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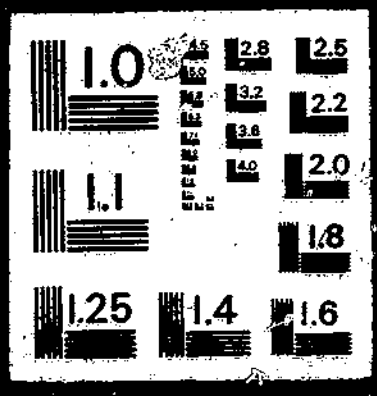
IMPROVING COOPERATIVE FARM MACHINERY OPERATIONS.

LLOYD C. BISER

ECONOMICS, STATISTICS, AND COOPERATIVES SERVICE, WASHINGTON, DC.



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Improving Cooperative Farm Machinery Operations

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This report provides an analysis of six operating cooperatives handling farm machinery, to determine how these cooperatives can improve operations. The analysis covers sales, service, facility use, as well as capital needed and management practices. Results of the analysis showed six important factors for successful operation: planning, budgeting, and capital were grouped together because of their influence upon one another. Service was grouped with facilities, and supervision and employees were grouped not only as dependent factors, but as supporting elements in the successful running of these operations.

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HIGHLIGHTS

Farmer cooperatives that handle machinery have the potential to be more successful. This is evident from a study and analysis for eight machinery-handling cooperatives whose officials are interested in ways to improve operations and services to members.

While all of the cooperative dealers have potential to be more successful, some are facing limitations. Even in well-managed organizations, pitfalls to successful management may develop. Two cooperative dealers experienced uncontrolled pitfalls; other dealers at times experienced pitfalls but not in a combination that impeded successful operation. Managers reported the following six pitfalls to avoid:

1. Franchising farm machinery that has low demand in the trade area;

2. Too many dealers in nearby areas franchising the same make of farm machinery;

3. Relying on sales volume generated only at the cooperative;

4. Less than reliable repair and service of farm machinery sold;

5. Inefficient operation due to high costs, low sales and scarce capital; and

6. Uncoordinated and uncontrolled management of activities at each level of operation.

Managers grouped and rated a number of factors as guidelines to successful operation into six categories:

1. A management team that coordinates operations at all levels;

2. A franchise for one of the most popular makes of farm machinery;

3. A sales team active at the co-op and in the field;

4. Reliable service and prompt repair in workable facilities;

5. A small computer to plan and budget capital operations; and

6. Knowledge of the machinery demanded and used in the area.

Furthermore, as cooperatives provide and improve service, more and more members can realize the benefits of cooperative machinery operations.

CONTENTS

IMPROVING COOPERATIVE FARM MACHINERY OPERATIONS

Lloyd C. Biser

Agricultural Economist

The era of more stabilized farm income and farm prices of the late 1960's did not help cooperative farm machinery dealers as much as might have been expected.

Cooperative machinery departments often were beset with both costly internal and external operating problems. Internal operating policy is not generally effective under dual management of the cooperative's manager and the machinery department manager. Independent dealers do not generally encounter this problem.

Several cooperative dealers also were faced with external problems over which they had limited or no control. These included poor facilities, out-of-the-way locations, slow-moving lines of farm machinery, aggressive competition and discount pricing.

In 1969-70, more than 100 cooperatives in the United States were franchising farm machinery, according to a survey by Economics, Statistics, and Cooperatives Service (ESCS). That study found that the larger cooperatives were realizing 3 percent net savings on machinery operations, a rate near the average of the independent machinery dealers that year. However, smaller cooperative machinery dealers were having less success in meeting their operating expenses.

Since that earlier study, eight cooperatives in the central part of the country asked for a more detailed study of their machinery operations. They were experiencing various problems and finding that an unsuccessful machinery operation also adversely affects a cooperative's other operations.

The requests prompted this study, which covers six cooperatives in Ohio Indiana and Wisconsin. All are grain marketing and supply associations that operate farm machinery departments. Two cooperatives fell victim to all the pitfalls to successful operation and discontinued their farm machinery operations.

HELPFUL IDEAS NEEDED

The main objective of this study has been to analyze the machinery operations of the six operating cooperatives to determine ways they could improve their positions and services. Analysis covers sales, service, facility use, capital needed, inventory requirements, practices, trade area, custom operations, and management practices that bear on efficient and effective operation.

This report also analyzes the background and reasons why the two cooperatives discontinued farm machinery operations.

The hope is that this study will assist other cooperative dealers through useful and positive guidelines, while also providing alerts to pitfalls.

Interviews were held with management and board members of the participating cooperatives to assemble information, analyze the present operations, and develop helpful ideas.

A detailed questionnaire was used to obtain the necessary data, which was then analyzed to determine factors that contributed to successful and limited operations.

Profiles of the cooperatives' existing elements of farm machinery operations are detailed and analyzed first. Then from these are derived the guides to successful operations.

MANAGEMENT

Management includes the directors, who set policy, and the general manager and machinery manager, who act in unison to put those policies into practice. Broad policies and plans most likely have been approved by the cooperative's members, who as the owners of the cooperative are part of the management team also.

Member-Owner Support

Managers in this study estimated that 81 percent of the farmers in their communities do business at the cooperatives. The range among the group was from 50 percent to 95 percent.

According to managers' estimates, 73 percent of the farmers, on an average, are members of the cooperatives. The range was from 40 percent at one cooperative to 95 percent at another cooperative.

Of the farmer members doing business with the cooperative, 55 percent became machinery customers, with the range being from 15 at one cooperative to 75 percent at two cooperatives.

Twenty percent of the farmer members of the cooperatives purchase all or substantially all of their farm machinery at the cooperatives while 75 percent purchase some machinery from them.

Board of Directors Support

The board of directors supported machinery operations to the extent of 50 percent at one cooperative to 100 percent at another. The 50 percent meant that one-half the board members purchased the main line of farm machinery handled by the cooperatives. Other board members purchase some machinery elsewhere so that the actual support of board members averaged nearer 80 percent. Board members' support of the total machinery operation at the cooperatives ranged from 75 to 100 percent.

General Manager

All except one of the general managers supported their farm machinery departments enthusiastically. In contrast to findings in a 1970 study, overhead cooperative costs were being allocated more equitably to the machinery departments. Usually, the general manager was allowing machinery managers more freedom to operate their departments. At the same time, the machinery manager was being made responsible for the operation--financially as well as operationally.

Machinery sales and service employee hiring and supervision were entirely the responsibility of the machinery manager. As a result, employees were more satisfied and were staying with the cooperatives longer than in 1970. Cooperative managers reported machinery employees were better paid and thus tended to stay longer with the cooperative than did employees in other firms in the area. Six shop employees averaged 16 years on the job with one cooperative.

Machinery departments have better support from both the board and general manager than was found in 1970. Policy decisions and direction are more clearly established between the boards, general manager and the machinery managers; and machinery departments seem to have generally attained equal standing with other departments of the cooperatives in 1976.

Machinery Department Manager

All but one cooperative had a fulltime manager of the machinery department. In addition to managing the machinery department, all devoted some time to outside sales of machinery.

All machinery managers consult from time to time with the cooperative manager, especially about policy decisions and financial matters. However, everyday operations were handled solely by the machinery department managers. The managers were enthusiastic salesmen, continually searching for new accounts and conferring with their outside salesmen several times daily.

OPERATING POLICIES AND PRACTICES

The six machinery operations covered in this study were departments of grain marketing and farm supply cooperatives. In 1975, machinery sales averaged 10 percent of a cooperative's total sales--ranging from 2 to 32 percent of the total among the cooperatives. Since they franchised farm machinery only for the major manufacturers, policies and practices used in handling farm machinery were quite uniform among the local cooperatives. Only the way policies are determined, administered and put into practice sets cooperatives apart. The operating policies also differ in the way the board and membership support the machinery department and in the manner and methods the general managers use to oversee it.

Use of Dealer Franchises

The six cooperatives franchise machinery for the six major manufacturing companies in the United States. They also represent most of the major companies that manufacture less than a full line of farm equipment and all handle some farmstead equipment.

All of the cooperative dealers were satisfied with franchise agreements and manufacturer requirements. Some kinds and sizes of equipment were not always available for immediate delivery, but generally the dealers could get what they badly needed from the manufacturer or neighboring dealers. According to cooperative dealers, manufacturers were not overloading their dealers with excessive amounts of equipment.

Meeting Competition

To cooperative dealers, competition is an important but not a deciding factor in the success of their farm machinery operations. It became a factor only when other dealers severely discounted prices to make a sale. But for several years now dealers have been able to realize a comfortable margin on sales, thus decreasing the effects of price competition on successful operations.

Competition in the Trade Areas

Cooperative dealers were in competition with 6 to 12 dealers within a 20-mile trade area. In each cooperative trade area at least two dealers were franchising the same make of major farm machinery, but generally, the "short-lines" (items produced by firms that do not manufacture all equipment) handled by these dealers were of different makes. Many of the independent dealers had better service facilities and sold more farm machinery than the cooperatives. However, most cooperative dealers in the study plan to meet competition and continue in the farm machinery business.

Service Facilities

Two cooperative dealers had the best service facilities in their trade areas. Four cooperative dealers operating in competition with one or more better service dealers were in weak positions to compete for sales and appeared in trouble unless they remodeled or built new service facilities.

Managing Inventories

Even though the manufacturer generally floor plans (inventories) new farm machinery for a year or until sold, cooperative dealers must inventory supplies, repair parts, and light farm and farmstead equipment. They generally end up with more investment in inventory than is needed, because of the number of lines of farm machinery the dealer must handle to meet the demand of users. Dealers must guard closely replacement and repair parts to hold inventory cost at a reasonable level.

Machinery Inventory

The average cooperative dealer had machinery inventory of $319,000--equal to nearly 50 percent of average sales. This is on the high side. A machinery inventory averaging one-third of machinery sales would be nearer to an efficient operation.

Only the best management can hold machinery inventory to one-third of machinery sales. It is a goal to strive for, and cooperation from the manufacturer is needed even though they believe that machinery must be in the hands of dealers for volume sales.

Parts Inventory

Repair parts inventory averaged $131,000 for the cooperative dealers and repair part sales averaged $147,000 in 1975. This indicated high inventory as parts inventory was nearly 100 percent of sales. A better guideline on the side of efficiency of operation would be a parts inventory of 50 percent of parts sales.

Repair parts inventory has a way of cropping up unnoticed as new parts are continually ordered and stocked to meet demand. Unless the inventory manager continually cleans the bins of unused and obsolete parts that can be returned for refund to the manufacturer, parts inventory costs will continue to grow and grow. Those dealers who discontinued some line of machinery or went out of business can attest to their surprise at the surplus of repair parts.

Accounting Systems

"An accounting of operations once a year is not enough," one manager explained. Each month the manager must have data to show sales and service activity, gross margins, operating expenses, and degree of progress for the year to date. This is all possible with a daily computer readout of daily activities. Managers have the advantage when the manufacturer provides or leases such computer equipment to the dealer. Without this data, a manager must rely on observation and annual reports provided by the accounting department.

Keeping Competent Employees

In most of the cooperatives, employees are not members of a union and thus may work at less than union wages. Competent employees can be developed through a training program that teaches pride in the organization, as well as in work performed. Paying employees as much as, or more than, the union scale plus giving attention to working conditions will help the cooperative hold trained employees.

When the cooperative has trained and developed employees to the point wherein they can contribute to the success of the organization, they must be allowed and encouraged to make that contribution. All too often, supervision related to incentive and opportunity for growth is

lacking or nonexistent. Thus, cooperative management must continue to challenge the ability of the employee and provide the opportunity to move ahead or employees will be tempted to seek other employment.

One cooperative machinery department offers incentive pay for work well done. Another offers a share of the net earnings as an incentive to reward and keep competent employees.

FACILITIES AND EQUIPMENT

One cooperative recently built new machinery facilities, another is operating out of facilities built in 1928, and the other four machinery departments operate from facilities within that age range.

Types and Condition of Facilities

Machinery operations usually involve the use of two or more buildings including: (1) a repair shop, (2) repair parts and sales building (sometimes including a shop), and (3) a storage building. In some cases all departments are housed in one building. Usually, the buildings were built or used for another purpose; so, many are "make do" buildings. Usually under these conditions the efficiency lost is nearly balanced by lower cost. While appearance is important--it is not always an indication of efficient operation. However, nearly all managers agree that consolidations of operations into one or two adjacent buildings would improve operations.

Dealer Service Center, Delaware Farmers Exchange, Delaware, Ohio.

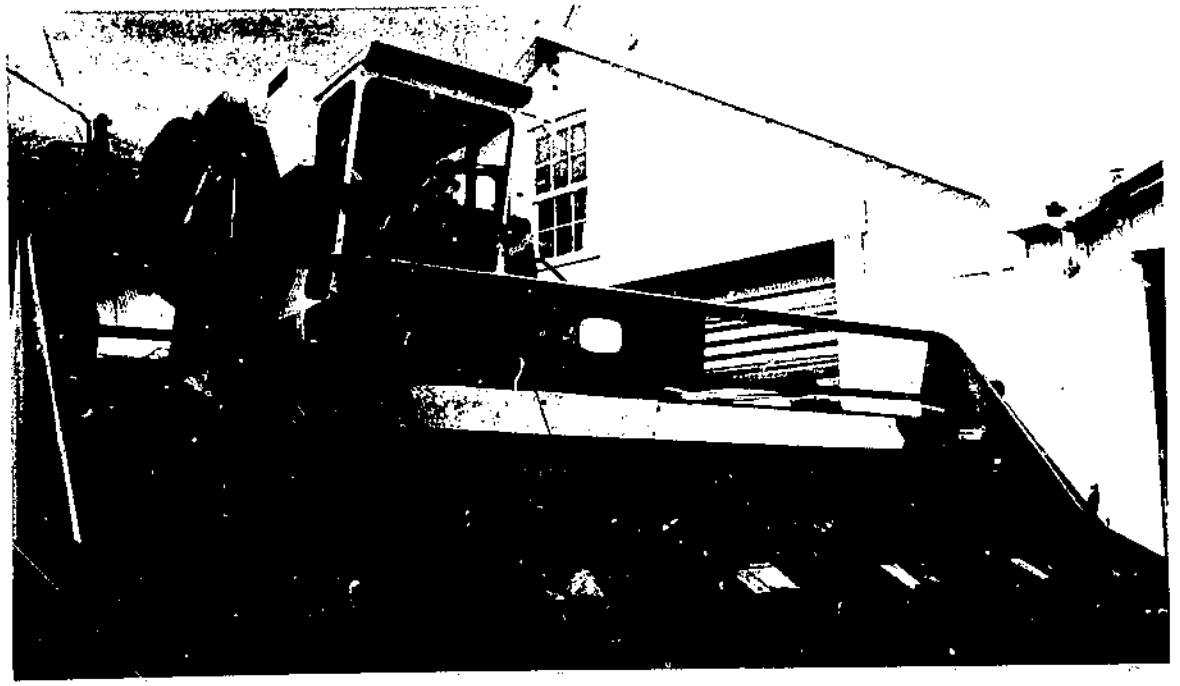
Location and Space

Some managers believe location is more important to successful operations than facilities. This was especially true where the machinery operation was segmented in three locations several city blocks apart. It is also true if the operation is located on a back street away from other business and not easily reached by members or accessible to trucks and heavy machinery.

Space for display of new and used machinery is more inadequate than adequate at the cooperatives. For lack of space, old and junk equipment is on display in the same area as the new and salable equipment. Most cooperative facilities were not designed to handle farm machinery, so that buildings and space designed or left open for other purposes is now used for machinery operations. In some cases, improvised old buildings and space--even with new additions to buildings--are inferior to those of its competitor's.

Model and Location Facilities Needed

Cooperative franchise dealers are under contract to manufacturers to provide adequate space and buildings for machinery display, service and storage. The manufacturers want volume dealers who have the tools to do the job so that both the manufacturer and the dealer will benefit. Because little provision was made in the early design of cooperative facilities for handling farm machinery, many cooperative dealers need to remodel and rebuild old facilities or build new facilities at a new location.



Machine ready for the corn field.

Some cooperative dealers have outgrown their old downtown facilities and have relocated out of town, built new operational facilities and acquired space to satisfy their needs for years to come. One of the six cooperative dealers in this study has made such a move; two others are planning to. A cooperative is ready to move when cooperative management and machinery management have decided to sell farmers machinery at the farm rather than merely wait for farmers at the cooperative.

Model Location

Moving all cooperative facilities out of town at one time is not necessary. The machinery department can be moved first--as some co-ops have done. In a year or two, other departments can follow. Other firms have proved that the machinery department can operate as effectively and efficiently away from the cooperative as adjacent to it. In fact, moving out of town will increase the opportunity to improve sales and serve more farmer members. Thus, the ideal can be achieved by moving into new facilities one step at a time.

Model Facilities

Depending upon location accessibility, new machinery facilities can be housed in one, two or three buildings. The ideal would be one building or interconnected buildings under one roof.

New machinery can be displayed outside and in front of the building. The front area of the building can be a combination retail sales and inventory display in see-through gondolas spaced throughout the sales area, within easy access to patrons. This open display will allow the members to locate needed parts and supplies, and also offer convenient repair parts storage and sales and easy replacement of parts and supplies.

The office area may be located directly in back of the retail store and parts area and connected to the shop area further back. The shop area of 10,000 square feet for a $2 million sales operation should have ceilings of 20 feet to handle the largest combines and one entrance with 20 feet wide and 20 feet high doors for large machinery. This size area will be needed for machinery repair and set-up for a growing machinery operation.

Ideally, the roof of the building could be extended out 20 to 30 feet on one side for dry storage of supplies and machinery and could be used as shelter for some outside repair and service. By acquiring 10 to 20 acres surrounding the building, expansion needs will be adequate for years to come. Such a building of 20,000 square feet of frame and siding should be possible for an investment of less than one-half million dollars in a local area.

ORGANIZATION AND OPERATION OF THE MACHINERY DEPARTMENT

All machinery departments at the six cooperatives operated under a full time manager with authority to make decisions. Each manager had at least one full line of machinery, averaged three short lines and sold other light farm and farmstead equipment plus lawn and garden and hardware supplies.

Usually the machinery departments were set up in three divisions; sales, service, and parts. All agreed that the service division was the most expensive to operate. Four concluded that new machinery sales brought in the most income and two thought new sales were most profitable. Two thought the repair parts division was most profitable and two were undecided between new sales and repair parts.

Three cooperative dealers said that each division could be operated profitably and sales volume increased. They said, that sales volume could be increased without all divisions operating at a profit--as long as the unprofitable division complemented the whole operation. They said that "this condition holds true for a machinery department operating at a loss--when the machinery department serves more members and brings in new members to the cooperative for other needs and services."

Machinery Sales

Machinery Salesman

Each cooperative dealer employed at least one salesman full time. The machinery managers estimated that half the sales made by the cooperatives resulted from sales contacts in the field. One manager estimated that one salesman increased sales volume by $250,000 annually--under average conditions and circumstances.

Used Machinery Trade-Ins

Used machinery is traded for three out of four new machines sold by cooperative dealers. This "trade-in" is the beginning of a real problem for the dealer. Not only is the farmer's trade-in often overvalued to make the sale, but repair and reconditioning costs add substantially to the value of the machine, thus capitalizing it far above its normal market value. Even when the used equipment is sold at market value--but less than cost, half the time the deal will involve another trade-in, so one loss on a sale brings on another probable transaction loss. While used machinery sales account for one-fourth of sales volume, they more nearly account for one-third of machinery operating costs.

Handling the Transactions

While some of these losses are paper losses, they are, nevertheless, on the books as money losses. To compensate, some dealers discount the price of new machinery (for bookkeeping) even though in fact they are overvaluing the used trade-in. In this manner, paper losses are reduced and losses on used machinery handling are closer to actual value.

The problem is not solved when prices of new machinery are discounted because this practice lowers gross margins realized on the sale. However, discounting places used machinery operations in better perspective and eliminates paper losses. While total margins are less, actual losses are reduced and the manager who uses this method has a less distorted view of the actual farm machinery operation.

Machinery Parts and Service

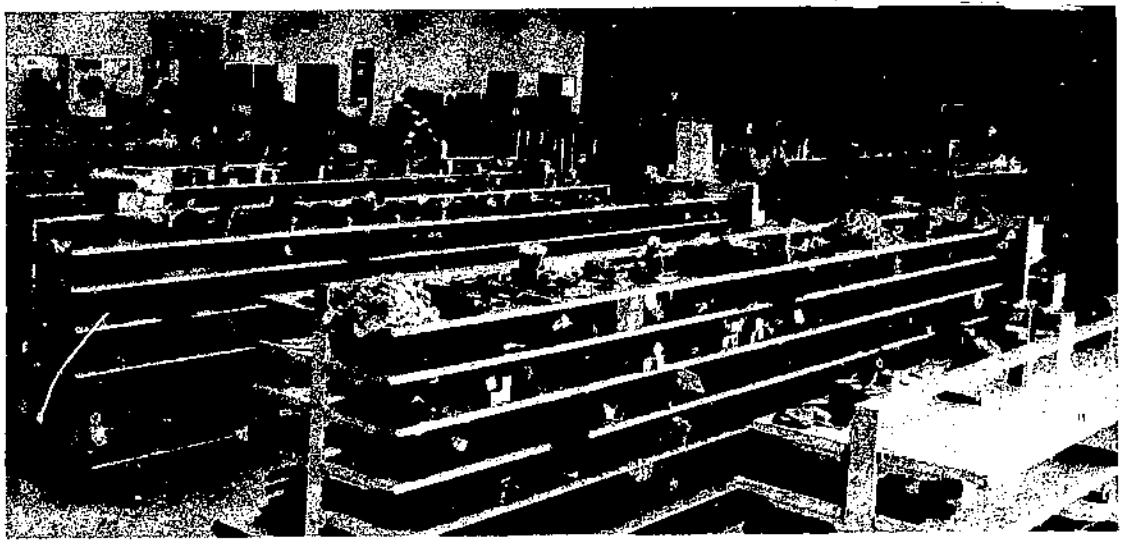
Providing farm machinery needed by farmers, as a service of cooperative dealers, has been discussed. Other direct services provided by the cooperative dealers include: (1) Repairing and reconditioning of farm machinery--in the shop and on the farm, and (2) providing repair parts and supplies.

Repair Services

The six cooperatives have machinery repair facilities and equipment to service and repair the machinery they sell--including the larger and heavy machinery. They employ an average of four mechanics in the repair shop and each shop reported a backlog of repair work. The mechanics are paid medium wages and average 9 years in service with the cooperative dealers. The shops averaged a labor return of $43,000 or a return of $10,750 per shop mechanic.

When the income from parts sold over the counter and to the shop is added to labor income, each shop averaged $190,000 or a shop income per employee of $38,000 in 1975.

Each cooperative dealer repairs and reconditions used machinery traded in to ready it for resale. All mechanics spend time repairing used machinery--mainly during lax times of customer machinery repair. Reconditioning and repair costs are charged against used machinery.



Equipment parts stored in open gondolas for easy pickup.

Cooperative dealers were well stocked in repair parts--as evidenced by their heavy inventory. Being prepared to service the multiple lines of machinery sold requires a heavy inventory. Since dealers feel that service is necessary to increase sales and fast repair is needed to satisfy the customer, most repair parts must be kept on hand. In general farming areas served by these cooperatives, it is necessary to distribute all lines of machinery needed by the farmer. Thus, heavier than normal repair parts supply is justified.

FARM MACHINERY SALES AND NET SAVINGS

The operating efficiency level of the farm machinery department is apt to begin and coincide with the operating efficiency level of total cooperative operations. The situation may be different however, where a longtime machinery manager has directed successful machinery operations, apart and separate from cooperative operations. While this, in fact, happens, it is not generally the case.

Total Cooperative Sales and Net Savings

Four of the six cooperatives market the farmer's product and also sell him farm supplies. Two are farm supply operations only; all six have had efficient and successful cooperative operations, as shown by table 1.

Table 1--Total cooperative volume and net margins of six cooperatives, 1975

Cooperative 1/	Volume of business			Net margins	Percent of sales
	Supply	Marketing	Total		
	$1,000				Percent
A	5,100	10,092	15,192	440	2.9
B	6,606	1,372	9,079	311	3.4
C	3,057	--	3,057	225	7.4
D	6,469	21,609	28,078	1,542	5.5
E	2,460	--	2,460	197	8.0
F	1,511	2,310	3,821	129	3.4
Total	25,203	36,484	61,681	2,844	--
Average	4,200	6,081	10,281	474	4.6

1/ Listed in order of farm machinery sales--from largest to smallest (see table 2).

The cooperatives earned net savings (after income taxes) of $2.8 million in 1975. Net savings were 4.6 percent of total cooperative sales of $61.7 million. One cooperative had net savings equal to 8 percent of sales, while several had net savings equal to 3 percent of sales.

Farm Machinery Sales and Service Income

Operations in 1975

Machinery sales of the cooperatives averaged about 10 percent of their total sales (table 2). Machinery sales of nearly $1 million at one cooperative accounted for 32 percent of total sales, while at the other extreme, machinery sales of $277,000 accounted for only 7 percent of total sales.

Table 2--Farm machinery sales compared to total sales of six cooperatives, 1975

Cooperative	Cooperative volume			Machinery sales & service income	Percent of total sales
	Supply	Marketing	Total		
	$1,000				Percent
A	5,100	10,092	15,192	2.025	13.3
B	6,606	2,473	9,079	1,348	14.8
C	3,057	--	3,057	985	32.2
D	6,469	21,609	28,078	671	2.4
E	2,460	--	2,460	643	26.1
F	1,511	2,310	3,821	277	7.2
Total	25,203	36,484	61,687	5,949	--
Average	4,200	6.081	10,281	991	9.6

The largest cooperative dealer had machinery sales of $2.0 million in 1975, while another cooperative had sales of $1.3 million and a third cooperative had nearly $1.0 million in sales.

Trends From 1971-75

In the period from 1971 to 1975 total sales of the cooperatives increased at an annual rate of 20 percent. This rate reflects an actual increase in numbers of units sold--indicating progress in sales much above the inflationary increase in money value (table 3).

Table 3--Average machinery sales volume for the six cooperatives, 1971-75

Cooperative	Total farm machinery sales and service income				
	1971	1972	1973	1974	1975
			$1,000		
A	808	1,668	1,876	2,127	2,025
B	889	849	1,079	1,014	1,348
C	699	710	822	892	985
D	332	355	406	601	671
E	368	376	383	403	643
F	152	176	211	206	277
Total	3,248	4,134	4,772	5,248	5,949
Average	541	689	795	875	991

Average sales for the six cooperatives grew from $541,000 in 1971 to $991,000 in 1975. In the 4 years the smallest cooperative nearly doubled its sales, while the larger cooperative increased volume by 150 percent.

Net Savings on Machinery Operations of Cooperatives

Sales of new and used machinery amounted to $4.8 million for all six cooperatives. Machinery sales ranged from less than $200,000 for one cooperative to $1.6 million for the largest cooperative dealer (table 4).

Table 4--Net savings on sales and service income on machinery operations for six cooperatives, 1975

Cooperative	Machinery and equipment sales	Service income	Total sales and service income	Net savings	Percent of sales
		$1,000			Percent
A	1,623	402	2,025	81	4.0
B	1,133	215	1,348	84	6.2
C	793	192	985	120	12.2
D	577	94	671	(112)	(16)-16.7
E	511	132	643	69	10.7
F	170	107	277	5	1.8
Total	4,807	1,142	5,949	247	--
Average	801	190	991	41	4.1

Service income from labor and parts amounted to $1.1 million for the cooperative dealers with repair parts accounting for three-fourths of service income.

Net savings varied. Except for the $100,000 loss in one cooperative, all others had savings ranging from 2 to 17 percent of total machinery sales. The group average of 4 percent net savings on operations was above the net profit of 2.92 percent (exclusive of other income) of the national average machinery dealer in 1975--as reported by the national association of machinery dealers in their annual survey. 1/

Trends in Expenses and Sales of Noncooperative Dealers

Total operating expenses (excluding cost of sales) relative to sales volume is a measure of efficiency. Data of independent machinery dealers participating in their associations' cost of doing business study were grouped by small, medium and large size dealers. Findings showed that large dealers (with sales of more than $1 million) had expenses amounting to 13.1 percent of sales in 1975. Medium size dealers (with sales between $500,000 and $1 million) had expenses of 14.1 percent--1.0 percent higher than large dealers. Small dealers (with sales of less than $500,000) had expenses of 16 percent of sales--about 2 percent above medium size dealers and 3 percent above large size dealers (table 5).

The limited number of co-op dealers in this study--two in each size category in 1975, show that large cooperative dealers compared favorably with large independent dealers in 1975. Medium size co-op dealers had expenses of 14.6 percent of sales compared with 14.1 percent for independent dealers. Small co-op dealers had average operating expenses of 16.9 percent compared with 16 percent for independent dealers. While the cooperative dealers averaged higher expenses to sales in all groups, they were not far out of line.

A large dealership does not necessarily have economies of size over a small operation, but the data in table 5 indicates that larger dealers had economies of scale over the smaller dealers from 1971 through 1975. Data in figure 1 illustrates this relationship.

Total operating expenses, excluding cost of sales, have a tendency to grow at about the same rate as sales increase--but not always in proportion. From 1971 to 1975 for instance, small dealer sales grew at a 3 percent annual rate while expenses increased at a 5 percent annual rate (table 5). Large dealer sales grew at a faster rate--7.5 percent, while expenses increased slower, at a 5.5 percent annual rate. Only the medium size dealers with annual sales ranging from $500,000 to $1 million, had both sales and expense growth of from 1 to 2 percent of the period (figure 2).

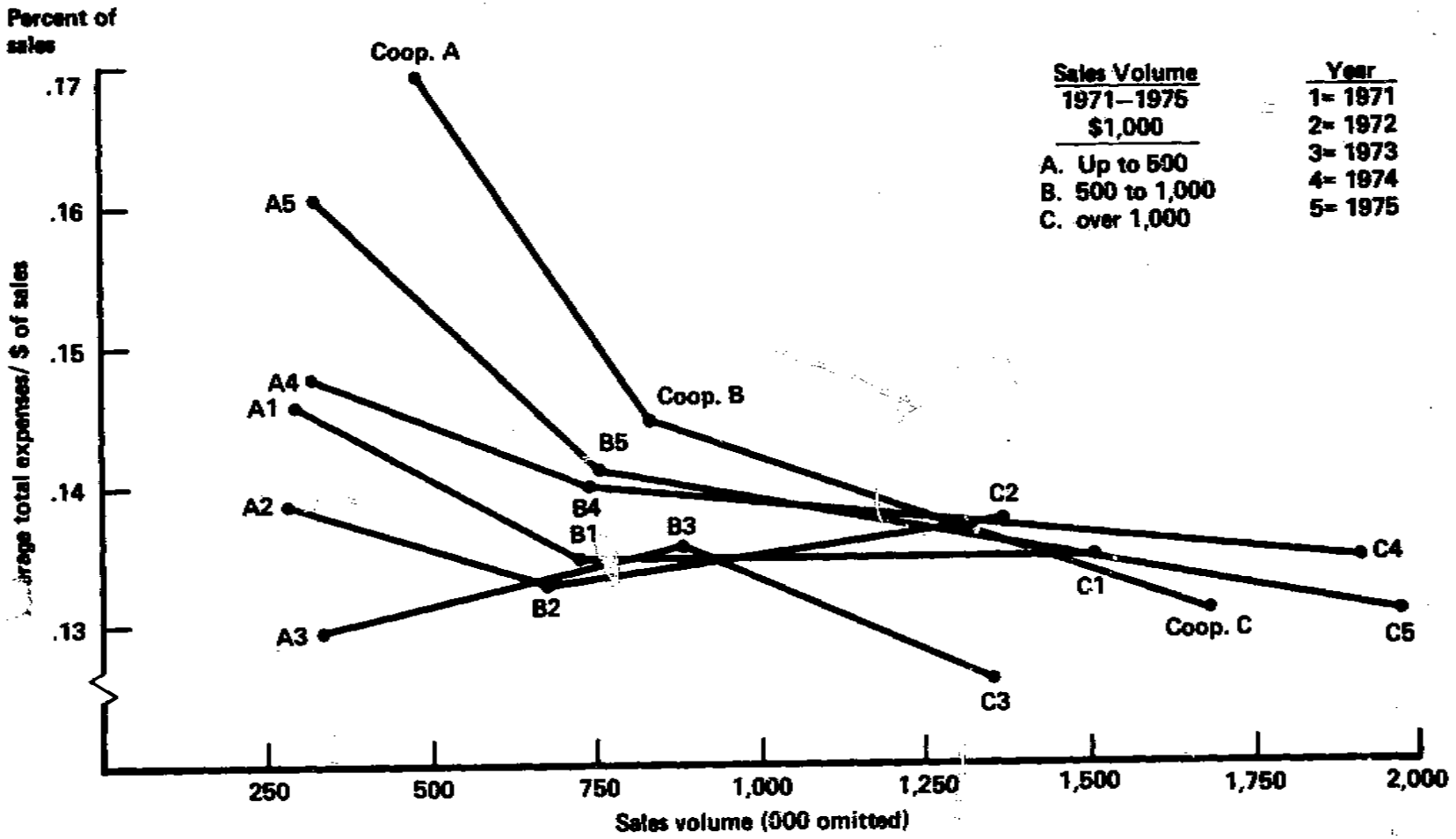
1/ National Farm and Power Equipment Dealers Association, St. Louis, Mo.

Table 5--Expense/sales relationships, average farm machinery dealers, 1971-1975

Group/year	Sales	Expenses	Percent to sales
	$1,000		Percent
A - Small			
1971	295,416	43,077	14.58
1972	285,617	39,577	13.86
1973	336,006	43,565	12.96
1974	324,359	47,975	14.79
1975	329,152	52,736	16.02
1975 (co-op)	484,020	81,848	16.91
B - Medium			
1971	729,537	98,036	13.44
1972	679,567	89,949	13.24
1973	886,058	119,815	13.52
1974	746,864	104,540	13.99
1975	754,490	106,388	14.10
1975 (co-op)	838,434	121,052	14.44
C - Large			
1971	1,506,557	202,903	13.47
1972	1,371,962	188,513	13.74
1973	1,357,077	170,708	12.58
1974	1,915,170	257,380	13.44
1975	1,978,874	258,282	13.05
1975 (co-op)	1,684,381	220,381	13.68

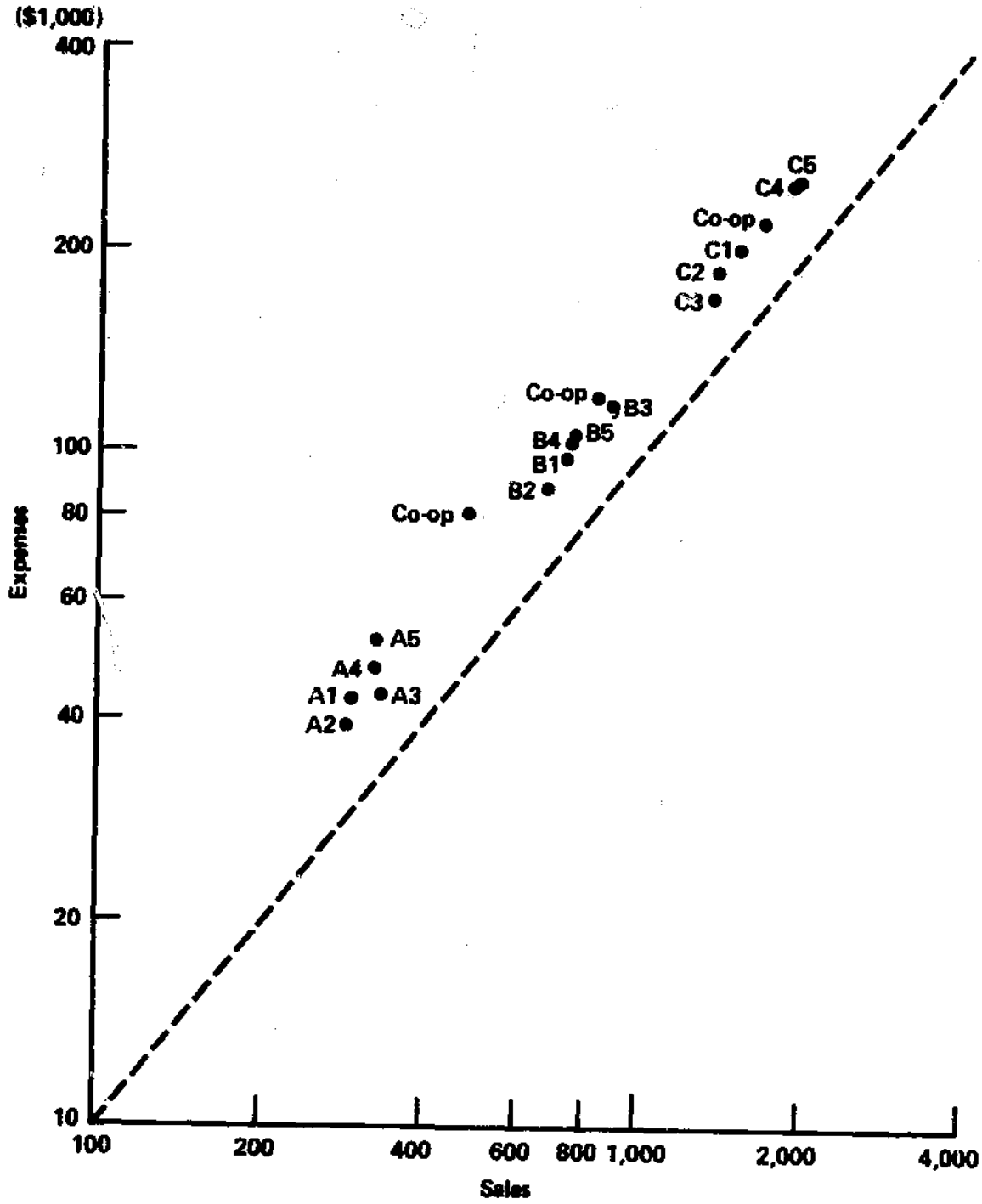
Source: Cost of Doing Business Study 1971-75, National Farm and Power Equipment Dealers Association, St. Louis, Missouri.

Figure 1 -- Expense/sales ratio as affected by value of sales, average farm machinery dealers, 1971-1975



Source: Cost of Doing Business Study 1971–1975. National Farm and Power Equipment Dealers Association.

Figure 2 -- Sales/expense relationships, average farm machinery dealerships, 1971-1975



Source: Cost of Doing Business Study 1971 to 1975, National Farm & Power Equipment Dealers Association.

Additional sales volume does not always cause expenses to decline relative to sales, but additional sales above the $1 million volume will generally cause expenses to decrease relative to sales (figure 1).

Efficient Operating Levels

Operating efficiency begins with general management and continues under the direction of the machinery department manager, who must understand the nuts and bolts of the operation to make the right decisions. For a manager to know where the operation stands from day to day he should receive data and information on a daily basis and summaries of daily operations at the end of each month. Then, assuming the employees do a quality job, more time can be devoted to external operating problems that need special attention and consideration.

Machinery Dealers Below the Efficiency Level

A cooperative dealer, hemmed in by competition in a limited trade area and with limited resources, will slowly lose out unless a very efficient operation is maintained. A dealership operating below this efficiency level tends to grow less efficient as costs of labor and capital often increase at a faster rate than gross margins to cover them.

One way to reduce operating costs--short of laying off employees and reducing services--is to lower inventory costs in line with sales. Many small and marginal cooperative dealers tend to overstock repair parts and equipment (table 6).

Table 6--Inventory of equipment and parts compared to machinery sales for six cooperatives, 1975

Cooperative	Average inventory 1/			Machinery sales only 2/	Inventory as a percent of sales
	Equipment	Parts	Total		
			$1,000		Percent
A	672	295	967	1,928	50.2
B	418	205	623	1,304	47.8
C	202	83	285	950	30.2
D	307	48	355	634	56.0
E	210	95	305	621	49.1
F	106	58	164	255	64.3
Total	1,915	784	2,699	5,692	--
Average	319	131	450	949	47.5

1/ Average of beginning and ending inventory in 1975.
2/ Excludes service labor and retnal-lease income.

Inventory data for individual cooperatives includes some hardware and supply items as they are included in the machinery department. Nevertheless, the figures are indicative of machinery department inventory and can be used as guidelines to compare with other cooperative dealers. Equipment and parts inventory averaging near 50 percent of machinery sales for most cooperatives is high. Savings could be realized if inventory was nearer one-third of sales, as it is for the average independent dealer (table 7).

Table 7--Average sales and inventory of six cooperative dealers compared with independent machinery dealers, 1975

Year and item	Sales 1/		Inventory		Percent inventory was of sales	
	Co-op	Independent 2/	Co-op	Independent	Co-op	Independent
1975			$1,000		Percent	
New Equipment	565	812	246	244	43.5	30.0
Used equipment	206	233	61	49	29.6	21.0
Other lines	30	59	12	15	40.0	25.4
Subtotal	801	1,104	319	308	39.8	27.9
Repair parts	147	234	131	74	88.9	31.6
Total	948	1,338	450	382	47.5	28.5

1/ Service labor excluded.
2/ National Farm and Power Equipment Dealers Assoc., St. Louis, Mo.

Repair parts for cooperative dealers reflect some hardware and farm supplies but not enough to cushion the very high inventory of 88.9 percent, compared with the average independent dealer of 31.6 percent, of sales. New equipment inventory of 43.5 percent of sales for the cooperative dealer is also higher than the 30 percent for the average independent dealer in 1975.

Repair parts inventory of the cooperatives averaged $131,000 in 1975 and costs of sales $118,000, thus inventory turnover was less than one for the cooperative dealers. The average independent dealer, on the other hand, had an inventory turnover of 2.78 times.

Machinery Dealers Above the Efficiency Level

Financial records, carefully maintained, provide dealers with the only sound measuring device for business success. For instance, the number of times net working capital (current assets less current liabilities) turns over in a year in relation to sales is a good measure of business activity. When the ratio is too high, usually the dealership is short of cash and heavy on receivables and paid-for inventory. This situation promotes borrowing or sale of equipment at loss to meet payroll and other fixed costs.

Inefficient use of capital in the dealership is indicated when the ratio is low. It is usually attended by a pile-up of receivables, inventory, or cash and/or a combination of these, in excess of the needs of the business.

Return on assets is an important test of operating efficiency. It is a test of the quality of management in the use of assets in the operation. It disregards source of funds and shows the return on total capital (owner plus outside) invested in the business.

Other ratios of efficiency such as turnover of receivables, total assets and inventory, sales per employee, ownership equity, and return on net worth, all help measure efficiency of operation. The current ratio is easy to figure, since it compares total cash and items that can be converted to cash within a year with debts, which must be paid within a year. A ratio of 2 to 1 ($2 of current assets for each $1 of current liabilities) is considered satisfactory. When this ratio falls below 2 to 1, creditors have an increasing interest in the business.

High-profit dealers usually show favorable ratios in most measures of efficiency and will generally be above the efficiency level (table 8).

There were significant differences in the operating ratios of high and low profit machinery dealers--each group representing one-half of the total dealers taking part in the survey. Total sales were about the same, but gross margins of the high-profit dealers averaged 18.28 percent of sales compared with 14.24 percent for low-profit dealers.

Table 8--Comparing significant items of the highest fourth and lowest fourth of all machinery dealers, 1975 1/

Year and item	High profit		Low profit	
	Amount	Percent of sales	Amount	Percent of sales
1975	$1,000	Percent	$1,000	Percent
Total sales	1,412	100.00	1,338	100.00
Cost of sales	1,140	81.72	1,148	85.76
Total gross margin	272	18.28	190	14.24
Total sales expenses	31	2.24	37	2.77
Other expenses	135	9.64	163	12.20
Total expenses	166	11.88	200	14.97
Net profit (loss) on sales	105	7.47	(9)	(.74)
Service and other income	39	2.79	25	1.91
Total net profit or loss	144	10.26	156	1.17

1/ National Farm Power and Equipment Dealers Association, St. Louis, Mo. Figures rounded.

Total expenses for high-profit dealers average 11.88 percent of sales compared to 14.97 percent for low-profit dealers. Net profits show the significance of efficient operations--10.26 percent for the high profit dealers compared with 1.17 percent of sales for the low-profit ones.

In general, an acceptable level of efficiency can be obtained regardless of the size of operation. Keeping expenses in line and gross margin up are more important than increased sales volume. A manager of a large operation has more options and leeway in decisionmaking, as a large volume will absorb small errors in management. However, the manager of a small operation can attain efficient operations if he pays close attention to details and knows his operations. Small dealers have proved it can be done, because some are high-profit dealers.

Outside factors affecting operations such as strong competition and limited trade area--by size and/or number of farmers--will realistically limit sales volume and dictate continuing small dealerships in many areas. Thus, increasing volume is not always feasible, but improving operation by increasing efficiency of internal operation is the best alternative for management in such cases.

RELATED MACHINERY SERVICES FOR FARMERS

In addition to direct services provided by machinery departments, related services such as extension of credit on sales, renting and leasing farm machinery, and custom farming operations are provided by most cooperative farm machinery dealers.

Equipment prepared for easy transport.

Providing Credit

Cooperative dealers will extend short-term credit to machinery purchasers in an emergency. They would rather the farmer deal through their credit union or the Production Credit Association, (PCA) and they will give help and counsel farmers in obtaining credit from these sources.

Local banks supply 40 percent of the credit needs of farmers purchasing farm machinery, according to the cooperative dealers. PCA's supply 25 percent, manufacturers 15 percent, and credit unions 10 percent. Farmers pay cash for the remaining 10 percent.

Leasing and Renting Machinery

About 100 cooperative dealers reported that they rented machinery and equipment to 398 farmer members in 1970. 2/ This was in addition to loaning equipment to members while their machinery was being repaired. One-third of the cooperative dealers rented heavy farm machinery and light farm equipment to farmers in 1970. The going rate was charged on a per unit, per acre, or hourly basis depending upon prevailing practices.

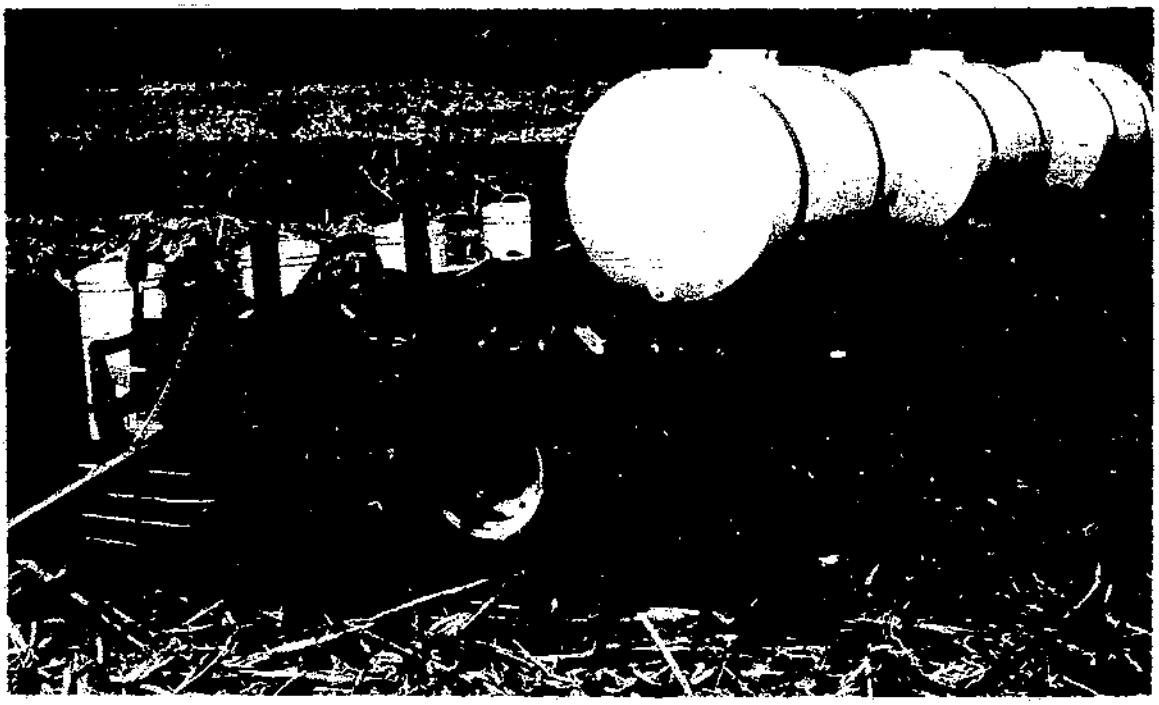
At that time most reported that renting of farm machinery was increasing. It is still increasing, depending upon how one defines leasing and renting. What had formerly been referred to as renting for several days or weeks is now called leasing by many lessors. This is because of the lease contract relating to charges, liability, and insurance accompanying the renting and leasing of farm machinery. Leasing had generally been identified with the leasing by farmers of heavy farm machinery such as tractors, combines and balers from farm machinery dealers or other lessors.

More and more, renting is used to describe the renting of light farm equipment such as lime and fertilizer spreaders, weed and insect sprayers and elevators and wagons from the distributor of the supplies to be used in them.

A few local Production Credit Associations are taking the lead in owning and leasing heavy machinery to farmers. This is a favorable breakthrough in providing a farm machinery service. These associations have the capital to do the job. They can put six or more combines in the field at one time. They know many of the farmers of the community because many are borrowing members. They can make it convenient for the farmer to pay for the leasing of machinery through operating loans. And they can conveniently contract repair work through the local cooperative and/or independent machinery dealers.

2/ Cooperatives' Farm Machinery Operations, FCS Information 86, Lloyd C. Biser.

Custom sprinkler system in operation and liquid fertilizer equipment ready for use.



More importantly, the PCA's service area is more suitable in that a large area of 6 or 7 county locals can be coordinated as one operation. This makes it feasible to own 8 to 10 large tractors needed at one time by leasing members. Furthermore, the area is large enough to adjust leasing to weather conditions by shifting combines, for instance, from south to north, thus lessening the number of machines needed by members.

All leasing is by written contract between lessor and lessee. Requirements, obligations and rates are clearly spelled out so that each party to the contract is aware of its contents. There is no subcontracting nor option to buy included in the contract. Farmers like both features since it relieves them of letting neighbors use the machine for a few hours, and farmers are under no obligation to purchase the machinery they lease.

Some cooperative and independent machinery dealers, however, have encountered problems in leasing farm machinery. In many cases, there were no clearly defined contracts, in some cases, no contract at all. "Try it out, if you like it, buy it"--was the essence of the verbal contract. The farmer liked it, but really could not afford to buy it--but sometimes he did. Then later he switched to another machinery dealer for his needs.

On the other hand, dealers had been warned to separate leasing operations from machinery sales. It isn't easy or natural for the dealer to separate the two operations and many do not. However, it is almost an economic necessity--otherwise the dealers often end up with broken or damaged equipment and loss of goodwill if they pressure the farmer to repair or purchase the equipment. Many times, the new machinery may not be broken in and will not perform properly for the farmer to adjust without training or knowledge beforehand. Hence, the dealer has several ways to lose in the leasing game.

Nevertheless there seems to be an increase in the number of machinery dealers, cooperative and independent, that are leasing farm machinery. There is more demand for leasing simply because of higher and higher cost of ownership.

Custom Farming Operations

Custom farming services are on the increase. When farmers discontinue farming, many retain ownership of their land and either rent it to a neighbor or employ a custom operator to farm it. Some farmers have incorporated and employ custom operators to farm large acreages. Even corporation farms are custom farming neighboring and distant farms.

Renting, leasing and custom farming are being used interchangeably. Lessors refer to short-term renting as leasing because of the use of the ordinary leasing contract. Custom farmers may actually lease the land from the owner. Machinery lessors supply equipment operators with equipment that is leased to farmers, and they may contract to plant, cultivate and harvest a crop or the entire farm.

As absentee ownership increases and neighboring farmers acquire more and larger machinery, opportunities for custom farming and machinery leasing will also increase. Higher machinery costs will push this trend. With labor costs increasing for the manufacturer and material, handling, transportation and distribution costs going up, there appears little chance of price decreases for farm machinery.

Thus, the cooperative machinery dealer who is limited by competition and trade area may very well increase volume of operations through leasing and custom farming operations.

REASONS WHY TWO COOPERATIVES DISCONTINUED MACHINERY OPERATIONS

Some observations about the two cooperatives that discontinued machinery operations may be helpful to understand problems or pitfalls that can be encountered in this type of business.

Both cooperatives had been in the machinery business for more than 30 years. Each was a franchise dealer for a major line of farm machinery. One cooperative essentially handled grain and sold farm equipment. The other handled a full line of farm supplies and some consumer goods, marketed grain, and franchised farm machinery. Both had total sales of $3 million to $4 million annually. In 1975 one had machinery sales of $150,000 and the other had such sales of $250,000.

Each cooperative had average machinery sales and service facilities. Each employed one parts man; one had two mechanics while the other employed one mechanic. Both were located in small towns, in good farming communities, and were easily accessible to farmers and members. Farm machinery operations had been successful at both cooperatives until recent years when unfavorable factors brought an end to these operations.

External Factors

Two external factors affecting the operations of these cooperative dealers were the policies and practices of the manufacturer with whom they had a franchise and the type of competition in the cooperatives' trade areas.

Machinery Franchise

A factor affecting operations and over which the cooperative management apparently had little control involved the conditions of the machinery franchise agreement acquired some years ago. Both cooperatives were franchised dealers for the same manufacturer. To obtain a franchise, the cooperative or other dealer agreed to terms dictated by the manufacturer. In fairness, the agreement generally had been beneficial to both contract members, but the companies had more authority to make changes than did the cooperatives.

While not a deterrent *per se* to successful operation, the franchise became an added burden to the cooperatives--already beset with internal operating problems. During this period, for example, the manufacturer made wholesale changes in engine design and size relative to tractor size. Not all combinations worked out as planned. Many tractors were recalled and redesigned.

It could be said that both the manufacturer and cooperative dealers were victims of changing times. Corporate management of the manufacturer put emphasis on industrial equipment and when it realized this kind of equipment was not the answer to its problems, it decided to redesign and stay primarily with farm machinery. But, it also decided it needed larger machinery dealers and wrote dealer specifications accordingly. Thus, the small cooperative dealer had a choice of getting larger--an impractical choice--or getting out of business.

The other cooperative received more machinery from the manufacturer than it could profitably handle. Because it was small and beset by internal management problems the excess equipment from the manufacturer compounded its problems. Had the cooperative been successful in machinery operations, it might have been able to meet manufacturer specifications.

Machinery Dealer Competition

One cooperative was in competition with 12 other machinery dealers in the generally accepted 20-mile trade area, while the other was in competition with 8 other machinery dealers. In addition, three other dealers franchised the same major line of farm equipment as did the cooperative, which led to keen competition, discounted prices, and inflated trades for used machinery. This resulted in lower margins and higher costs of sales from increased inventory and slower turnover time. Small dealers were hit harder by the actions of competing dealers in the struggle to save their franchises. The manufacturer had franchised too many dealers in the area, making it inevitable that all could not succeed.

Looking back on the first pitfall--the franchise agreement--and what strong competition in the same line of machinery leads to, the manufacturer had little option but to raise franchise requirements to increase efficiency of operation.

Internal Pitfalls

A number of internal operations caused the long, drawn-out decision to discontinue farm machinery operations. Low sales volume and high cost lowered operating efficiency to the point of little return on operations. This cooled the support--already lukewarm--of the cooperative's general management for farm machinery operations.

Farm Machinery Sales Volume

Foremost internal factor to depress operations was that of limited new machinery sales. From this the best margins are realized. While dealer competition and price setting did, in fact, affect sales, they were not as much limiting factors as the inability of management to promote sales through an investment in salesmen to seek out machinery customers. When cooperative dealers wait and depend on patrons to come to the cooperative, they are endangering successful operations. Most of the machinery sales by the two cooperative dealers were made at the cooperative, although the manager of the smaller cooperative made some outside sales--when he could find time from other duties to be on the road.

Servicing of Machinery Sold

Servicing the machinery sold is also serving the member owner and will lead to increased sales. This requires a service shop and adequate equipment. This is half the job of making new sales, for the farmer expects to get equipment serviced where it is purchased.

The smaller cooperative lacked shop equipment and help to repair large machinery. The main reason was that sales volume was too low to justify this equipment. The larger of the two cooperatives had the equipment and men, but was kept busy servicing and repairing trucks and equipment owned and operated by the cooperative.

Delaware Farmers Exchange, Delaware, Ohio.

Operating Efficiency

Pitfalls to successful operation are neither separate, distinct nor clear cut--they are interlaced. For instance, low volume sales at the smaller cooperative would not justify needed repair facilities for large machinery. Service and repair of cooperative equipment had priority over members' machinery--even though co-op equipment was repaired at cost by the machinery department. This not only affected operating efficiency of the department but also affected new machinery sales, which in turn affected operating efficiency.

Efficiency of operation is also limited by available operating capital. Whether due to low margins, overstocked inventory, or low sales, a lack of operating capital can cripple efficiency and contribute to pitfalls to successful operation. Minimum operating capital equal to one-half of total machinery sales is needed annually for successful operation. The two cooperatives could not realize gross margins to generate net savings for operating capital and were forced into an inefficient position of borrowing capital they should have earned.

Cooperative Management

The general manager, the machinery department manager, the board, and regional management input, where applicable, must operate as a team. Lack of coordinated management can be another pitfall, depending upon local management decisions made and carried out. When management is coordinated, problems can be solved, limited and/or prevented.

This is aptly demonstrated by past action of management at the two cooperatives. The machinery manager at cooperative A actively supported and promoted machinery for years. Reluctantly, he exchanged positions with the manager of another cooperative. Not long thereafter, the board of cooperative A voted to discontinue machinery operations.

The lukewarm support of some board members and nonsupport from others, determined the final decisions.

Board members and the manager of cooperative B reluctantly accepted the fact that capital necessary to update the machinery department to manufacturer's specifications was not available from earnings, nor was it feasible to borrow capital on the basis of present earnings. Therefore, the board with the consent of the general manager chose to discontinue the franchise, but continued to sell and service short lines of farm equipment. Management and board working together believed they arrived at a solution in the best interest of members of the cooperative.

Reaching the Final Decision

In retrospect, the decision of the two cooperatives to discontinue franchise distribution of farm machinery was inevitable. Problems in operations had been building for years to the point where alternative solutions were no longer applicable. In each situation, no one

individual in management was responsible for the buildup in operating problems. It is conceivable that sometime in the past an infusion of ready capital could have turned the machinery operation around.

One other problem common to both cooperatives, because both were franchise dealers for the same manufacturer, was the fact that the manufacturer had more than normal problems of its own. The cooperative dealers had no control over these problems, yet were affected adversely as the manufacturer tried to redesign in a hurry and work its way back from an emphasis on industrial equipment to farm equipment.

During this period, some needed farm machinery came up short, while other newly-designed equipment performed poorly and had to be recalled by the company. Some dealers could afford delays of machinery on order and on oversupply of other machinery, but the marginal cooperative dealers experienced further loss of sales and/or overstocked inventory--at a most inconvenient time.

Adding to the uncertainty was that neither dealer nor farmer was convinced the manufacturer intended to stay in farm machinery production.

Other manufacturers were changing design, capacity and performance of farm machinery too, but farmers had little doubt about those firms remaining in the farm machinery business. Perhaps the two cooperatives could have stayed in business franchising another make of machinery.

However, their struggles with the pitfalls of marginal and inefficient operation eventually built pressure to discontinue a needed service. At another time--with another full line manufacturer--their story might well have been different.

BASIS FOR SUCCESSFUL MACHINERY OPERATIONS

Machinery managers ranked in order of importance six most important factors or reasons for successful machinery operation. The six surfaced from a total of 22 items affecting such operations.

Most managers grouped items such as planning, budgeting, and capital because of their influence upon each other. In the same manner, service was generally grouped with facilities, and supervision and employees were grouped not only as dependent factors *per se*, but as supporting elements to a successful operation in any and all areas of operation. Each area is functional and important when viewed separately; but, like the wheels of a tractor, all are vital to total and efficient operation.

Management Team

Five of the six cooperative machinery managers listed the management team as the first and most important reason for successful operation. They perceived management to include not only the duties and responsibilities of the machinery manager, but also those of the general manager and board.

Policies and management practices to reach objectives should be coordinated within each department and throughout the various levels of management. Cooperative policy should be thoroughly understood by all engaged in any form of management. Only in this manner can management decisions have the impact to generate successful operation throughout the organization.

Make of Machinery

One manager ranked make of machinery handled first, two ranked it second, one third, and one fourth to earn second place in importance among factors contributing to success. Some believe the make of machinery has more impact on volume of sales than on success, but there is little doubt that sales volume contributes to successful operation--all other factors being equal. From experience, few question that success comes a little easier selling one of the most popular lines of farm equipment as opposed to handling one in less demand. However, in some areas, other makes may be most popular. Since all makes have good performance ratings, the performance of the machinery dealer often becomes the major factor determining the make of machinery the farmer will purchase.

Sales Team

Three managers ranked the sales team third, one second, and one fourth to earn third place in importance. The manager and salesman do not make the sale alone. Management, supervisors, shop foreman and all cooperative employees help. Whenever an employee pleases a customer, he is helping to make a later sale. When any make of machinery is repaired well and in reasonable time, the owner is apt to buy a new tractor from the cooperative the next time he's in the market for one.

Members appreciate the effort salesmen make to call on them at the farm to sell cooperative machinery in preference to sales efforts in their office at the cooperative. Farmers want to be "sold" farm machinery. It affords an opportunity to learn more about it and to exercise their bargaining power and expertise in coming to terms on trade-in values and final prices. So, it's a good move to put farm machinery salesmen on the road to help develop volume needed for efficient operations.

Service and Repair

Service was rated third by one manager, fifth by another, and fourth by three managers to earn fourth place ranking. Machinery managers believe that good service sells farm machinery; and that good service begins at the front door of the cooperative. Thus, actions by management and employees in serving farmer owners will either help or harm the cooperative. Although good service in machinery repair may be limited by a cooperative's facilities, personal attention and prompt service will make up for older facilities and bring customer satisfaction and repeat sales.

Planning, Capital, and Budgeting

Planning, capital and budgeting ranked fifth as factors contributing to successful machinery operations. Ranking varied from second to sixth and generally reflected the amount of operating data made available to the manager. Those who receive daily operating data tended to rate these factors higher. Hence, the more information managers have about their operation, the more likely they are to plan and budget their operations.

Economic analysis of last month's and last year's budgeted and actual operations will show capital used and needed for present and shortrun expectations. Any variances and inefficiencies in operation will show up, so that readjustments in operation can be made to counter a trend before a serious problem develops. Small computer print-outs will fill the need from which economic benefits will far exceed the cost.

Trade and Farming Area

Machinery managers recognized that machinery demand affects the success of their operations. They realize also that some farming areas use more machinery and larger machinery. Competition is not considered here because competition can be overcome by a successful dealer. Potential sales in the area is the main concern of machinery managers.

Knowing the potential for sales, including size and type of machinery, will give the manager a lever in planning operations. Evaluating competitors realistically also will enable the manager to better gage his own operations. Thus, a knowledge of the trade and farming areas will allow the manager to plan and develop his operation to the fullest potential--in any community.

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