426	110	26	4
93	86	51	59	2
72	191	46	24	3
22	104	56	54	2
71	94	61	65	2
Average	4350	2151	49	47

^{1/} Forty-five percent of these elevators are farmer organizations which handled 49 percent of the grain from these stations.

^{2/} There are two farmers' elevators at these stations.

TABLE IV

Turnover of ^{nineteen}~~Twenty-one~~ Farmers' Elevators. Three-year average, 1927, 1928, 1929.

Elevator No.	Average volume 1927-28-29 (bushels)	Capacity of elevator (bushels)	Turnover
> 16	498,870	18,000	27.7
> 20	424,104	45,000	9.4
> 35	361,090	22,000	16.4
> 28	266,860	18,000	14.8
> 2	261,781	30,000	8.7
> 23	168,108	25,000	6.7
omit no 4	136,181	25,000	5.4
> 43	133,972	45,000	3.0
> 12	131,818	10,000	13.2
> 42	116,819	20,000	5.8
> 1	115,730	11,000	10.5
> 47	101,836	15,000	6.8
> 15	95,277	23,000	4.1
> 31	93,344	16,000	5.8
> 17	92,330	18,000	5.1
> 29	87,297	12,000	7.3
> 11	85,021	17,000	5.0
omit no 39	77,697	17,000	4.6
27	70,162	10,000	7.0
> 5	54,206	11,000	4.9
> 33	36,166	20,000	1.8
Average	162,316	20,381	8.0

new average. Average

169,543

20,384

8.5

40

TABLE V

Nineteen

Turnover of ~~Twenty~~ Farmers' Elevators for Fiscal Years
of 1929-30 and 1930-31.

Eleva- tor No.	Capacity of elevator (bushels)	Volume of Grain (bushels)		Turnover	
		1929-30	1930-31	1929-30	1930-31
20 ✓	45,000	450,928	984,705	10.0	21.9
35 ✓	22,000	398,401	887,573	18.1	40.3
16 ✓	18,000	345,218	728,419	19.2	40.5
43 ✓	45,000	341,249	495,079	7.6	11.0
2 ✓	30,000	291,795	231,160	9.7	7.7
23 ✓	25,000	281,721	629,660	11.3	25.2
15 ✓	23,000	225,025	283,045	9.8	12.3
31 ✓	16,000	222,144	304,700	13.9	19.0
47 ✓	15,000	173,376	256,142	11.6	17.1
29 ✓	12,000	171,014	88,302	14.6	7.4
28 ✓	18,000	162,995	581,821	9.1	32.3
42 ✓	20,000	145,448	283,964	7.3	14.2
5 ✓	11,000	138,489	167,166	12.6	15.2
1 ✓	11,000	109,591	303,866	10.0	27.6
17 ✓	18,000	82,216	273,651	4.6	15.2
12 ✓	10,000	76,849	101,821	7.7	1.2
40 ✓	50,000	72,663	58,227	1.5	1.2
39 ✓	17,000	70,551	207,729	4.2	12.2
11 ✓	10,000	41,319	201,273	4.1	20.1
33 ✓	20,000	28,083	68,688	1.4	3.4
<hr/>					
Average	21,000	191,454	356,850	8.8	15.4

omitted
40

New
Average → Average 20,316 197,706 372,567 9.8 18.1

Some associations deal in items other than grain in order that the time of their employees may be utilized to a better advantage during slack seasons. Others handle sidelines merely as an accommodation for their patrons.

Coal is the sideline most frequently handled by Colorado farmers' elevators. Miscellaneous merchandise (twine, repairs, hardware, paint, etc.) ranks second. Other items handled may include the following: Feed, seeds, flour, gasoline and oil, machinery, livestock and beans.

The value of the sidelines sold as compared with that of grain varies a great deal from year to year, as the volume of grain, the prices of grain, the selling price of sidelines and the number of units sold may all fluctuate. The relationship of the sideline business to the total business of twenty-one Colorado farmers' elevators is tabulated in Tables VI and VII. For the fiscal year of 1929-30 this ranged from 1 to 76 percent and in 1930-31 from 0 to 55 percent.

It is not always the low volume elevators that handle the larger percentage of sidelines. Of the elevators whose sideline business during both years exceeded 25 percent, four had a volume of more than 220,000 bushels of grain. For the two years the average of the four was 350,000 bushels. On the other hand, only two elevators handling more than 25 percent were, for both years,

TABLE VI

Sideline Sales as Compared with the Total Sales
of Twenty-one Farmers' Elevators
during the 1929-30 crop year.

Elevator No.	Value of commodities sold	Sidelines	
		Value	: Percent of : total sales
43	\$489,124.46	\$204,125.32	42
20	458,953.89	102,402.23	22
2	411,397.63	171,294.05	42
35	363,569.41	45,913.19	13
23	343,347.93	105,349.63	31
16	324,689.12	4,592.83	1
31	278,991.19	107,291.65	38
15	243,661.97	15,589.01	6
17	242,906.66	184,813.50	76
29	208,468.68	59,879.46	29
28	147,316.84	8,196.20	6
42	142,996.88	12,108.15	8
5	142,257.50	17,202.36	12
32	109,033.42	32,818.71	23
40	131,023.44	48,897.74	37
47	122,750.00	2,693.13	2
12	88,284.34	7,140.06	8
1	84,467.07	2,202.55	3
39	69,901.81	9,007.58	13
11	65,888.34	24,164.22	37
33	54,262.78	29,880.21	55
Average	216,957.71	56,931.51	26

TABLE VII

Sideline Sales as Compared with the Total Sales
of Twenty-one Farmers' Elevators
during the 1930-31 crop year.

Elevator No.	Value of commodities sold	Sidelines	
		Value	: Percent of : total sales
20	\$599,088.94	\$56,118.58	9
35	500,930.64	28,212.38	6
23	463,758.30	114,889.22	25
43	422,975.88	165,506.82	39
16	394,167.38	3,386.62	1
2	380,653.35	139,262.70	37
28	323,338.78	6,563.31	2
17	257,283.60	127,757.29	50
31	242,752.27	79,119.42	33
42	191,800.00	25,202.53	13
15	167,356.02	11,704.79	7
1	158,285.97	1,538.94	1
47	135,282.60	---	--
11	118,694.47	20,693.29	17
39	108,480.70	6,888.88	6
29	103,885.68	50,655.03	49
5	103,293.21	11,331.97	11
40	79,492.22	43,763.01	55
32	68,192.68	23,285.74	34
33	66,729.40	35,595.71	53
12	58,074.96	7,885.90	14
Average	235,453.19	45,683.91	19

in the group with less than 100,000 bushels. The average volume of these two was 57,000 bushels.

The aggregate business transacted by the twenty-one elevators during the crop year of 1929-30 ranged from \$54,262.78 to \$489,124.46. The range was even greater in 1930-31, being \$58,074.96 to \$599,088.94. In the former year there were five companies in the "less than \$100,000 per year" group, while in the latter year four were in that group. In 1929-30 three elevators exceeded \$400,000, while in 1930-31 four were above this amount. Two of the latter passed the one-half million mark.

TABLE VIII

Summary of the Yearly Business of Twenty-one
Farmers' Elevators

Range of yearly sales (dollars)	Number of Elevators in Group	
	1929-30	1930-31
Less than 100,000	5	4
100,000 - 200,000	6	8
200,000 - 300,000	4	2
300,000 - 400,000	3	3
400,000 - 500,000	3	2
500,000 - 600,000	-	2

There is a wide variation in the number of members belonging to each of the farmers' grain elevator associations and in the amount of money that Colorado farmers have invested in their company. In each of the items considered in Table IX (i.e. capital stock paid in, number of members, and average "paid in" capital per member) the

TABLE IX

The Capital Stock paid in, the Number of Members and the Average Amount of paid in stock per member of Seventeen Farmers' Elevator Associations.

Associ- ation No.	Capital stock paid in (dollars)	Number of members	Average paid in capital per member (dollars)
68	\$56,098.62	430	\$130.46
33	44,632.50	100	446.33
2	40,650.00	102	398.53
23	39,642.78	200	198.21
32	38,976.51	160	243.60
48	36,230.35	340	106.56
31	32,747.56	150	218.32
28	29,891.43	185	161.58
17	26,661.20	150	177.74
35	26,400.00	36	733.33
40	24,110.00	85	283.65
11	19,794.52	125	158.36
16	15,800.00	104	151.92
15	10,600.00	110	96.36
12	10,243.75	50	204.88
29	7,025.00	65	108.08
42	3,975.00	61	65.16
Average	27,263.48	144	189.33

larger sum is more than ten times the smaller. The lowest amount of paid in capital stock was \$3,975.00 while the highest was \$56,098.62. Likewise, the least number of members was 36 while the largest was 430, and the lowest average paid in capital stock was \$65.16 as contrasted with the highest of \$733.33.

Operating Methods and Practices

The successful association is not always the one with the largest membership and largest amount of paid in capital stock, nor is the association unsuccessful if its membership and capital stock are small. There are a number of factors that have to do with the success or failure of an association. Some of these will be considered in this section.

The methods of handling grain used by the managers of the farmers' grain companies are the same or at least very similar to those used by independent or line companies. The farmer is paid cash for his grain, according to grade, as he brings it to the elevator. This price is usually determined by deducting the freight differential, plus a small margin, from the terminal market price for that day or the previous day. The margin used is intended to cover not only the expense of handling the grain but also to include a small profit per bushel.

Oftentimes it is difficult to determine what the margin should be. The margin is frequently fixed more

by custom or guess than by actual knowledge of what it should be. The most frequently used margin is five cents per bushel.

The price paid at competing elevators must also be considered. It sometimes happens that the manager at one elevator may more or less take the lead in establishing the daily price. In other instances the various managers may agree upon a price that the market seems to justify. If all the elevators at a given station do, as a rule, maintain the same price it does not follow that they all make the same profit per bushel. It is seldom that the expenses of any two companies are exactly the same. The volume of grain has a great deal of influence upon the per unit costs.

A farmers' organization may pay a lower price than its competitors and still obtain sufficient volume. This may come about because of the loyalty of the members but probably more frequently because they expect to receive the difference in the form of dividends at the end of the year. The management of the Colorado farmers' elevators usually attempt to at least pay as much as do the independent or line elevators.

Some of the farmers' managers enhance the profit of their elevator by the mixing or cleaning of grain. All of the managers that follow the practice of cleaning their grain maintain that it is a profitable practice. At more

than half of the farmers' elevators part of the grain is cleaned before being shipped but only about one-third of the elevators are equipped to clean all of the grain during the rush seasons.

Mixing is practiced at about one-third of these elevators. There are several advantages that accrue from mixing. A higher price may be obtained for low grade grain by putting it with a larger amount of a higher grade. Care should be exercised in order that the grade of the better grain shall not be lowered. It may even be profitable to mix two grades of grain if the resultant intermediate grade brings a higher average price.

Only two of these farmers' elevators store grain in an appreciable amount and they claim they were forced into it when their competitors started the practice. The managers are endeavoring to discourage storing as they have learned that it usually is a losing proposition both for the farmers themselves and for their organization. No charge was made for this service and the grain was not actually stored but was immediately sold. In order to have protection most managers hedged such transactions.

About one-third of the managers hedged to some extent in connection with their regular trading operations, but they were seldom consistent in their hedging practices. No adequate records were kept of the hedging transactions, hence an analysis could not be made of hedging as prac-

ticed by Colorado farmers' elevators.

Three methods of sale may be used in the selling of grain. It may be consigned, sold to arrive, or sold on track. If consigned the car of grain is billed to a broker or commission merchant who sells the grain as soon as possible after it reaches its destination. The commission merchant then remits the proceeds after deducting the expenses, including his commission. It usually happens that a draft, in amount about 90 percent of the estimated value of the grain, is drawn upon the commission merchant as soon as the car is billed. In that case only a small sum remains to be adjusted when the car is finally sold. When the grain is sold "to arrive" the country elevator manager receives a bid, either by telegraph or telephone, which offers a definite price, the grain to be shipped at a stated future date, usually not over thirty days. If the grain is sold by the third method, that is, "on track", it is sold as soon as loaded in the railway car at a price previously agreed upon.

In the two latter methods the grain must be of a given grade but if it is of a different grade the sale is usually consummated, but at an established discounted price. The greater percent of grain is sold on consignment, especially during periods of a rising price level. During periods of uncertain prices the other two methods are usually preferred if a bid that seems to offer any

degree of profit can be obtained. However, consignment losses can, in a large measure, be avoided even during declining prices if a wide enough margin can be taken or the loss may be insured against thru the expediency of hedging, if properly conducted.

The grain marketed by the Colorado farmers' elevators generally flows either east or west. As a rule wheat, rye and millet are sent east, while corn and barley are shipped west. Figures 2 and 3 show the market to or thru which these grains are most frequently sold. Only three of these are of major importance as Kansas City, Denver and Omaha received more than 90 percent of the grain shipped to these seven markets by the twenty-three farmers' elevators during the five year period of 1925 to 1929 inclusive. These three terminals ranked as follows: Kansas City 47 percent, Denver 27 percent and Omaha 18 percent.

There is, however, considerable variation if the principal grains are considered separately. For the above five year period Kansas City received 60 percent and Omaha 25 percent of the wheat. Denver was of minor importance with only 4 percent of the wheat for the period.¹¹ Denver

¹¹ The situation was decidedly different during the 1931-32 crop year as a large volume of Colorado wheat was marketed thru Denver, due in part to changed freight rates and also to an abnormal western demand for wheat.

because

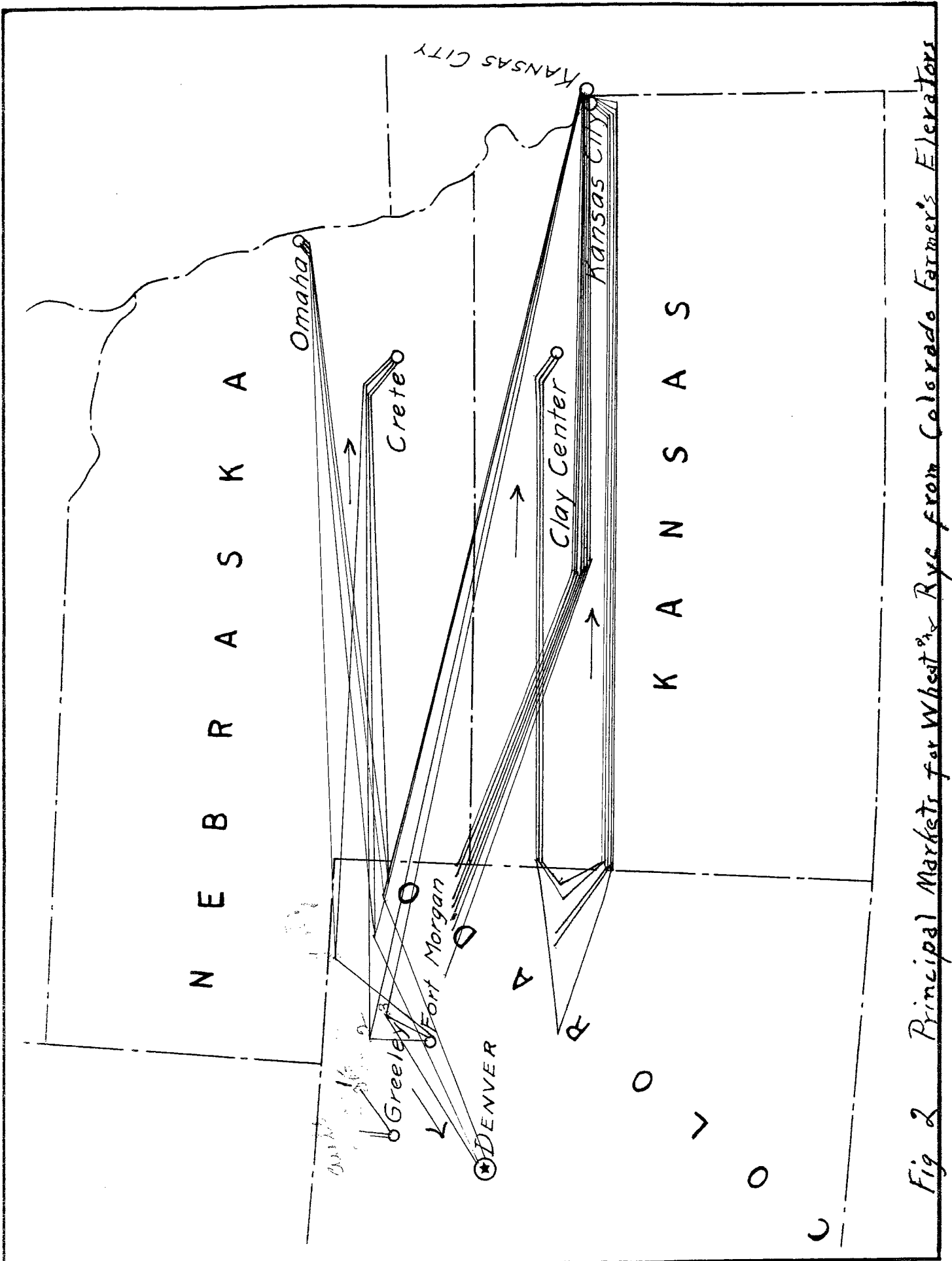


Fig 2 Principal Markets for Wheat & Rye from Colorado Farmers' Elevators

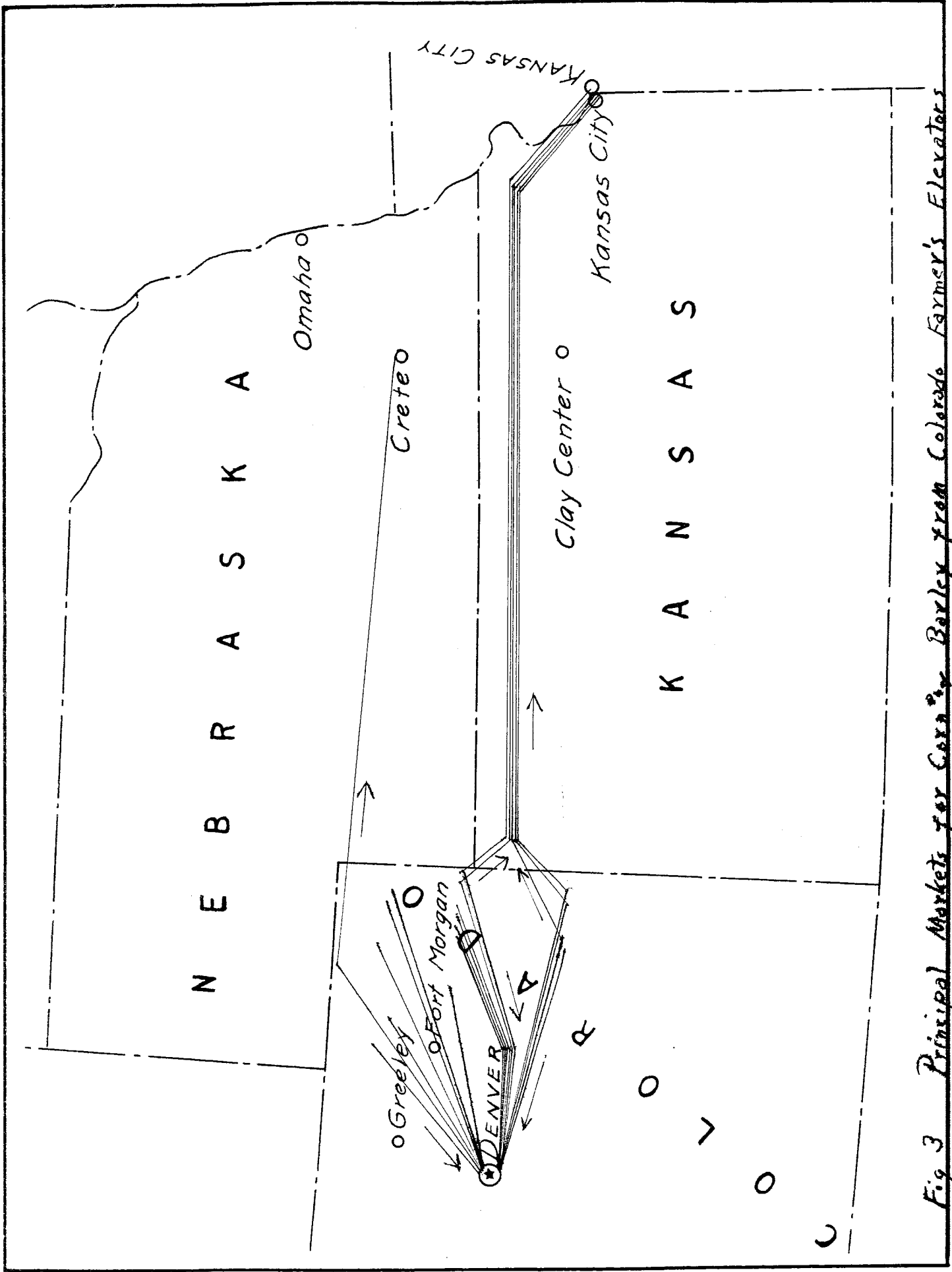


Fig 3 Principal Markets for Corn & Barley from Colorado Farmer's Elevators

and Kansas City were the only two places that handled corn to any great extent. For this grain Denver was of far more importance ^{since} ~~as~~ 88 percent of the corn shipped by these twenty-three farmers' organizations ^{was} ~~were~~ sold thru this market. Denver also handled 56 percent of the barley as compared with 28 percent for Kansas City and 10 percent for Omaha. Rye goes to the same markets as wheat, while millet goes to Kansas City, Saint Louis, Denver or Minneapolis.

In the operation of a farmers' elevator one of the important factors that must be considered is that of expense. The average expenses of seventeen Colorado associations have been grouped, as indicated in Table X, into thirteen general classifications. The average operating expense for the group was \$11,024 in 1929-30 and \$12,068 the following year. The association having the lowest expense in 1929-30 operated with a total cost of slightly less than \$2500 (\$2488) while the association having the heaviest cost had a total of more than ten times that amount (\$28,545). In 1930-31 the range was not quite so great as the lowest was \$3,752 compared with \$26,866 for the company at the other extreme.

The largest expense item for all the elevator companies, with one exception, was that of salaries and wages. These two items of expense averaged more than half the total expense for both years. Salaries are un-

TABLE X

The Average Expenses (itemized) of Seventeen Farmers' Elevator Associations.

Item of Expense	1929-30		1930-31	
	Dollars	Percent	Dollars	Percent
Salaries	\$2,018	18.3	\$2,079	17.2
Wages (extra help)	3,607	33.7	4,106	34.0
Depreciation	1,166	10.6	1,053	8.7
Interest	902	8.2	738	6.1
Taxes	658	6.0	745	6.2
Light, heat and power	455	4.1	610	5.1
Insurance	387	3.5	431	3.6
Maintenance	374	3.4	521	4.3
Supplies	152	1.4	150	1.2
Advertising	185	1.7	167	1.4
Marketing information	174	1.6	220	1.8
Bad Account	125	1.1	360	3.0
Unclassified	822	7.4	888	7.4
Total	\$11,024	100.0	\$12,068	100.0

doubtedly the more important of these two items and was the largest source of expense for the majority of the associations, yet the group average was less than that of extra help. Salaries consist mainly of payments made to managers but include also the fees paid to directors, when such fees were paid. Seven of the associations did not pay their directors during either year. In 1929-30 the average of salaries paid was \$2,018 or 18.3 percent of the total expense, while the following year they were \$2,079, or 17.2 percent.

The average of the wages paid to extra help increased from \$3,607 in 1929-30 to \$4,106 in 1930-31. A larger volume of grain necessitated more help during the 1930-31 season. The amounts paid for wages ranged from \$512 to \$13,093 in 1929-30 and from \$793 to \$14,527 in 1930-31. The majority of the associations hired at least one helper for the full year. Some employ more than one on a twelve months basis, especially those that handle a relatively large volume of sidelines.

The third largest element of expense is that of depreciation. For both years the average was more than \$1,000 per year. One elevator association had a depreciation expense of \$3,007 in 1929-30 and \$2,904 in 1930-31. Two of the associations made no charge for depreciation in either year. One of these has a fairly substantial depreciation reserve and apparently omitted the depreci-

ation charge because of the narrow margin of profit during these two years. The other association has never set aside a depreciation reserve and consequently their profits have been consistently over-stated. However, the question of depreciation must be faced sooner or later. They have been engaged for a number of years in reducing a deficit incurred shortly after they commenced business but it is doubtful if it has been reduced as much as the books would indicate if the depreciation factor is taken into account.

The next element of expense is interest. The average for 1929-30 was 8.2 percent of the total expense. This, however, is not a true picture of the situation ~~as~~ one elevator paid \$6,990 during the year for interest. If that sum is eliminated from the calculation the average for the remaining sixteen associations is less than 5 percent. Four paid no interest whatsoever and seven others had interest obligations of less than \$521. Interest payments were somewhat lower in 1930-31.

Interest is an expense that could be reduced considerably if the farmers were not quite so anxious for their company to declare and pay dividends. One association paid a dividend of approximately \$12,000 at the end of the 1929-30 season and then had to borrow within a few hundred dollars of that amount the following year.

The average tax expense was about the same for both

years. Taxes paid during 1929-30 ranged from \$214 to \$1,310. The range the next year was from \$266 to \$1,797. The 1929-30 average was \$658 and the 1930-31 average \$745.

The average paid for heat, light and power was \$455 and \$610. The expenses for power were somewhat higher in 1930-31 than in 1929-30 because more power was needed in the handling of the larger volumes. In some cases the source of power was the gasoline engine and in others, where electricity was available, electric motors supplied the necessary power.

There was very little variation in the amount paid for insurance. The average for each of the two years was \$381 and \$431 respectively or 3.5 and 3.6 percent of the total operating expense. The buildings and equipment are usually insured and then in addition a blanket policy is kept on the grain. That is, the policy varies with changes in the amount of grain in the "house." It might seem that the cost of insurance would be considerably more in years of larger volumes but the grain is handled faster, hence the average amount of grain in store is only slightly larger. A car of grain is insured while in transit but the cost is entered on the "account sales" as an item of the selling expense and therefore does not enter into the above general insurance expense.

The expense of maintenance, that is, the cost of repairs and renewals for the buildings and equipment aver-

aged \$374 in 1929-30 and \$521 in 1930-31. The amount spent for maintenance is quite frequently more during the better years as repairing is apt to be postponed during the poorer years.

The amount spent for advertising averages about \$175 per year per company. It is nearly always the sideline commodities that are advertised in the newspapers but a considerable portion of the advertising costs are due to the purchase of calendars and novelties. These may advertise sidelines only but usually are advertisements of a general nature. At times advertisements are carried more for the goodwill which they create than for the increased sales.

The money spent for market information is largely for telephones or telephone messages. Other sources of information are market periodicals, telegraphic reports, etc. The average amount spent for market information was less than 2 percent of the total expense.

The amount charged to supplies was approximately \$150 for each year. Included under this year are office supplies, stamps, brooms, sacks, and similar articles.

Some associations made no deduction for bad accounts, in fact only six of the seventeen associations made such a charge in 1929-30. The next year there was an increase in the number of companies making such deductions and in the average amount charged off, as the number of companies

increased to nine while the average amount was \$360 compared to \$125 for the previous year. Many of the farmers' elevators charge off bad accounts only when they have enjoyed a good year. This probably is done partly because the amount charged off is not so noticeable when the net profit is larger and partly on account of income taxes. Such accounts are deductible in income tax schedules. Bad accounts are usually the result of credit business in connection with sidelines.

The final expense element considered in Table X is that of the unclassified or miscellaneous expenses. In this classification were placed such items as rent and donations, in fact all that do not properly fall into one of the other twelve classifications. During both years this amounted to 7.4 percent of the total expenses.

Seldom is there an attempt made to apportion the general expenses between the grain and sideline business of a farmers' elevator association, except in instances where the business had been departmentalized. It is even then difficult, if not entirely impossible, to (exactly and accurately) apportion such expenses. Yet it is very desirable that this should be attempted in order to ascertain which phase of the enterprise is the most profitable or to learn if the sideline business is really a paying one. Various methods have been tried but none have proven entirely satisfactory.

has been

One method attempted to arrive at the "out-of-pocket" costs. That is, the manager was asked to determine how much of each item of expense would have been eliminated had there been no sidelines handled. In a similar method the manager was asked to apportion each cost item between the grain and the sideline business. This second method was attempted in this study. It was discovered however, that the managers usually based their distribution upon the percentage which each line of endeavor bore to the total business. For example, if 40 percent of the business was sidelines and 60 percent grain, he used a 40-60 percentage in determining the division of most of the expenses. A few managers did not make the desired apportionment of expenses or made but hurried guesses. Because of this and in order to place all the elevators as nearly as possible on the same basis, the procedure illustrated in the above example was adopted for this survey. That is, the expenses of the elevator were allotted to sidelines and to the grain according to the percentage of sideline sales and of grain sales, in dollars.

Such a method may seem to place too much of the expense with the sidelines as they are often carried more as an accommodation or to round out the activities of the elevator. But when the method of apportioning expenses outlined above was used with the two elevators that have departmentalized their business the expenses charged

against the sidelines were less than those charged against them on the departmental basis. While, as before stated, no method is exact, yet this analysis indicated that for the average elevator the dividing of the expenses in the same ratio as the sideline sales are to the grain sales is probably as fair and reliable as any.

Such an apportionment of expenses was made for twenty Colorado farmers' elevator companies and the results are contained in Tables XI and XII. In 1929-30 more than half of these elevators fared better on their sidelines than with grain. Only five companies show a loss on the sidelines handled. Three of these sustained losses of less than \$100. The net trading profit from sidelines ranged from a gain of \$16,011 to a loss of \$1,261 with an average net gain of \$2,169. The average net profit from the handling of grain was only \$234. There was quite a wide range in the net grain trading profit. Three of the elevators had a net gain of more than \$10,000 (one had a gain of about twice that amount). Two of the elevators had a net loss of more than \$10,000. The 1929-30 season was rather a difficult year with the majority of the twenty farmers' elevators because of rapidly falling grain prices. Twelve of these companies finished the year with a net trading loss on grain of from \$677 to \$13,764. Four of them had a trading loss even before the operating expenses were deducted.

TABLE XI

A Comparison of the Gross Trading Profit or Loss, the Estimated Share of Expenses, and Net Trading Profit or Loss for the Grain and Sidelines Handled by Twenty Farmers' Elevators, 1929-30.

Elevator No.	Gross trading profit or loss		Expenses		Net trading profit or loss	
	Grain	Sideline	Grain (estimated)	Sideline (estimated)	Grain (estimated)	Sideline (estimated)
43	\$26,241	\$ 5,078	\$6,893	\$ 4,992	\$19,348	\$ 86
23	24,901	22,031	9,331	12,728	15,580	9,303
15	18,467	1,272	6,966	445	11,501	827
20	18,249	6,457	8,595	2,424	9,654	4,033
31	7,879	5,017	3,669	2,249	4,210	2,768
29	6,838	8,877	9,916	4,050	-3,078	4,827
47	6,568	163	2,814	57	3,754	106
39	5,231	1,331	2,935	439	2,296	892
40	4,829	7,495	6,485	3,808	-1,656	3,687
42	4,629	1,046	4,324	376	305	670
2	1,714	36,084	8,472	20,073	-6,758	16,011
33	901	3,749	3,909	4,777	-3,008	-1,028
11	890	880	1,567	921	-677	-41
17	490	4,760	1,902	6,021	-1,406	-1,261
12	467	366	4,928	429	-4,461	-63
5	434	2,130	4,711	642	-4,277	1,488
1	-138	22	2,683	83	-2,821	-61
28	-1,455	1,324	6,201	396	-7,656	928
16	-5,994	73	6,416	65	-12,410	8
35	-7,103	1,200	6,661	995	-13,764	205
Average					234	2,169

TABLE XII

A Comparison of the Gross Trading Profit or Loss, the Estimated Share of Expenses, and Net Trading Profit or Loss for the Grain and Sidelines Handled by Twenty Farmers' Elevators, 1930-31.

Elevator No.	Gross trading profit or loss		Expenses		Net trading profit or loss	
	Grain	Sideline	Grain : (estimated)	Sideline : (estimated)	Grain : (estimated)	Sideline : (estimated)
20	\$32,993	\$ 4,598	\$ 9,704	\$ 960	\$23,289	\$ 3,638
23	26,992	25,167	11,690	14,677	15,302	10,490
2	14,366	28,353	9,800	19,819	4,566	8,534
43	11,395	2,539	9,024	5,769	2,371	-3,230
28	10,500	524	8,392	171	2,108	353
1	10,320	42	3,835	39	6,485	3
16	10,140	-169	7,110	72	3,030	-241
15	9,923	561	7,227	544	2,696	17
35	9,498	637	8,149	520	1,349	117
47	8,055		3,779		4,276	
42	7,808	1,812	4,557	681	3,251	1,131
31	7,028	3,676	4,430	2,182	2,598	1,494
39	5,377	-1	4,279	273	1,098	-274
11	4,798	499	3,114	638	1,684	-139
12	3,710	539	5,287	861	-1,577	-322
5	3,644	335	4,765	589	-1,121	-254
29	2,886	6,901	6,745	6,481	-3,859	420
17	2,431	6,173	4,683	4,683	-2,252	1,490
33	1,650	3,221	3,673	4,142	-2,023	-921
40	-3,765	8,715	4,339	5,304	-8,104	3,411
Average					2,758	1,286

On the whole these farmers' companies had a better year in 1930-31. Only six of the elevators closed the year with a net trading loss on grain. The greatest loss was \$8,104 while the other grain losses ranged between one and four thousand dollars. Part of the \$8,104 loss was really the result of the previous year's operations but was carried into 1930-31 because a considerable volume of grain was overvalued when invoiced at the end of 1929-30. The largest net grain trading profit in 1930-31 was \$23,289. The average net gain on grain was \$2,758. The average gain from sidelines was only \$1,286. Seven elevators had a loss on sidelines when their proportionate share of the expenses had been taken into account. Only one of these losses was for more than \$1,000, however. This elevator had a net loss on sidelines of \$3,230 largely because they handled more than \$146,000 worth of livestock with practically no margin of profit. The analysis of both these years indicate that the handling of sidelines quite frequently results in some profit even after their share of the expenses have been considered and that when a loss does occur it is usually comparatively small.

Tables XIII and XIV show the combined net trading profit or loss of grain and sidelines. The final net incomes are also shown after the miscellaneous or other income has been added. Other income includes such revenues as rent, interest, claims or bad debts collected, (omit cash

TABLE XIII

The Net Trading Profit or Loss, Other Income and
Net Income of Twenty Farmers' Elevators,
1929-30.

Elevator No.	Net trading profit or loss	Other income	Net income
43	\$19,434	\$ 138	\$19,572
23	24,883	4,047	28,930
15	12,328	70	12,398
20	13,687	2,091	15,778
31	6,978	320	7,298
29	1,749	2,741	4,490
47	3,860		3,860
39	3,188	84	3,272
40	2,031	847	2,878
42	975	673	1,648
2	9,253	3,644	12,897
33	-4,036	1,617	-2,419
11	-718	38	-680
17	-2,667	1,275	-1,392
12	-4,524	170	-4,354
5	-2,789	350	-2,439
1	-2,882		-2,882
28	-6,728	1,624	-5,104
16	-12,402	162	-12,240
35	-13,559	208	-13,351
Average	2,403	1,005	3,408

TABLE XIV

The Net Trading Profit or Loss, Other Income and
Net Income of Twenty Farmers' Elevators,
1930-31.

Elevator No.	Net trading profit or loss	Other income	Net income
20	\$26,927	\$ 451	\$27,378
23	25,792	3,330	29,122
2	13,100	2,975	16,075
43	-859	1,004	145
28	2,461	1,488	3,949
1	6,488	115	6,603
16	2,789	747	3,536
15	2,713	30	2,743
35	1,466	1,539	3,005
47	4,276	100	4,376
42	4,382	547	4,929
31	4,092	191	4,283
39	824	106	930
11	1,545	418	1,963
12	-1,899	2,414	515
5	-1,375	262	-1,113
29	-3,439	2,520	-919
17	-762	1,736	974
33	-2,944	1,562	-1,382
40	-4,693	1,811	-2,882
Average	4,044	1,167	5,211

OK *omit these words.*
 over or dividends.)

The net incomes ranged, in 1929-30, from a gain of \$19,572 to a loss of \$13,351. The corresponding figures⁵ for 1930-31 ^{were} was a gain of \$29,122 and a loss of \$2,882. Nine of the twenty elevators suffered a loss in 1929-30 while only four were unable to show a profit for the 1930-31 season. The average net incomes of the group for these two years were \$3,408 and \$5,211 respectively.

One fact must be recognized in connection with the losses suffered by farmers' grain elevators. It may happen that the farmers' association has assumed a loss that really should have been borne by the individual farmers. That is, the elevator operated on too narrow a margin in an effort to secure for the members as much as possible for their products. Even when a satisfactory margin is obtained losses may occur because of such factors as insufficient volume, mismanagement, too large an investment, or too much overhead.

The margins realized on the grain received by the elevators under discussion ranged from 8.8 cents to a minus 1.8 cents a bushel in 1929-30 (gross profit or loss, Table XV). The estimated cost or expense¹² ranged from 13.9 cents down to 1.6 cents a bushel. Six of the elevators had an expense of 2.0 cents or less per bushel. All of these low cost establishments had a volume of more than

¹² For method of estimating expenses see page 42.

175,000 bushels. The expense of four was more than 5.0 cents per bushel. These all had a volume of less than 175,000 bushels. Eight of the elevators made profits ranging from .2 to 5.7 cents per bushel. The other twelve suffered losses of from 1.6 to 10.7 cents a bushel. The majority of these lost because of insufficient volume altho a number would have fared much better had they been able to realize a satisfactory margin.

In 1930-31 all of the elevators, except one, realized a trading margin or gross trading profit per bushel (Table XVI). This one unit would probably have realized a gross profit if the grain in store there had been invoiced at the market when the audit was made at the end of the 1929-30 season. The other nineteen were able to obtain margins ranging from .9 to 6.2 cents per bushel. The expenses ranged from .9 to 7.5 cents per bushel. Twelve elevators had a per bushel cost of less than 2.0 cents. The volume handled by each of these was more than 200,000 bushels.

Four elevators had an expense of more than 5.0 cents a bushel. These all handled volumes of less than 102,000 bushels. Fourteen of the group had net profits ranging from .2 to 2.4 cents a bushel while six lost from .7 to 17 cents a bushel. Five of these handled less than 175,000 bushels. The other one handled almost 100,000 bushels more than that but nevertheless sustained a loss because

TABLE XV

A Comparison of the Volume of Grain and the Gross Profit or Loss, the Expense and the Net Profit or Loss per bushel at Twenty Farmers' Elevators, 1929-30.

Eleva- tor No.	Volume of grain (bushels)	Per bushel analysis of grain trading		
		Gross profit or loss (cents)	Estimated grain expenses (cents)	Net profit or loss (cents)
20	450,928	4.0	1.9	2.1
35	398,401	-1.8	1.7	-3.5
16	345,218	-1.7	1.9	-3.6
43	341,249	7.7	2.0	5.7
2	291,795	.6	2.9	-2.3
23	281,721	8.8	3.3	5.5
15	225,025	7.2	2.7	4.5
31	222,144	3.5	1.7	1.8
47	173,376	3.8	1.6	2.2
29	171,014	4.0	5.8	-1.8
28	162,995	-.9	3.8	-4.7
42	145,448	3.2	3.0	.2
5	138,489	.3	3.4	-3.1
1	109,591	-.1	2.4	-2.5
17	82,216	.6	2.3	-1.7
12	76,849	.6	6.4	-5.8
40	72,663	6.6	8.9	-2.3
39	70,551	7.4	4.2	3.2
11	41,319	2.2	3.8	-1.6
33	28,083	3.2	13.9	-10.7

TABLE XVI

A Comparison of the Volume of Grain and the Gross Profit or Loss, the Expense and the Net Profit or Loss per bushel at Twenty Farmers' Elevators, 1930-31.

Eleva- tor No.	Volume of grain (bushels)	Per bushel analysis of grain trading		
		Gross profit or loss (cents)	Estimated grain expenses (cents)	Net profit or loss (cents)
20	984,705	3.4	1.0	2.4
35	887,573	1.1	.9	.2
16	728,419	1.4	1.0	.4
23	629,660	4.3	1.9	2.4
28	581,821	1.8	1.4	.4
43	495,079	2.3	1.8	.5
31	304,700	2.3	1.5	.8
1	303,866	3.4	1.3	2.1
42	283,964	2.7	1.6	1.1
15	283,045	3.5	2.6	.9
17	273,651	.9	1.7	-.8
47	256,142	3.1	1.5	1.6
2	231,160	6.2	4.2	2.0
39	207,729	2.6	2.1	.5
11	201,273	2.4	1.5	.9
5	167,166	2.2	2.9	-.7
12	101,821	3.6	5.2	-1.6
29	88,302	3.3	7.6	-4.3
33	68,688	2.4	5.3	-2.9
40	58,227	-6.5	7.5	-14.0

the margin or gross profit was only .9 cents a bushel.

Thus the analysis of Tables XV and XVI seems to indicate that there is a fairly definite volume range which the elevators must, as a rule, at least approach if they are to realize a profit on their grain trading. Figure 4 substantiates the conclusion. In this scatter diagram each dot represents the volume and costs per bushel for one elevator for one year. The costs and volumes of twenty Colorado farmers' grain elevators for the fiscal years of 1929-30 and 1930-31 are included in the diagram. All of the elevators with a volume of more than 300,000 bushels operated with a per bushel cost of less than 2.0 cents. The free hand curve in Figure 4 indicates that the costs per bushel are relatively high for those grain companies ~~who~~ ^{that} are compelled to operate with a volume of much less than 200,000 bushels.

Figure 5 shows approximately how the total expenses or costs increase with increased volume. The total costs show a tendency almost opposite that of the costs per bushel. That is, the curve representing total costs rises rather rapidly as the volume increased from 50,000 bushels up to 300,000 bushels and then flattened out, whereas the curve representing the costs per bushel fell very rapidly as the volume handled increased from 50,000 bushels to 200,000 bushels and flattened out after 300,000 bushels had been reached.

It would seem, then, that a farmers' grain concern should have a minimum volume of about 175,000 bushels and that they have a much better chance of success if they can secure 300,000 bushels or more.

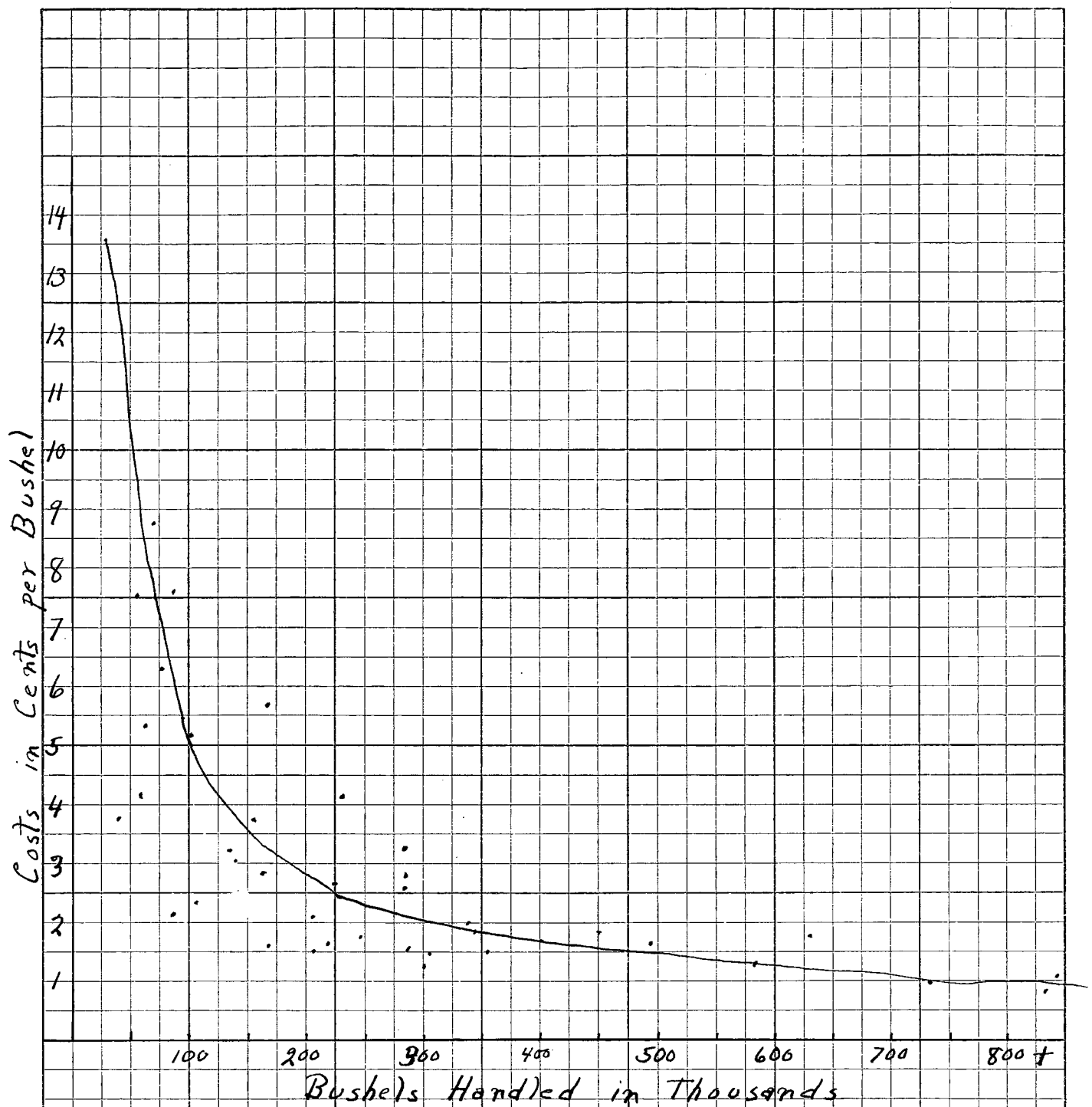


Fig. 4. Relation of Volume To Cost Per Bushel
of Handling Grain

1929-30th 1930-31 Seasons

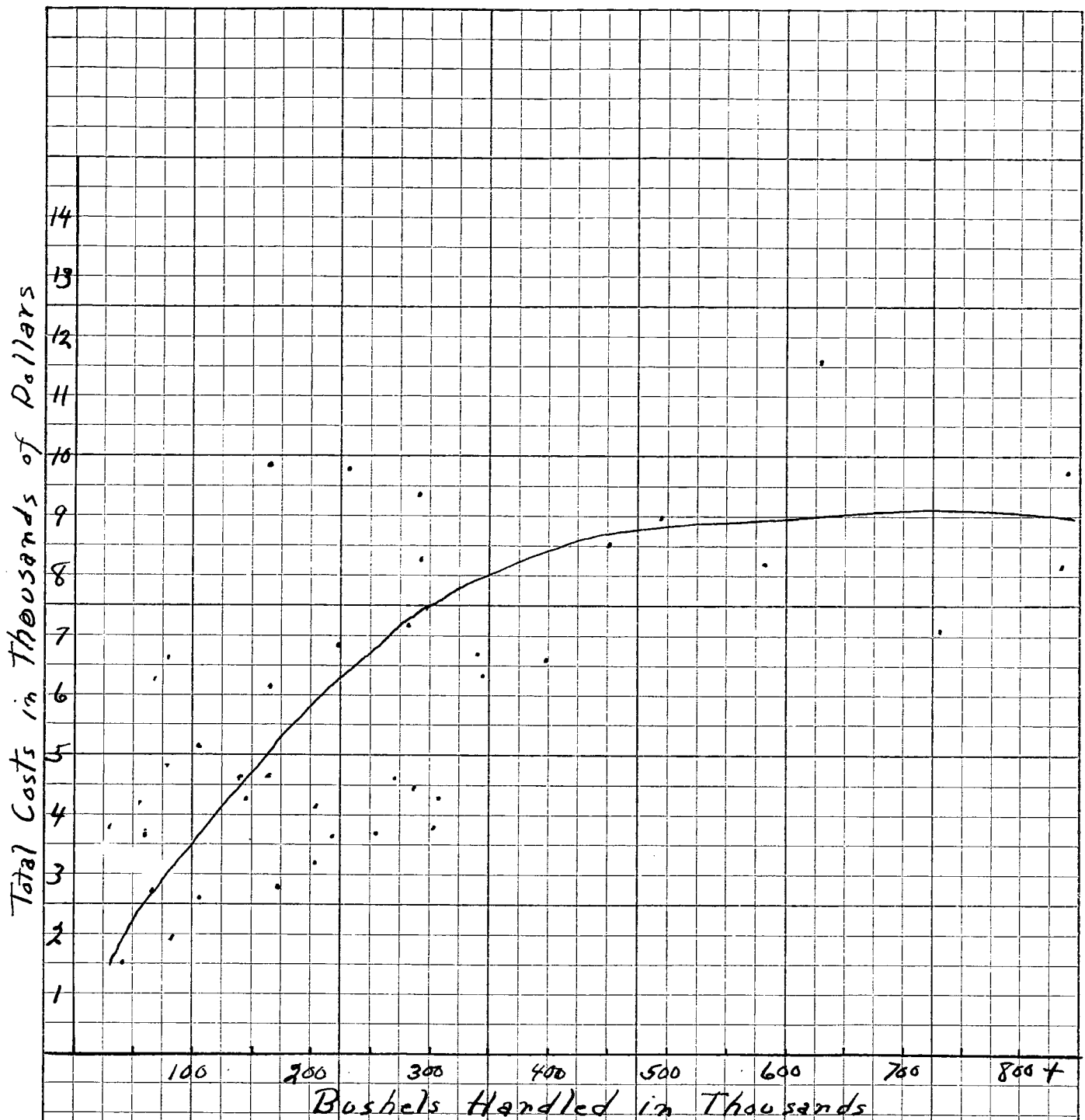


Fig 5. Relation of Volume To Total Cost of Handling Grain

1929-30 ^{to} 1930-31 Seasons

Financial Factors and Standards

Tables XVII-A and XVII-B contain a comparison or analysis of certain phases of the business methods or practices of twenty Colorado farmers' grain elevators. The factors or ratios have been grouped into four divisions: I, Working Capital Situation; II, Fixed Capital Analysis; III, Financial Results of Operation; and IV, Volume. Between the two horizontal lines in the middle of the table are the "desirable standards" for each factor or ratio. These desirable standards¹³ are the result of a large number of studies conducted by the experiment stations of the various grain states and of surveys made by the Division of Cooperative Marketing.¹⁴

The ratio of each elevator was placed in the table according to rank, with those better than the desirable standard above the two horizontal lines and those under the standard below these lines. Thus the table contains ratios of all the elevators without revealing the identity of any individual organization.¹⁵ *add paragraph here*

It has been found that if farmers' grain organizations are to be successful they must equal or exceed a majority of these standards. The ratios in Table XVII

¹³ The writer claims no credit for the standards set up in the analysis nor for the system of analysis.

¹⁴ Formerly with the United States Department of Agriculture but now a section under the Federal Farm Board.

¹⁵ Appendix B shows how the position of an elevator may be shown to its manager and directors.

TABLE XVII-A

Ratio Analysis of Twenty Colorado Farmers' Elevators
at end of 1930-31 season

	I. Working Capital Situation					II. Fixed Capital Analysis	
	A	B	C	D	E	F	G
	Current Assets to Current Liabilities	Cash and Re- ceivables to Current Liabilities	Ratio of Sales to Receivables	Ratio of Sideline Sales to Receivables	Ratio of Cash to Current Liabilities	Ratio of Sales to Fixed Assets	Ratio of Net Worth to Fixed Assets
Desirable Standards			315.95		39.81	67.61	
			198.68		24.72	28.26	
	56.37	49.48	83.07		8.60	24.93	4.08
	59.91	48.45	69.67		7.50	22.05	3.73
	17.60	16.18	64.97		4.84	21.01	3.61
	13.72	10.68	43.65		2.18	20.87	3.27
	11.58	9.96	36.65		1.77	19.80	2.70
	5.62	4.25	36.43		1.07	17.12	2.54
	5.38	3.86	25.03		.80	17.04	2.27
	4.90	2.48	21.60		.72	14.48	2.05
	3.81	2.43	18.06		.53	12.78	2.00
	3.36	1.46	17.29		.26	11.03	1.82
	2.37	1.37	14.74	32.98	.26	10.11	1.74
	2.01	1.32	14.52	15.97	.23	8.47	1.60
	2	1	12	12	.2	8.20	1.5
	to	to	to	to	to	to	to
	1	1	1	1	1	1	1
	1.49	.75	11.77	9.80	.08	6.01	1.34
	1.39	.61	11.55	5.74	.06	3.16	1.20
	.96	.57	10.64	5.74	.02	2.41	.89
	.92	.55	6.96	4.87	.01	2.10	.89
	.85	.52	4.45	4.68	.01	1.36	.89
	.85	.52	1.86	4.50	.01		.83
	.72	.46		4.12			.46
	.61	.41		4.12			
				3.71			
				3.60			
				3.04			
				3.04			
				2.71			
				2.56			
				2.45			
				1.26			
				.74			
				.62			

TABLE XVII-B

Ratio Analysis of Twenty Colorado Farmers' Elevators
at end of 1930-31 season

	III. Financial Results of Operation						IV. Volume
	H	J	K	L	M	N	O
	Ratio of Operating Cost to Gross Income	Ratio of Cost of Total Sales to Total Sales	Ratio of Cost of Sideline Sales to Sideline Sales	Ratio of Cost of Wheat Sales to Wheat Sales	Ratio of Salaries and Wages to Total Operating Expense	Relation of Salaries and Wages to Gross Sales	Turnover of Grain
					.29		40.5
					.31		40.5
					.36		32.3
	.32				.43		28.7
	.37				.43		25.2
	.47			.80	.45		25.2
	.48			.84	.46	.74	21.4
	.61	.79		.93	.47	.84	20.1
	.65	.89		.93	.48	.97	19.1
	.66	.89		.94	.50	1.25	18.3
	.67	.91		.94	.52	1.25	15.3
	.68	.92		.94	.53	1.35	14.2
	.74	.93		.94	.53	1.56	12.3
	.77	.93		.94	.54	1.68	12.3
	.83	.94	.78	.94	.54	1.68	11.8
	.91	.94	.80	.94	.55	1.84	11.0
	.92	.94	.80	.95	.55	1.96	10.2
Desirable Standards	.96 to 1	.94 to 1	.85 to 1	.95 to 1	.6 to 1	2%	10 to 1
	.99	.95	.86	.96	.62	2.26	7.7
	1.07	.95	.87	.96	.63	2.54	7.4
	1.26	.96	.91	.96	.67	2.81	3.4
	1.39	.96	.92	.97		3.78	1.2
	1.43	.96	.92	.98		4.06	
	2.06	.97	.92	.98		4.22	
		.97	.93	1.06		6.11	
		.97	.95	1.83		7.09	
		.97	.95			7.95	
		.98	.95				
			.97				
			.98				
			.98				
			1.00				
			1.05				
			1.06				

indicate the position of the Colorado elevators at the end of 1930-31 season and are based upon the audits made at that time.

In division I are those factors concerned with the working capital situation. The first column considers the ratio of current assets to current liabilities. The current assets are cash and other items not of a fixed investment character, while current liabilities are short term obligations that must be paid within twelve to fourteen months. The standard for column A is 2 to 1; that is, the current assets should be twice the current liabilities. It is commonly recognized by most business concerns that current obligations can be readily met, without sacrifice, if such a ratio is maintained.

Twelve of the elevators included in this study were above the 2 to 1 standard. Two of these had current assets which were more than fifty times their current liabilities.

Two of the eight elevators below the 2 to 1 standard had current assets that were more than their current liabilities. One of these two had a surplus of more than the total liabilities and therefore could have paid them off had they so desired. The other association had paid out more than \$10,000 in patronage dividends at the end of the 1929-30 season but were compelled to borrow that much before the close of the next season. They were able to do

this because of a good credit standing.

Of the six elevators whose current liabilities were more than their current assets, one has since gone into the hands of a receiver, one has been practically bankrupt for a number of years and is now operated by a lessee, another has been controlled largely by a bank for a number of years. The other three are able to secure working capital because of the credit or influence of the directors.

Column B gives the ratio of cash and receivables to current liabilities. Receivables consist of notes and open accounts which are due the business. The standard here is 1 to 1, meaning that the current liabilities should not exceed the cash plus the notes and accounts due the elevator. This ratio would enable the company to pay all current obligations if suddenly called upon to do so, without selling anything, merely by converting all receivables into cash. If the accounts are not all immediately collectable they can usually be discounted unless of a doubtful character.

Column C is a consideration of the relation of total sales to receivables. It is usually desirable that the accounts due an elevator should be paid on the average at least once a month. This can be accomplished even if some accounts run for more than thirty days if there are enough cash sales to counterbalance the longer accounts. Such an

average will mean that the number of accounts outstanding at the end of the year will be one-twelfth of the total sales for the year. Thus the standard of sales to receivables should be not less than 12 to 1. A smaller ratio indicates too much credit or too many slow accounts. Fourteen of the Colorado elevators had better than a 12 to 1 ratio. Two of them had ratios that exceeded the standard more than ten times which indicates that they do very little credit business. Only three of the elevators were enough below the standard to be on dangerous ground.

The credit extended by most elevators is used for the purchase of sidelines, hence the receivables should usually be compared with the yearly sideline sales and not with the total sales. Such a comparison was made in column D and reveals that all but two of the elevators extend too much credit on sidelines. In one or two instances the receivables were not due entirely to the sideline part of the business, yet these ratios show that most of the elevators have been too liberal with credit on sidelines.

The last ratio under working capital situation is that of cash to current liabilities. The standard here, column E, is .2 to 1; that is, the cash should be 20 percent of the current liabilities. Money in the bank, which is subject to check, as well as till money is considered

as cash. Such a 20 percent ratio should make it possible for the business to meet all immediate payment demands.

An elevator association having a favorable standing in respect to all the five factors of division I should have ample working capital for all ordinary elevator operations and should also be able to secure credit whenever a need for it arises.

Two factors are considered in division II (Fixed Capital Analysis), that of the relation of sales to fixed assets and net worth to fixed assets. The standard of the first of these ratios, column F, is 8 to 1; that is, the total sales should be at least eight times the fixed assets. Fixed assets include all long term and permanent investments less the reserve for depreciation. If the sales of an elevator are below the standard they have too large an investment for the business that is obtainable or which they have been able to secure. Three-fourths of the elevators were above the standard which indicates that as a rule the Colorado farmers do not have too much invested in their elevators. Four of the elevators were far below the standard which reveals that some have a serious problem. Almost without exception this has come about because changed cropping practices have reduced the amount of business available.

Column G indicates that the net worth should be one and one-half times the fixed assets or that the members'

equity in the business should be one and one-half the fixed assets. The net worth is the outstanding stock of the company plus the surplus and cash reserves. In the case of a deficit the amount of the deficit must be subtracted from the outstanding stock in order to find the net worth. The net worth of fifteen of the elevators was above or near the desirable standard.

This brief analysis of the fixed capital should disclose the position of the company in regard to the amount invested in the business.

Division III (Table XVII-B) is a summary of the financial results of operation and was made from the standpoint of six factors. The first of these, that of the relation of operating cost to gross income, column H, has a standard of .96 to 1. This means that for every dollar of gross income the cost of producing that income should not exceed 96 cents, thus leaving a net income of 4 cents or 4 percent of the gross income. Column H shows fourteen elevators above the standard with operating costs of less than 96 percent of the gross income and also that the operating expenses of the twenty elevators ranged from less than one-third to more than twice the gross income.

The next three columns consider the relation of cost of sales to sales, considering the total sales, sidelines and wheat sales. The cost of sales are found by subtracting the gross income from the gross sales. Column J indi-

not carried

$$\text{open inv} + \text{purchases} - \text{closing inv}$$

$$\text{changed in inventory}$$

cates that the cost of total sales should not exceed 94 percent of the total sales. Exactly half of the elevators were above this standard and half below but in no case did the cost of total sales exceed the total gross sales.

The standard for sideline sales is .85 to 1, therefore the average profit should be 15 percent on the sidelines handled by farmers' elevators. Column K discloses that only three of the twenty companies averaged 15 percent or better, that ten had a margin of less than 10 percent and that three had a gross loss on the sidelines handled. This proves that the majority of the elevators realized too narrow a margin on sidelines and shows why the net profits from sidelines are often small.

The desirable standard for wheat sales is .95 to 1 which means that the margin is 5 cents per dollar sales or 5 percent. It should be noted that the margin is not 5 cents a bushel. Column L reveals that twelve of the elevators obtained margins which were equal to or better than the standard and that eleven were within 1 percent of the desirable margin.

The last two factors in division III are a consideration of the relation of salaries and wages, first with the total operating expense and second, with the gross sales. Salaries and wages should not be more than 60 percent of the total operating expense and therefore the standard in column M is .6 to 1. These elevators show

very favorable in this respect as only three were above the 60 percent and ranged down to about 30 percent. Column N indicates that the salaries and wages should not be more than 2 percent of the gross sales. This is a ratio that is fairly easy for those with a large volume of business to maintain but extremely difficult for those that are handicapped because of insufficient volumes.

The volume or turnover of grain ratio is the only factor considered in division IV. The standard in this case is 10 to 1; that is, an elevator with a capacity of 10,000 bushels should handle at least 100,000 bushels of grain. According to column O two elevators had a turnover much less than the standard, two had turnovers a little less, while all the others had turnovers ranging from 10 up to about 40.

PART FIVE

Conclusions

The problems of farmers' grain elevators are many and varied, yet certain problems confront most associations some time during their existence. There is one thing that should be answered even before the association comes into existence, namely, Is there a place and a definite need for such an organization? If this question is not investigated and properly answered, the farmers' company may spend its entire life struggling for an existence.

When the company is ready to start operations it is very important that proper management be procured. In order to do this the most capable and best informed members should be elected as directors. This does not necessarily mean the organizers or the best talkers for it sometimes happens that they do not make good as directors or managers. The directors should have some conception of business principles and should be able to cooperate among themselves and with their manager.

It is the duty of the directors to select the manager. In doing this they should realize that the man who is willing to manage a business for the lowest salary may not prove to be for the best interest of the business; neither should friendship nor relationship be allowed to influence their choice. After the manager has been hired the directors should outline the general policies and then allow

the manager to conduct the business. The efforts of an efficient manager can be seriously hampered by too much supervision or interference on the part of directors or members.

It is usually best to employ a manager who is experienced in the grain business, altho a man with little or no elevator experience may prove satisfactory. ~~Six of the managers cooperating in this study had no elevator experience at the time they were hired as managers. They have all been with their respective companies for a number of years. Two managers have been with their companies since they were organized.~~ *Omig*

Members of farmers' organizations sometimes ask for a change in managers if the company fails to pay dividends or suffers a loss. They are apt to forget or fail to realize that their company could lose merely because the manager paid them a few cents too much per bushel for their grain and not because he was careless or dishonest. This may be especially true during periods of falling prices.

It is also the duty of the directors to see that adequate records are kept. At the majority of the elevators the manager keeps the books. In some instances this is entirely satisfactory while at others it is not because the manager either has to spend time on his books that should be spent elsewhere or he has to let his rec-

ords go with as little attention as possible until a slack season. If this is done inaccurate and careless work may be the result.

The systems of bookkeeping used are usually those recommended by the company's auditor and are in the main satisfactory. However, there is one phase that should be given more attention. Few of the auditors or boards of directors require that an accurate and detailed record be kept of the number of bushels of grain bought and sold. At a number of places the only record kept is that of the carlot sales and in some instances this is not accurate or complete. When one manager was questioned about the lack of bushelage record he replied that the only thing they were interested in was dollars and cents. This may be largely true, yet in order to make a complete analysis of the business the other record should be available. In one instance a flour mill was operated by the farmers' company and yet no record was kept of the number of bushels of grain furnished to the mill by the elevator.

There is scarcely an elevator that does not have a financial problem of some kind. If they have a deficit, how can it be removed? Where there is sufficient volume and the deficit has occurred because of one or two unfortunate years, the shortage should, thru loyal membership and careful, efficient management, be removed in a comparatively short period. On the other hand, if the defi-

cit has been steadily increasing for a number of years and the volume has at the same time been declining, the problem is difficult and perplexing. A few of the Colorado farmers' elevators have just such a problem. This could have been avoided by at least one of these companies. The experience of this association is typical of many a farmers' elevator. They were organized largely thru the efforts of an outside organizer to whom they paid a 5 percent commission. They sold the stock for a small cash payment and took notes for the balance. When the organization was complete they found it took most of the cash to pay the organizer his commission and hence were ready to start business with little in the treasury except notes. The association acquired an elevator from a private dealer by heavily mortgaging it and secured working capital thru the medium of a directors' joint note and started to buy and sell grain. For a number of years the elevator handled a good volume of grain and considerable profit was made each year. No reserves were set up nor was the mortgage indebtedness retired or provisions made for its retirement. All profits were paid out to the members in the form of dividends. The majority of the members have received dividends in an amount greater than the par value of the stock they hold. There came a time, however, when the volume began to decrease, due largely to changing cropping practices. Soon the books showed a

deficit. Today the plant is still mortgaged, has a deficit of a good many thousand dollars and still they struggle on.

Other associations may have no deficit yet they are somewhat hampered thru the lack of working capital because the members insist on declaring all of the profits in dividends. One way of meeting such a situation would be to declare the dividends but defer payment for, say three years. In this way a revolving fund could be built up to be used as working capital and to meet emergencies and yet, after the lapse of the first three years, dividends would be paid every year. (That is, unless none had been declared three years previous) Such a method would probably also work for the benefit of the members as the years when large dividends are declared are usually the years when the farmer least needs them.

The company whose finances are in good shape usually has a problem. How shall the finances be kept in good shape? This is more difficult than it may appear as the members do not always see the value of a surplus or reserve. Nor do the directors, the manager or the members always agree upon the amount of reserves. Authorities have contended that a going concern should have a surplus or reserves equal to the outstanding capital stock. Some members while willing that their company shall establish and keep reserves, feel that they should have the privi-

lege of borrowing from the reserve fund and with little or no security. Educational work on good business principles should help the members to see that their company must proceed along lines coherent with sound business practices. Even some of the better farmers who conduct their own business in an orderly, intelligent manner are not always willing to admit that their company should do likewise.

Colorado farmers' elevators are quite generally concerned with questions regarding the extension of credit. The deferred payments are usually due to sidelines and as there has been a tendency the last few years to increase the number of sidelines, the volume of credit accounts has been steadily increasing. The sudden declining price level made this situation more acute. The associations were confronted with large book accounts which greatly reduced their working capital.

omit

The elevators are attempting to meet the situation in various ways. Some are attempting to go on a cash basis, others extend credit to members only, with some restricting their credit to an amount not to exceed the value of the stock they own. A number are reducing the number of sidelines while others are placing the extension of credit largely with the boards of directors.

A few of the associations who placed in their by-laws a provision that the dividends on stock should be 8 or 10 percent, in order to attract capital, are now experiencing

difficulty in maintaining an active local membership. This is especially true where the by-laws contain no provision for the retirement or transfer of absentee stock. If the company has been successful and has always been able to pay the stock dividend the members who change to other occupations or move out of the shipping area, retain their stock because it is a good investment. Thus the company is obliged to send considerable money outside the community and at the same time often experience a declining volume because of the decreased local membership. Such a situation can be remedied thru a change in the by-laws. It should be comparatively easy to insert an amendment concerning absentee stock but it may be difficult to pass the amendment calling for a reduction in the stock dividends. The latter provision would reduce the interest payments to local members as well as to outside members, yet the local membership should be willing to make the change because of the following reasons: First, it would lessen the tendency for those who no longer patronize the elevator to retain their stock and thus make it easier to maintain or build up an active local membership; second, a larger membership will result in a larger volume which should lower the per unit costs and increase the profits of the association; third, larger profits mean more patronage dividends for members; and fourth, patronage dividends in turn usually result in more members. Non-

member patrons may be induced to become members if they are paid patronage dividends which must be applied toward the purchase of stock in the association.

A campaign to increase the membership may be aided by certain other changes in the company's by-laws. It may be that the par value of the stock is too high for times of low prices and little ready cash. If the par value of the stock is \$100 it may be advisable to issue four shares of stock with a value of \$25 each to take the place of the \$100 stock. This would make it easier for a farmer to become a member and may also induce some of the members to sell a few shares. Another by-law provision sometimes found is one that requires that a member shall own a stipulated number of shares before he may receive patronage dividends in cash. This may have been all right when prices were high but it is questionable if it is desirable during more difficult times.

It may become necessary for a farmers' organization to put on a special membership campaign but this can be avoided if they have waged a continuous campaign for members. That is, the manager and directors should always be on the alert for new members and should strive and be empowered to keep an active membership.

The problems and conditions which a farmers' grain elevator is called upon to meet are continually changing. The successful elevator is usually the one that can and

does meet these conditions. A change from cash grain crops greatly concerns a farmers' organization. They must either abandon their business or change more and more to sidelines. In a few cases the handling of grain has really become the sideline as the association now deals largely in farmers' supplies.

A few years ago the payment of protein premiums to the farmer was quite a problem with grain elevators, especially where only part of the shipping area had high protein wheat. However, during the 1929-30 and 1930-31 seasons protein wheat was plentiful, resulting in small protein premiums, hence the reflection of these premiums to the farmer had ceased to be a problem. *omit*

The coming of the truck, together with improved roads, necessitated numerous adjustments. A surfaced road often diverted a considerable volume of grain. This gave the elevators at certain stations more grain than they were equipped to handle, whereas the volume at other stations was greatly reduced. This was especially true in Colorado where a portion of the grain is hauled upwards of forty miles. The truck is also offering serious competition to farmers' grain elevators as truckers are now supplying feed grain to areas that were formerly supplied by local elevators.

The combine has also brought with it a problem for the farmers' grain company. Their elevator must now

handle a larger percent of the grain during or immediately following harvest and has been obliged to increase or to enlarge and speed up their equipment. The matter is further complicated because of the fact that combined grain is often damp and immature. Some associations attempt to dry this grain by elevating or fanning it. Others merely ship it out as quickly as possible. A few elevator managers simply refused to receive the grain if it contained too much moisture.

The average farmers' elevator is solving or attempting to solve its problems by making the necessary adjustments, yet there are a few that are seriously handicapped because of location. Good roads, the trucks or other circumstances have taken away their volume and there is but slight hope that it will ever be regained. There seems to be but two things possible for them, either they must pass out of existence or they must become a branch of a neighboring farmers' elevator association. This is difficult to bring about yet it would be better for both elevators if such a consolidation were made. The combined overhead expenses of the two plants would be less when consolidated than when separate. Only one market connection would need be maintained and other economies could be effected as they would no longer be competing with one another. Certain members would also benefit as they could haul their grain to the nearest elevator and still receive

their patronage dividends. There are instances in Colorado where farmers hold stock in two elevators but take their grain to the elevator handling the larger volume in order that they may receive dividends.

omit { There was considerable variance of opinion and attitude among the members and managers of Colorado farmers' elevators in respect to the activities of the Federal Farm Board and other attempts of farm relief. Some were opposed to the Board, others favored it, but the majority could properly be said to have been neutral. They were neither heartily for nor vigorously opposed to the movement, altho they were all concerned in it in so far as it might affect their business. *omit* }

The farmers elevator renders many services for its members, and for the community as well. Both the members and non-members, patrons and those patronizing competing elevators receive the benefit of prices that are probably, as a rule, better than they would otherwise be if a group of farmers were not maintaining their own selling and buying unit. Because they are members of a cooperative company many farmers are better informed as to market conditions and know what the market demands. Oftentimes because of this they have improved the quality of their product. The farmers' elevator acts as a clearing house of information, treats seed grain, grinds feeds and renders many other services for its members and patrons. They

often help the farmer collect debts or to divide rents. Some associations even lend money to members. In addition to the above and other services the farmers' elevator also gives to its members a certain pride of ownership.

PART SIX

Summary

There were earlier attempts at the cooperative marketing of grain in Colorado but the present farmer elevator movement started about the time of the World War. Thus many of them began operation during a time when efficient management and sound business practices were not as essential as they are at present.

During the last few years new inventions, a more diversified buying basis and rapidly changing economic conditions have brought many perplexing problems to the managers and directors of farmers' elevators. In order to help them solve these problems a study has been made of a representative group of farmers' elevators in Colorado. These elevators are all located in the northeastern part of the state as that is the principal grain growing section.

These farmers' associations have, as a rule, been able to obtain a fairly liberal share of the grain coming to their respective stations. At nineteen stations, where 45 percent of the elevators were owned by farmers, their elevators bought and sold approximately one-half of the grain.

In addition to grain, practically all of the Colorado farmers' elevators handle sidelines. With a number this phase of their business was of minor importance while at others the value of the sidelines exceeded that of the

grain. A small margin of profit usually accrued from the sidelines even after they had been charged with their proportionate share of the expenses. Coal is the sideline most frequently handled. Other items may include feed, seeds, flour, gasoline and oil, machinery, livestock and beans.

The credit accounts of these farmers' enterprises are causing considerable concern, especially during these times of extremely low prices. The credit business of an elevator is largely due to sidelines.

A study of the effect of the volume of grain upon the per unit costs indicates that the expenses of those elevators having a volume of less than 100,000 bushels will likely be more than 5 cents and may be as much as 13 cents per bushel. A farmers' grain concern should have a minimum volume of about 175,000 bushels. They have a better chance of success if they can secure upwards of 300,000 bushels.

A business analysis shows that the majority of the Colorado farmers' elevators are in a favorable position in respect to items concerning their working capital. The amount of fixed capital invested in the business is, as a rule, conservative. On the average they have a satisfactory volume of grain. The margins realized on grain and sidelines are also, in the main, satisfactory, altho the margins on sidelines are often somewhat narrower than

could be maintained if these items were not handled in connection with another business.

Bibliography

- Bell, E. J. Jr.
1930. Current Problems of Montana Farmers' Elevators.
Montana Agri. Exp. Sta. Bul. 226
- Boyle, James E.
1925. Marketing of Agricultural Products.
McGraw-Hill Book Company, New York.
- Colorado, General Assembly
1921. The Compiled Laws of Colorado.
Smith-Brooks Printing Company, Denver, Colo.
- Colorado, General Assembly.
1923. Senate Bill No. 307. Sec. of State.
- Elsworth, R. H.
1928. Agricultural Cooperative Associations.
USDA Tech. Bul. 40
- Filley, Horace C.
1929. Cooperation in Agriculture.
John Wiley and Sons, Inc. New York.
- Francis, Gerald M.
1926. Financial Management of Farmers' Elevators.
A. W. Shaw Company, New York.
- Kuhrt, W. J.
A Study of Farmer Elevator Operation in the Spring Wheat
Area. Preliminary Reports mimeographed.
Series 1924-25, 1925-26, 1926-27
- Metzger, Hutzell and Price, Hugh B.
1929. Economic Aspects of Local Elevator Organization.
Minnesota Agri. Exp. Sta. Bul. 251
- Nourse, E. G.
1923. Fifty Years of Farmers' Elevators in Iowa.
Iowa Agri. Exp. Sta. Bul. 21
- Price, H. Bruce and Arthur, Charles M.
1925. Management Problems of Farmers' Elevators.
Minnesota Agri. Exp. Sta. Bul. 224
- Steen, Herman.
1923. Cooperative Marketing.
Doubleday, Page and Company. Garden City, N. Y.

Report of trip in connection with the elevator
study of Project No. 9
A Study of Major Cooperative Marketing Types
in Colorado

September 21-30, 1931

For the past two years the Department of Economics of the Colorado Experiment Station has been conducting a survey of farmers' elevators in eastern Colorado. The object of the survey was to make a study of the business and operating practices of Colorado elevators. Due to prejudice in a few cases and a certain amount of reluctance to open up their books in others, no thorough analysis of the business of the elevators was attempted until this year.

During the past summer an analysis of the business for the 1929-30 season was made and placed in the hands of the managers. At that time the collection of data for the 1930-31 season was completed, hence during this last trip a report of the 1930-31 business was given, together with a comparison of both years.

A fairly comprehensive statement of the business of each elevator was submitted to its board of directors as well as to the manager. Prior to this time no contact had been made with the directors of the elevators included in the survey, therefore the attitude of directors toward the study was not known.

The analysis was made by the use of ratios or percentages based upon the audits of each elevator, supple-

mented by other data. This setup was divided into four main divisions: I, The Working Capital Situation; II, Fixed Capital; III, Financial Results of Operation; and IV, Volume of Business. Two sample statements are attached (pages 5 and 6) which show the items considered under each division. Each report was attached to a letter (pages 7 and 9) addressed to the board of directors in which attention was directed to certain items.

The meetings with the board of directors (and managers) were, as a rule, conducted as follows: After a brief explanation of the Colorado Farmers Elevator Study, the letter to the directors was read. Next, the individual business record was taken up item by item and explained by means of a chart (page 10). This chart contains ratios of all the elevators without revealing any individual organization. The ratios of each elevator are placed upon the chart, according to rank, with those better than the desirable standard above the two horizontal lines (middle of page) and those under the standard below these lines.

Each person present was given a copy of the chart and asked to underscore the ratio as each item was discussed. By connecting the underscoring lines the trend of the elevator under discussion could easily be seen (pages 10 and 11). A general discussion of the problems of the elevator in question followed every report. In

all cases the criticisms and suggestions offered were taken in a fine spirit and in a number of instances the remark was made, "Please don't be afraid to criticise us, that's what we want."

It was discovered that all the elevators have their problems, even those that are at present in good sound financial condition. The problems of these elevators are many and varied but in the majority of cases, at least part of their difficulties are concerned with one or more of the following: Stock, membership, dividends (both stock and patronage) and by-laws. Some, in fact, have situations that are not realized by the members and in a few cases scarcely recognized by the directors. These difficulties were as fully discussed as time would permit and certain suggestions were made. However, those making the survey should, in the future, be prepared to investigate and analyze the problems of the elevators and then make definite recommendations as to how they can best be met.

The attendance was remarkable, especially if the season of the year and the method of scheduling the meetings are considered. The dates were fixed (without consulting the manager or directors) by sending letters to the managers suggesting that a meeting with the board of directors was desired, and requesting them to meet at a stated time. This was necessary because of the limited

time which Mr. W. J. Hart of the Division of Cooperative Marketing of the Federal Farm Board, who assisted with the meetings, could spend in Colorado.

At every elevator where the board of directors had been notified at least one of the directors was present and in every case but one a majority of the directors was present, with all of them present seven times out of fourteen. Of the four elevators where the directors were/ ^{not} notified, three promised to have them out next year. At one of these elevators an invitation was given to attend the next regular board meeting and present the report. The fourth elevator is in the hands of a receiver.

It would seem that this study can be a means of aiding a large number of farmers thru their own organization since it is possible for a study of this kind to serve as a clearing house for information as well as rendering other assistance.

As evidence of the interest shown by the directors of these farmers' elevator companies, we have requests from twelve organizations, signed by all the directors present, asking that the study be continued for at least one more year. We received verbal requests from two other elevators.

There are a number of farmers' elevators in the State not now included in the study that perhaps should be included in the survey. Respectfully submitted,

Lerry V. Hemphill.

THE STATE AGRICULTURAL COLLEGE
and
EXPERIMENT STATION

*Removed
from
thesis of
Humphreys
Keith*

Fort Collins, Colo.

Sept. 24, 1931

To the Directors,
A _____ Elevator Company,
B _____, Colorado.

Gentlemen:

An analysis of your financial statement resulting from our recent survey shows your business to be in a sound condition. A summary of the analysis is attached hereto.

In general, your working capital situation is satisfactory. Cash in relation to current liabilities is a little lower than is desirable; however, the variation is not sufficiently marked to cause concern. Since your audit was made at a slack season of the year one would expect your cash to be lower.

You will note under section III, Financial Results of Operation, that the ratio of wages to gross sales is rather high. We believe this item will bear examination. A footnote at the bottom of the page shows that the ratio of wages to gross sales in the elevator is below 2% while the labor expenses in the other departments, particularly the mill, are rather high.

The elevator and oil business both showed substantial profits. The mill (when not credited with profits from grinding) and the produce department revealed losses. You made enough on grain and oil to cover the losses on the mill and on produce, and still have a good net return on the business as a whole.

It is encouraging to see that your notes and accounts receivable were reduced during the last year. Your small credit business is one reason you have been able to get along so well the last year or two.

Some of the farmers' elevators surveyed have expressed a desire to qualify as strictly cooperative associations. If you are interested in having your associ-

ation conform to the new cooperative marketing laws we shall be glad to assist you in making the necessary changes. Bona fide cooperatives are exempt from paying income taxes and have other advantages not available to non-cooperatives.

Hoping this report may prove helpful to you, we are

Very truly yours,

(Signed) L. A. Moorhouse
D. N. Donaldson
Ferry V. Hemphill
W. J. Hart

Committee.

THE STATE AGRICULTURAL COLLEGE
and
EXPERIMENT STATION

Fort Collins, Colo.

Sept. 26, 1931

To the Directors,
X _____ Elevator Company,
Y _____, Colorado.

Gentlemen:

Attached hereto is an analysis of your financial statement resulting from our recent survey of your elevator business.

Our examination indicates that you are handicapped by the lack of working capital. This makes it necessary to borrow money and thus add to your interest burden, which in turn automatically increases your operating expenses. There are apparently two reasons why you are short of working capital - small volume of grain and slow accounts. Your accounts were reduced almost \$500 last year. It would be a good plan to continue the reduction and also to write off the real old accounts.

The analysis of fixed capital shows the ratio of sales to fixed assets to be much too low, or to put it another way, the amount invested is too large for the amount of business now being done.

From the Analysis of Financial Results of Operation it would seem that the margins taken on some commodities are too narrow, especially the sidelines. The relation of wages to the total operating expense should be around 2%. This, again, is indicative of too small a volume.

Some of the farmers' elevators surveyed have expressed a desire to qualify as strictly cooperative associations. If you are interested in having your association conform to the new cooperative marketing laws we shall be glad to assist you in making the necessary changes. Bona fide cooperatives are exempt from paying income taxes and have other advantages not available to non-cooperatives.

We hope the above suggestions may be of help to you and we are also helpful that we may be of help to you later.

Very truly yours,

(Signed) L. A. Moorhouse
D. N. Donaldson
Perry V. Hemphill
W. J. Hart

Committee.