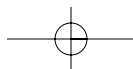
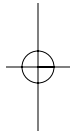
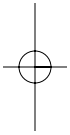
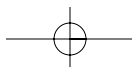
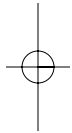
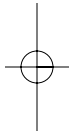




Farm Machinery Co-operatives in Saskatchewan and Québec





Farm Machinery Co-operatives in Saskatchewan and Québec

ANDREA HARRIS & MURRAY FULTON



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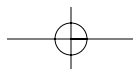
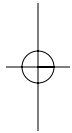
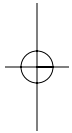
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Contents

Foreword	vii
Acknowledgements	viii
Farm Machinery Co-operatives: The Basics	
What Is a Co-operative?	1
What Is a Farm Machinery Co-operative?	2
Why Form a Farm Machinery Co-operative?	2
Saskatchewan Farm Machinery Co-operatives	
Overview	3
Structure	4
Lakeside Farm Machinery Co-operative	8
Kipling Agricultural Machinery Co-operative Ltd.	9
The CUMA Co-operatives	
Background	12
Structure	13
Saint-Fabien CUMA	19
Leclercville CUMA	20
CUMA Franco-Agri—St. Anne de Prescott, Ontario	22
Forming a Farm Machinery Co-operative: Considerations	
CUMAs in Saskatchewan?	23
Choosing a Structure	28
Critical Success Factors	30
Notes and References	32



Foreword

FARM MACHINERY IS BECOMING MORE EXPENSIVE TO purchase and own. The cost is making it difficult for smaller farm operations in Saskatchewan to remain economically viable, to replace major machinery, and to access new farming technologies, which require large investments in machinery and equipment. The movement towards direct seeding, for example, requires purchasing specially adapted equipment and substantial capital investment in new farm machinery.

The combination of increasing machinery costs and the need for continued technological innovation has motivated many farmers to examine new arrangements for sharing equipment in order to reduce machinery costs and release limited capital for other uses. One such arrangement that has been used successfully is the development of machinery co-operatives.

Farm machinery co-operatives not only lower machinery costs per farm member but also enable farms to operate more efficiently, since larger equipment can be purchased. Because of the larger equipment, the number of hours needed to farm the land is also reduced, giving the farmers involved more time either to earn additional income or to enjoy leisure activities.

This is one of a series of three booklets that document the results of a study examining the applicability of different types of farm machinery co-operatives to Saskatchewan agriculture. This booklet describes the structure and organization of farm machinery co-operatives operating in Saskatchewan and a type of farm machinery co-operative known as the CUMA, which has been used by farmers in Québec and Ontario. It also discusses some guidelines and considerations to be taken into account in forming successful farm machinery co-operatives.

- FOREWORD AND ACKNOWLEDGEMENTS

The information presented is based on extensive interviews with members of co-operatives and others involved in the development of farm machinery co-operatives. A number of the co-operatives are also featured as case studies within the booklet.

A second booklet, *The CUMA Farm Machinery Co-operatives*, describes the CUMA co-operatives, their growth, and their development process in greater detail. A third booklet, *Farm Machinery Co-operatives—An Idea Worth Sharing*, documents the results of a simple financial model developed to compare the costs of owning machinery as an individual to the costs of owning machinery as a member of a co-operative. The model is based on a mixed grain farm in Saskatchewan.

Acknowledgements

THIS BOOKLET AND RESEARCH PROJECT were funded by the Agricultural Development Fund of Saskatchewan.

The authors wish to thank the many people involved in farm machinery co-operatives in Saskatchewan, Québec, and Ontario who were interviewed as part of this project. Without their insight and openness in sharing information, this research could not have been completed.

Farm Machinery Co-operatives: The Basics

What Is a Co-operative?

A CO-OPERATIVE IS A TYPE OF BUSINESS formed by people who share a common goal and who are willing to work together to meet this goal. Virtually any type of business can be organized as a co-operative. Indeed, co-operatives operate in almost every sector of the Canadian economy, including financial, retail, housing, forestry, fisheries, and agriculture.

Co-operative businesses share the following key features:

- they exist to meet the needs of their members—the people who use the services provided by the co-op;
- they are owned by their members and rely on member investment to meet the bulk of their capital requirements;
- they redistribute surpluses generated by the business back to their members according to how much the members have used the services provided by the business;
- they are democratically controlled by the members and are governed based on the principle of one-member, one-vote;
- they are incorporated, which means that the liability of the members is generally limited to the amount invested in the co-operative.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

What is a Farm Machinery Co-operative?

Farm machinery co-operatives are organized by groups of farmers who wish to share machinery and equipment. The members of a farm machinery co-operative pool their money to buy machinery and share fixed costs and operating expenses. The co-operative owns the machinery on behalf of its members. Members retain their land, buildings, and permit books. Each member has one vote in the control of the business, regardless of how much capital he/she has invested in the co-operative.

Some farm machinery co-operatives also pool farm receipts in order to ensure machinery use is equitable. The pooling of farm receipts, however, is optional, the choice being made by the members involved in the co-operative.

Farm machinery co-operatives differ from co-operative farms in that the latter acquires total control of the land base of its members. This may be either through purchasing or leasing the members' landholdings and/or leasing outside land. Land ownership is retained by individual members in a farm machinery co-operative.

Why Form a Farm Machinery Co-operative?

Sharing farm machinery through the formation of a farm machinery co-operative can provide farmers with a number of benefits, including:

- lower machinery costs; reduced machinery investment per acre frees funds for other productive purposes;
- greater efficiency; by purchasing machinery as a group, members can achieve economies of scale by purchasing larger, more efficient machinery;
- access to new technology; agricultural practices may be improved through access to a wider variety of specialized equipment; beginning farmers with limited capital have access to modern equipment they could not otherwise afford;
- access to a greater pool of knowledge and resources; pooling machinery in an organized manner can facilitate the pooling of other resources, such as labour, experience, and ideas;

SASKATCHEWAN FARM MACHINERY CO-OPERATIVES •

- price discounts on inputs; because co-operatives represent a greater volume of business, farmers can improve their buying power and negotiate better prices from input suppliers.

Small farms in particular can benefit from the formation of a farm machinery co-operative, as they may have excess machinery capacity and cannot benefit from economies of scale. Large farms may already be using their machinery capacity effectively because of the larger number of acres farmed. In addition, farmers with a small acre base can seldom justify specialized machinery such as large rock pickers or sprayers, which can be more easily justified on a larger acre base.

Saskatchewan Farm Machinery Co-operatives

Overview

CO-OPERATIVE BUSINESSES, such as Saskatchewan Wheat Pool and Federated Co-operatives, are dominant players in Saskatchewan agriculture. While co-operatives have been relied upon to market agricultural products and to supply farm inputs, few have been incorporated with a mandate to share farm machinery.

To date there are thirty-eight organizations registered as farm machinery co-operatives in Saskatchewan. It is estimated that less than half of these are set up with a mandate to share farm machinery and equipment among independent farmers. The majority are co-operative farms, which pool land as well as machinery among a group of farmers.

Farm machinery co-operatives in Saskatchewan operate almost exclusively in the grain sector and tend to have five or fewer members. A minimum of two people are required to incorporate a farm machinery co-operative under the *Saskatchewan Co-operatives Act*.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

Many machinery co-operatives operating in Saskatchewan were formed in the 1970s with help from the Saskatchewan Department of Co-operation. There are others, however, formed as recently as 1996.

The primary motivation behind the formation of this type of co-operative in Saskatchewan is the lowering of machinery costs through joint purchase of larger, more efficient machines, or by purchasing machines that individual members could not afford alone, such as a high-clearance sprayer or combine. One co-operative estimates that its members have reduced their equipment purchasing and maintenance costs from \$20–\$40 per acre to \$14 per acre, while the members of another feel they have realized a 50 percent saving in their machinery costs.

The results of a study comparing the costs of owning farm equipment co-operatively versus individually support the above estimates (Harris and Fulton, 2000). The study suggests that, on average, a grain farmer in Saskatchewan with fifteen hundred cultivated acres can expect to save 35 percent in total machinery costs per acre by sharing a piece of machinery with at least two other farms of equal size, as opposed to owning the machine individually. The savings are due to the combination of lower fixed costs per hour (an average saving of 22 percent) and the reduced hours required to operate the machine (an average saving of 32 percent). Operating costs per hour are on average 39 percent higher per machine for a co-op member. This is due to the selection of larger machines suitable for a combined acreage of forty-five hundred acres.

However, lower costs and increased efficiency are not the only motives behind the formation of these Saskatchewan co-ops. Secondary reasons include the ability to share labour and enabling a younger generation of people to get involved in farming without a large debt burden.

Structure

Farm machinery co-operatives in Saskatchewan can be grouped into two different categories:

- those in which machinery and income is pooled among all members of the co-op; and
- those in which machinery is pooled among all members, but income is not.

SASKATCHEWAN FARM MACHINERY CO-OPERATIVES •

In both cases, farmers join together to pool whole sets of farm machinery. In short, the co-op members share the bulk of the equipment and machinery required to perform core farm operations.

Member Formula The structure and operations of Saskatchewan farm machinery co-operatives are based on a member formula or agreement developed by the group. The formula determines each member's equity contribution to the co-op and their share of the operating expenses and machinery costs. Co-ops that pool production also use the member formula to allocate net income.

The member formula is typically based on the cultivated acres contributed by a member as a percentage of the total cultivated acres involved in the co-op. For example, if a member owns or leases eight hundred cultivated acres of the co-op's total of four thousand acres, the member's share is 20 percent. The member therefore provides 20 percent of the money required to finance the equipment through the purchase of shares in the co-operative, and covers 20 percent of operating costs. If income is pooled, the member will also receive 20 percent of all sale proceeds.

If there is a substantial difference in the productivity of members' land, the basis for distribution of costs and income can be adjusted accordingly. For example, the co-op may decide to incorporate factors such as the assessed value of land or the availability of irrigation in order to allocate costs and revenues more equitably. The member formula may also take into account other contributions to the co-op besides land—inputs such as labour and machinery, for example.

Governance To incorporate in Saskatchewan, a co-operative must submit by-laws outlining the governance structure of the organization. The formal governance structure of a co-operative is based on a board of directors who are elected by the members at an annual general meeting. Members each have one vote in electing directors and in voting on major policy decisions affecting the co-operative. However, since many machinery co-operatives in Saskatchewan are small (typically five members or less), all of the members are generally involved in governing the organization.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

Decisions are typically made by consensus, and informal meetings are held on a regular basis for the purposes of communication and to make joint decisions. In some cases, a co-ordinator is appointed to oversee the day-to-day operations of the co-op.

Production Decisions In co-operatives where both machinery and the income from production are pooled among the members, it is the co-operative (i.e., the group) that makes the decisions regarding what, when, and how to produce. In essence, individual members assign their land for production purposes to the co-operative. The co-op manages all field operations and co-ordinates labour inputs by its members. However, each member retains his/her farmer status and therefore is entitled to a permit book. While income is determined at the co-op level, it is taxed in the hands of the members.

In machinery co-operatives where the income generated from members' farm production is not pooled, production decisions are made independently by the members or together as a group. Regardless of how production decisions are made, each member delivers the grain produced on his/her land and from this income pays an appropriate share of the co-op's operating expenses and machinery costs.

Termination of Membership The co-op's by-laws outline what happens if a member retires, dies, quits the co-op, or is asked to resign. The by-laws also include the terms of equity payouts. If a member wanted to retire or sell the farm, for example, he/she might be required to give notice ninety days before withdrawal. The member's equity would then be determined and would be paid out over a three-year period to prevent financial drain on the organization.

Determining Machinery Requirements Members determine their machinery requirements based on the combined cultivated land base of all co-operative members. As a result, farmers can benefit from economies of scale and can purchase larger, more efficient equipment than would make sense for an individual farm.

Upon incorporation, an inventory is taken of all the equipment and machines owned by the members. The group then decides what, if any, equipment to keep and what to sell or trade in. The co-op may decide to purchase, at fair market value, certain units of machinery owned individually by the members. The sale of equipment to the co-op by a member is commonly recorded as a credit to that member's equity contribution.

Scheduling The fear that two or more members might have to use a particular machine at the same time is one of the biggest reasons why many Saskatchewan farmers are reluctant to share farm machinery, especially seasonal equipment such as seeders and combines. None of the members of Saskatchewan machinery co-ops interviewed as part of this project, however, mentioned any significant conflicts around the timing and scheduling of machinery.

In co-operatives where income was pooled as well as machinery, members felt that the pooling of income was an important factor in helping to eliminate concerns over scheduling. In co-ops where income was not pooled, members shared an "it all works out in the end" attitude, feeling that some compromise was necessary to achieve the economic benefits from machinery sharing. In some cases, critical operations such as seeding and harvesting were completed together to avoid scheduling conflicts.

Sharing Labour Labour is pooled in both types of Saskatchewan farm machinery co-operatives. Sharing labour enables members to take advantage of or develop expertise in particular areas. For example, one member may be in charge of machine repairs and maintenance, while another maintains the financial records for the co-op. Sharing labour can also allow some members to work either more or less, depending on their needs. For example, one member may wish to exploit off-farm employment opportunities, while another may be interested in farming full time but does not have enough land to do so.

Labour contributions are handled in different ways among the co-ops. In some, the co-op pays an hourly wage to members who contribute labour. In others, each member is responsible for a particular area and every-

• FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

one is expected to contribute roughly the same amount of time to the co-op. Members do not get paid, therefore, unless they have contributed a much larger share than anyone else.

The following sections profile two farm machinery co-ops currently operating in Saskatchewan. The Lakeside Farm Machinery Co-operative, formed in 1971, pools production among members. In contrast, the Kipling Agricultural Machinery Co-op, formed in 1996, does not.

Lakeside Farm Machinery Co-operative

In 1971, a group of seven farmers in the Dafoe area of Saskatchewan formed the Lakeside Machinery Co-operative in response to a number of challenges shared by the group, including tough economic times, low grain prices, the need to replace machinery, and most importantly, finding a way to help their sons get into farming.

In forming the co-op, the group agreed to purchase machinery together and pool their production. Although members retained ownership of their own land, the grain or seed produced on that land was declared part of the co-op's overall pool. A formula based on the percentage of cultivated acres owned, leased, or rented by individual members was used to determine each member's share of every bushel of grain or seed grown. The same formula determined each member's equity shares in the co-op. The member formula is adjusted each year to take into account changes in the member's land base.

Today the co-op farms six thousand acres and is made up of five sons of the original members. The sons' involvement in the co-op was facilitated by allowing new members to gradually build equity in the operation—a member can join the co-operative with a land base and can build equity by having income deducted until the land base and equity contributions are in equal proportions. Each member's level of investment in machinery, equipment, and buildings is much lower than if he farmed separately.

As their fathers did before them, the members continue to pool their grain and seed. The land is farmed based on the best agro-economic condi-

tions, avoiding conflicts over whose field is seeded or harvested first or last. All group decisions are made by majority vote at regular meetings.

Although the basic structure of the co-op has changed little since its incorporation, the equipment needs and operations of the group have changed considerably. The pooling of resources within the co-op has encouraged members to test new options. As the risk to individual members has been reduced, it has been easier for them to try new crops, farm techniques, and equipment. Lakeside was one of the first in the area to grow lentils, buy an air seeder, use deep-banding, and try seeding by airplane.

To begin the co-op, the original members traded in their machinery on a line of equipment from Co-op Implements in Wynyard. This new line included two tractors, two pull-type combines, diskers, Seedrite, and two grain trucks. Today, the co-op's line-up includes a pair of four-wheel drive tractors, two swathers, two combines, a 62-foot Flexi-Coil air seeder and a 40-foot air drill, a semi, two grain trucks, and assorted augers.

In 1984, the co-op decided to diversify and move into the seed business with a new subsidiary called Lakeside Seeds. By 1987, Lakeside Seeds had its own seed-cleaning plant. In 1996, they formed a joint venture with the Saskatchewan Wheat Pool for a major seed plant located at Dafoe, just two miles from the Lakeside Machinery Co-operative's offices. The seed division currently handles lentils, canola, hard red wheat, CPS wheat, flax, peas, and two-row barley. They are also in the export business, specializing in lentils, mustards, peas, and flax, and canola for birdseed.

Members have worked hard at developing the group spirit necessary for the organization's success. They have recognized that it can be difficult to accept the blend of assertiveness and compromise needed to make a co-operative work. Strong family and community ties have made a difference, and respect for fellow members and good communications have been essential.

Kipling Agricultural Machinery Co-operative Ltd.

The Kipling Agricultural Machinery Co-operative Ltd. (KAMCO) was formed in April of 1996 by four farm families involved in the production of dryland cereal, oilseed, and specialty crops. The impetus behind its

• FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

formation included the difficulty of hiring competent seasonal labour and the desire to reduce the costs of machinery by increasing scale.

The members decided to limit their commitment to the co-operative to the ownership and use of farm machinery and to the contribution of labour. Land, crops, and other assets are not pooled and the farm economies are kept separate.

While members plan their own cropping program and keep their grain separate, critical production decisions are made together. Once the member's planting decisions are made, the group meets to decide on a strategy to complete key farm operations, such as seeding and harvesting. The strategy is based on agronomically sound principles. If one parcel of land is dry, for example, then that is where the co-op begins planting.

Machinery operating and maintenance expenses are shared by members on a per-acre basis. The costs of maintaining and purchasing the machinery owned by the co-op are covered each year by dividing total expenses by total acres. The costs are then allocated to each individual farm based on spring seeded acreage. Throughout the year, the co-op makes cash calls when money is needed to meet its expenses and loan payments. Each member provides the co-op with a promissory note to ensure that obligations to lending institutions and suppliers can be met.

Labour is contributed by all members on a per-acre basis. Shortages in labour contributions are assessed at \$10 per hour, and any excess is paid out at \$10 per hour. The sharing of labour has helped solve some of the members' problems in getting reliable, experienced farm help.

In addition, members contribute different areas of expertise to the co-op. One of the members handles the bookkeeping and accounting. Two others contribute their knowledge and experience with previous co-operative endeavours, including a hog-breeding operation. The fourth is in charge of equipment maintenance and repair. The co-operative is charged a fee for this service, which includes labour, tools, and a shop facility.

One of the initial steps in organizing the co-op was to determine the equipment needs of the group. After an inventory of member equipment, five tractors were sold and two were retained; three combines were traded or sold, one was kept, and another was purchased; and two seeders were

SASKATCHEWAN FARM MACHINERY CO-OPERATIVES •

traded and two retained. Out of the original inventory, the group kept one swather, two cultivators, and four grain trucks. Each member's contribution of equipment was accounted for through a member loan granted to the co-op, which equalled the agreed value of the machinery less any debt owing.

The sale of the equipment or its transfer to the co-op resulted in both credit and tax implications for the members. As is the case on most farms, some of the equipment was held as collateral for its purchase, or to secure a line of operating credit. As members sold the equipment or transferred it to the co-op, their collateral disappeared. As a result, some members had to mortgage land to secure the necessary credit. In addition, the sale or the deemed sale of the partially or wholly depreciated equipment resulted in recapture of Capital Cost Allowance, which had negative tax implications for some members.

After three years of operation, the co-op has accumulated approximately \$675,000 in assets, which include two combines, two zero-till air seeders, a swather, four trucks, two cultivators, one harrow bar, and three grain augers. The recent purchase of a used high-clearance sprayer has been particularly beneficial. With a purchase price of \$80,000, none of the members could have afforded the machine on their own. Shared ownership, however, has given members an advantage in being able to spray earlier and in wet conditions, in addition to saving money by eliminating the cost of custom spraying services.

The pooling and optimum use of the equipment through the co-op has reduced equipment-related costs for the small farms involved from \$40 per acre to \$14 per acre, and for the larger farms, from \$20 per acre to \$14 per acre. Time savings is another important benefit. Since joining the co-op, for example, one member's land was seeded in four and a half days and harvested in three. When farming independently, the same member required twenty-one days to seed and fifteen days to harvest.

The CUMA Co-operatives

Background

THE CUMA—Coopérative d'Utilisation de Matériel Agricole—loosely translated as “co-operative for the use of farm implements,” is a type of farm machinery co-operative being used extensively by farmers in Québec. Since the incorporation of the first CUMA in Québec in 1991, more than a thousand farm operations have become members of the more than forty-seven CUMAs established in the region.¹ An additional three CUMAs are projected to incorporate before the end of the year 2000. The successful implementation of CUMAs in Québec has also encouraged farmers in Ontario to do the same, with 1997 marking the formation of the first CUMA in Ontario.

Direct economic advantages to producers from being part of a CUMA include cost savings and access to newer, more efficient equipment. These economic gains create an incentive for producers to compromise and ensure that the CUMA runs smoothly.

For the most part, the CUMAs are formed by dairy farmers interested in sharing forage equipment such as harvesters, seeders, and hay balers. According to GREPA (an economic and agricultural research group), equipment costs on Québec dairy farms comprise about 20-25 percent of their total expenses. Joining a CUMA can help decrease these expenses, as well as overall production costs. Some estimate that the equipment and machinery costs are lower by as much as 70 percent.² Using shared machinery also allows for the purchase of the most up-to-date equipment, which is larger and more efficient than what an individual producer could purchase alone. On-farm efficiency is therefore improved considerably.³

While the majority of the CUMAs have been formed by dairy producers interested in lowering machinery costs, the idea has inspired interest in co-operatively addressing other problems, such as the shortage of skilled farm labour. Producers involved in the hog, poultry, beef, and vegetable sectors are also beginning to form CUMAs. The idea has sparked interest in other industries as well, including fisheries and forestry.

The following section provides an overview of the CUMA organizational structure. Interested readers are referred to a second booklet, *The CUMA Farm Machinery Co-operatives*, also published as part of this study, for a more detailed description of the CUMA co-operatives, their growth, and development process.

Structure

Like other farm machinery co-operatives, the mandate of the CUMA is to share equipment among its members. A CUMA owns the equipment and then rents it out to its members at the lowest possible cost. Unlike Saskatchewan farm machinery co-operatives, however, in which entire machinery sets are pooled among all members, CUMAs are structured to allow the sharing of individual machines among subsets of members. This is facilitated through the use of activity branches and member contracts.

Activity Branches and Member Contracts To obtain the right to use the equipment and machinery owned by the CUMA, members must join an activity branch. Each branch corresponds to the use of one machine, piece of equipment, or service. A minimum of three members per branch is recommended.

Figure 1 (next page) shows the organizational structure of a hypothetical CUMA farm machinery co-operative. In this example, the CUMA is organized into three activity branches, each of which corresponds to a different machine or farm operation, in this case a hay baler, a seed drill, and a forage harvester.

Upon joining an activity branch, members must sign a subscription contract, which commits them to using the particular piece of equipment

• FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

or machine for a specific amount of time, or number of units, per year for the duration of the contract, which is typically the same length of time over which the machine is being financed (usually three to five years).

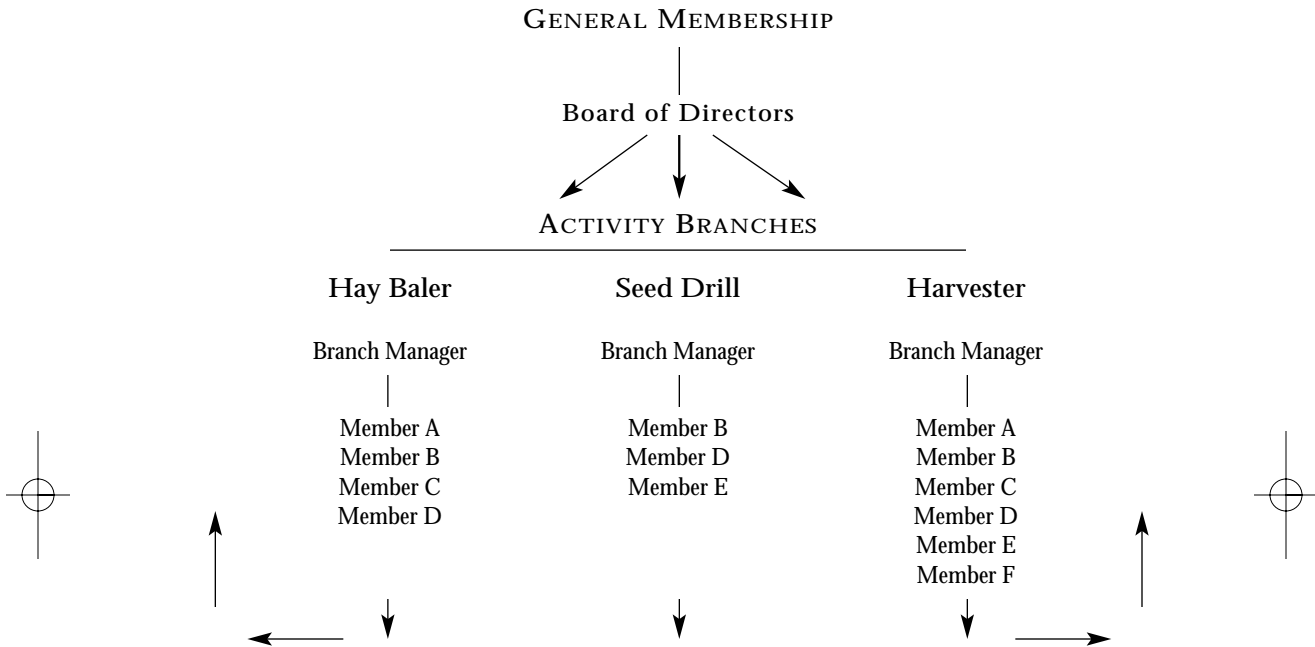


Figure 1: Organizational Structure of a CUMA

For example, consider a producer (member A) who joins the CUMA illustrated in Figure 1 in order to share the costs associated with a hay baler. The producer forms an activity branch with three other producers in the area who are also interested in sharing a hay baler. Each member signs a subscription contract that specifies how much he/she intends to use the hay baler over the next five years (the number of years for financing). The CUMA then purchases a hay baler that meets the combined needs of all the branch members.

Financing CUMAs are financed through three sources of capital:

- members' investment shares;
- traditional sources of debt financing; and
- members' fees.

To join an activity branch, each member must purchase a certain number of investment shares, which provides the CUMA with the equity capital needed to purchase the machine. Member investment shares do not receive interest and are typically used to finance 20 to 30 percent of the purchase cost of the equipment.

In most cases, member investment shares are divided equally among all branch users. In the CUMA illustrated in Figure 1, for example, the four members who commit to using the hay baler must each purchase shares equal to 5 percent of the cost of purchasing the baler (20 percent divided among the four members). Since the cost associated with the harvester is spread among six members, each must purchase investment shares that equal 3.3 percent of the harvester's purchase price. In a few cases, investment shares are divided among members according to their use of the machine, as specified in the subscription contract.

The remaining 70 to 80 percent of an activity branch's capital costs are covered through loans with financial institutions, such as credit unions or banks. In general, CUMAs finance their machines over a three-to-five-year period, and in rare cases over seven years. Financing periods are deliberately kept short to ensure a relatively quick turnover in the equipment and machinery. Quick turnover rates allow members to take advantage of technological advances; they also imply lower maintenance and repair costs and a higher resale value when the activity branch is terminated (i.e., when member subscription contracts expire).

In addition to paying their share of the 20 to 30 percent of the purchase cost of the equipment, members must also pay membership fees on a regular basis—typically four times a year or season. Fees are used to cover the annual rent of the equipment, which includes:

- the real cost of financing (capital and interest) the equipment; and

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC
 - the inherent costs of using the equipment, including insurance, repair and maintenance costs, and storage costs.

A member's share of the annual rent is determined in proportion to his/her use of the equipment in the given year, and the amount of use committed in the subscription contract. The annual rent is typically fixed for the year, based on projected costs. At the end of the year, the rent is adjusted according to the real costs of use. Although the CUMA tries to run its operations on a service-at-cost basis, a surplus can arise. Surpluses may be retained by the CUMA in reserve or returned to the members in proportion to their machinery and equipment use. If surpluses are returned, members can expect to be charged a lower member fee on their final bill for the year.

If a member is unable to use the equipment as much as he/she has committed to in the subscription contract, the member is bound to respect the original financial agreement and will be billed for the amount specified in the contract.

Governance There are four types of players involved in the administration and governance of a CUMA:

- the general assembly (or membership);
- the board of directors;
- the branch manager; and
- the equipment manager.

In the example illustrated in Figure 1, six members are recruited and make up the general assembly. The board of directors is composed of members elected by the general assembly. The board oversees all the co-op's business, including the activity branches.

Each member is entitled to one vote in electing directors and in making other decisions regarding the co-operative, regardless of the number of activity branches to which they belong or the amount of money they have invested in the co-op. Voting by proxy is not allowed.

Based on the recommendation of branch members, the board designates someone to be in charge of each activity branch. The branch manager organizes the use of the equipment or machine, including adminis-

tering schedules. He/she also ensures that contractual agreements are kept, that is, that members adhere to their subscription contract. In some cases a member is also chosen to be responsible for equipment care, although the tasks of branch manager and equipment manager are often combined. The equipment manager is in charge of organizing the upkeep, delivery, and repair of the equipment.

Both branch and equipment managers report to the board. Before each annual general meeting, branch managers hold a meeting of their members for the purpose of evaluating the season just ended. Concerns are taken to the board at the annual general meeting.

Administration and Scheduling The order in which the members of an activity branch use the machines and equipment is determined through a draw held in the first year of operation, or by some other means deemed acceptable by the majority of branch members. For example, machinery use can be allocated according to soil types or types of seed being planted.

The last user of the equipment is not bound to return it to the branch manager, but must nevertheless advise the manager that he/she has finished using it, so that the next person can take their turn.

A log book accompanies each piece of equipment and machinery owned by the CUMA. Each member is obligated to enter into the log book:

- how much he/she used the equipment (for example, the number of bales, hours, or acres covered);
- the date and time of any breakdowns or noted anomalies; and
- the date, time, and nature of any repairs or maintenance performed.

In the case of a breakdown, the branch and equipment manager, together with branch members if necessary, determine the nature and cause of the breakdown by using certain criteria, such as work overload, faulty maintenance, or a fault in driving. With a breakdown that is not accidental, the member at fault must assume the costs of repair. In cases that require litigation, the board of directors decides on the action to be taken.

Repairs can be done by a third-party mechanic, the equipment manager, or any other member of the co-op. No-fault repairs are reimbursed by the co-op at market rates and paid for collectively by the branch members.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

If a major no-fault breakdown occurs during the year and the co-operative does not have enough funds in reserve (collected from the members of that activity branch) to carry out the repair, an additional rent is billed to the members of the branch.

Modification or Termination of an Activity Branch A particular piece of machinery or equipment can be sold if the majority of participating branch members want to change it at some point during an existing contract. However, since the equipment belongs to the whole co-operative, only the board can decide whether or not to sell it. Money from the sale of the equipment can be used to decrease member fees or be put towards the purchase of the next piece of machinery. In the case of a sale, existing subscription contracts must be cancelled and new ones drawn up and signed by the participating members.

As the subscription contracts of a particular activity branch expire (i.e., when financing of the machine is complete), the participating members can choose to disband the branch. Again, board approval is required before the associated machine or piece of equipment can be sold, and any profits are added to the co-operative's reserves. The original members of the branch may be entitled to a reimbursement for their share, depending on the financial particularities regarding the machine or equipment.

Sharing of Labour In a CUMA, each member is responsible for operating the equipment and machinery independently. Some CUMAs, however, have developed activity branches in order to share general farm labour. For example, many of them have "farm labourer" as one of their branch designations. Members of the CUMA who are interested in having hired help on their farm but do not have enough work to justify hiring a labourer full time can join this branch. The branch operates along the same principles as the equipment branches. To join, members must commit to hiring the labourer for a specific number of weeks per year.

For the members, sharing labour this way allows for greater access to a stable supply of skilled labour. For the worker, the CUMA provides stability as the labour requirements are spread among a number of producers.

The following sections describe the development of three CUMAs: the Saint-Fabien CUMA, the first CUMA formed in Québec; the Leclerville CUMA, a CUMA in which labour as well as machinery is shared; and the CUMA Franco-Agri, the first CUMA to be formed outside of Québec.

Saint-Fabien CUMA

The first CUMA in Québec was formed in 1991 by a group of ten producers from Saint-Fabien, working together with Camille Morneau, a representative from the Québec Ministry of Agriculture, Fisheries and Food (MAPAQ).

The Saint-Fabien CUMA was modelled after the CUMAs already in existence in France. Morneau first read about them as part of his master's thesis at the University of Québec. The French CUMAs have their roots in de Gaulle's first postwar cabinet, which supported the creation of co-operatives to encourage the collective purchase and use of scarce farm equipment in the years immediately following the Second World War.⁴ Although the rationing of tractors and other farm equipment has long ended, there are still more than thirteen thousand CUMAs in France, representing approximately four hundred thousand members.⁵

After studying the model and visiting CUMAs in France, Morneau decided to try to apply the model to Québec. The producers of Saint-Fabien were an ideal trial group, having had experience with other types of machinery-sharing arrangements in the past, and having heard about CUMAs from French agriculture students working on Québec farms during the summer months. With an average age of thirty-five, many of the producers involved in the project were keenly interested in experimenting with new ways of lowering machinery costs and the debt burden facing many young farmers.

Morneau describes the development of the first CUMA as a delicate process. He knew that it would be watched closely, with many outside producers and government bureaucrats believing that such an arrangement would never work. Once the first few CUMAs were up and running, however, other producers quickly became interested in the idea, and the Québec government began to support their development. As a result,

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

Morneau's position with the Ministry of Agriculture has evolved to enable him to provide hands-on assistance on a full-time basis to producer groups involved in forming a CUMA.

While Morneau concedes that there are other types of equipment-sharing programs available, he feels that the co-operative structure is more advantageous. "The social aspect of a co-operative is an integral part of its overall success, and in this way differs from other types of machinery sharing agreements. Co-ops are much more than just an efficient way of purchasing machinery... They allow people to meet one another, to work together, to share their experiences and skills. It helps revalidate the agricultural producer."

While the ultimate goal behind the formation of the Saint-Fabian CUMA was the reduction of production costs and increased efficiency of farm operations, the members of the co-op have also benefited from a strong sense of community and a revitalization of basic rural values, such as co-operation and helping one another. This sense of community was evident at their recent general assembly, which attracted close to 90 percent of members.

The pioneering Saint-Fabien CUMA now boasts thirty-three members who share the use of about twenty machines, organized into sixteen different activity branches. The members encompass about 80 percent of the farmers within the municipality.

Leclercville CUMA

The Leclercville CUMA was officially founded in July of 1994. At its inception, it had five members and no assets. One year later, the number of members had climbed to twelve and the CUMA owned \$35,000 worth of machinery organized into two branches. By 1998, the Leclercville CUMA had twenty-two members and sixteen machinery branches, with \$150,000 worth of equipment.

In addition to sharing farm machinery and equipment, the Leclercville CUMA also has a personnel branch that hires out replacement employees to members wishing to be temporarily absent from their operation. The CUMA hires a labourer every year to meet the needs of the seven branch

members. The members meet every three months to discuss their labour needs and develop a schedule, which is submitted to the board of directors. The hired labourer then goes from farm to farm.

For the members, sharing labour through the CUMA allows for greater access to a stable supply of skilled labour. It has also enabled many producers to comfortably leave their farms for certain periods (to take holidays for example)—something which few were able to do before joining the CUMA. The CUMA also undertakes all the hiring and administrative duties. For the farm worker, the CUMA provides stability as the labour requirements are spread among a number of producers and employment is guaranteed through a legally binding contract.

Despite the rapid expansion of the Leclerville CUMA, the co-op has faced no serious growing pains. The most difficult challenge to date was an instance in which an activity branch made an inappropriate purchasing decision and wanted to change a machine. Because the machine was still being financed, the switch created a loss. The problem was easily resolved by dividing the loss among the members according to their use over the past three years.

In anticipation of scheduling problems, the founders developed a list that outlines the order in which members use the equipment. The initial list was determined by drawing straws, and the list now rotates with the first one using the equipment this time becoming the last to use it next time. However, the CUMA has had to refer to the list only once in four years of operation since scheduling has remained flexible, with members able to access the machines whenever they have needed them. In the one case where a member was not able to do so, another member was able to lend him an older machine to complete the operation.

Members feel that conflicts have been minimized through constant communication among themselves. Any conflicts that come up are dealt with by sitting down right away to resolve them. More extensive meetings are also held at the end of the season to evaluate the operations of the activity branches and to identify any changes that need to be made for the following year.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

CUMA Franco-Agri— St. Anne de Prescott, Ontario

The first CUMA in Ontario, CUMA Franco-Agri, began operations in 1997. It evolved from a previous machine-sharing arrangement referred to as a “Machinery Bank,” which was established by a group of ten dairy producers. Initially, the producers met and prepared an inventory, which then circulated among the group, allowing them to rent the machines from one another. The producers still owned their own machines and had priority of use, but others could rent the equipment when it was available. Because of the incentive to generate extra revenue and lower the costs associated with owning the machines, the producers often reorganized their production to facilitate the renting of their machines.

The experience with the machinery bank gave those involved some practice and familiarity with the idea that if producers make their production decisions interdependently, machines can be shared to everyone’s benefit. The arrangement eventually evolved into a CUMA, which is organized into three activity branches and owns a corn harvester, a rake, and a hay baler.

Before the machinery co-op could become a reality, however, a number of meetings were required to plan operations and complete the paperwork necessary for incorporation. To make purchasing decisions, members worked with a farm management consultant and calculated the number of acres required to make the machine run efficiently and pay off the loan. The comparison was always made with the cost of having the operations custom done.

Although the CUMA took quite a bit of time to organize initially, now that it is established the time commitment required by members is minimal. One member is in charge of administering the branch—he/she is the person members call if there is a problem or if they need information regarding scheduling. Another member is in charge of repairs, which he/she either does him/herself and then bills the CUMA, or hires someone else to do it and submits the invoice.

Forming a Farm Machinery Co-operative: Considerations

CUMAs in Saskatchewan?

THE SUCCESS OF CUMAS in lowering machinery costs for producers raises the questions: Can CUMAs work in Saskatchewan? And under what conditions would a CUMA structure be appropriate? In this section we consider these questions by examining the concerns producers commonly have about sharing farm machinery and looking at how the different types of co-operatives in Saskatchewan and Québec address these concerns.

Issues of primary concern to producers regarding the sharing of farm machinery and equipment include:

- conflicting time requirements;
- loss of independence;
- different machinery and equipment needs;
- joint liability; and
- carelessness.

Conflicting Time Requirements Of primary concern to many farmers interested in sharing farm machinery is the potential for conflict over the scheduling and use of machinery and equipment. The potential for conflict will largely depend on:

- how time-sensitive members' operations are—that is, how much time is available to complete certain operations without having a significant impact on farm returns;

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC
 - the increased efficiency with which operations can be performed—the ability to purchase larger and more efficient machines may provide members with a larger window of opportunity and may mitigate timeliness issues;
 - the different attributes of the land involved—the more different the individual land holdings are, the less likely it is that there will be scheduling conflicts among members. For example, one member's land may still be wet, while another's may be dry and ready to seed;
 - the goals and attitudes of the members involved—a key to the success of any co-operative venture rests on the ability of the members to compromise and work together. Scheduling conflicts are minimized when members take a long-term approach and feel that the arrangement is fair.

The CUMAs in Québec have not faced serious scheduling conflicts among their members. This is primarily due to two factors. First, the type of production (e.g., hay) is not as time sensitive as other types of production (e.g., grain for human consumption). The window of opportunity to complete certain operations for a CUMA member in Québec, therefore, is generally much larger than that available to a Saskatchewan grain farmer.

Secondly, the type of machinery that CUMA members can purchase together is typically much larger than that purchased by an individual farmer. Therefore, the economies of scale realized from machinery sharing allow for operations to be completed faster. For example, where it may have taken a full day for a farmer to seed his fields before, with the CUMA's seeding equipment it may now take him only a couple of hours.

Like all successful co-operative ventures, an additional key to minimizing conflict lies in the attitude of the people involved. For the most part, CUMA members recognize that some compromise is necessary in order to achieve the economic benefits of sharing machinery. In general, CUMA members take a long-term approach, recognizing that while they may not be able to complete an operation at the most optimal time this year, they will likely be able to do so next year, and that the benefits from sharing machines outweigh this potential loss.

On grain farms in Saskatchewan, timeliness has a much larger eco-

conomic impact on farmers—not being able to seed or harvest at the optimal time can significantly lower net returns. Many co-operatives choose to pool income to avoid scheduling conflicts and to ensure that operating costs and revenues are divided in a fair and equitable manner. In co-ops where income is not pooled, members sometimes choose to complete critical operations together, such as harvesting and seeding, in order to avoid scheduling conflicts. Operations that are not time sensitive are completed independently.

These characteristics suggest that while the CUMA model may work well for some types of farm machinery used in Saskatchewan, it may not work well for machinery used in extremely time-sensitive operations such as seeding and harvesting. Examples of machinery that could lend themselves well to a CUMA-style sharing arrangement include rock pickers, forage equipment, and large sprayers.

Loss of Independence Sharing equipment will inevitably result in some loss of independence for individual operators. However, different machinery arrangements involve different levels of dependence. In a CUMA, individual members have the choice as to what machines they wish to share, which allows them to make their production decisions virtually independently. As individual operators, each member decides what, where, when, and how to produce. The only decision that is dependent on other CUMA members is when that member is scheduled to use the equipment to complete a particular operation. In most cases, CUMA machinery is available when needed, but members must inform the activity branch administrator when they intend to use the equipment and when they are finished with it.

In comparison, the level of dependence among members of Saskatchewan co-operatives is much higher. While the pooling of income can help to eliminate scheduling conflicts, the trade-off with this structure is a loss of independence. Under this type of arrangement, members must make their production decisions together—that is, they must unanimously decide what, where, and how to produce.

Even if a co-operative chooses not to pool income and pools only ma-

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

chinery, the degree of independence involved in production decisions is limited when entire machinery sets are shared as opposed to sharing individual machines. Sharing whole machinery sets will work well only if everyone is generally using the same production methods, e.g., if all members are using a direct seeding system. This suggests that if production practices are largely dissimilar and members do not want to change, or members wish to have the freedom to change production practices, then a CUMA-style farm machinery co-operative may be better suited to their needs.

Different Machinery and Equipment Needs Another aspect of dependence in sharing farm machinery is the requirement to reconcile differing machinery and equipment needs and desires regarding type, model, and size. Decisions on what type of equipment to purchase can be particularly complex when whole machinery sets are being shared. While such decisions can also be difficult within a CUMA, the complexity is somewhat limited by having equipment and machinery organized into activity branches. Activity branches give members the freedom to invest only in machines and equipment that they plan to use. As a result, the desire for different types of models and sizes of machinery must be reconciled only among the members of a particular branch and not among all the members of the co-operative.

Liability The primary concern regarding liability is focussed on what would happen if one member were unable to meet his or her share of the debt repayment on financed equipment—would other members end up paying more than they initially anticipated? The members of a CUMA are bound by a legal contract to pay their portion of the debt, which limits their ability to walk away from their financial obligations. Similarly, the by-laws governing the incorporation of Saskatchewan farm machinery co-operatives also prevent members from shirking their financial responsibilities to the co-op. When compared with machinery-sharing arrangements that are not incorporated, co-ops provide producers with a certain degree of protection from liability.

FORMING A FARM MACHINERY CO-OPERATIVE •

In comparing the CUMA structure with the farm machinery co-operatives in Saskatchewan, it is worth noting that CUMA members have the flexibility to limit their initial investment in the co-op. Because machinery sharing is organized through activity branches, a reluctant CUMA member can limit his/her initial level of investment by limiting participation to one or two activity branches. Once the member is comfortable with the concept of the CUMA, he/she can then decide to gradually increase their level of involvement. This feature of the CUMAs contrasts with farm machinery co-operatives in Saskatchewan, where it is common practice for new members to commit to sharing an entire line of machinery and equipment right from the start. As a result, the initial level of investment in the co-op can be much greater.

Careless or Inexperienced Operators The risk of sharing equipment with a member who is inexperienced or careless, and the associated increased maintenance and repair costs, can quickly turn people off the idea of sharing farm machinery.

The concern regarding carelessness is alleviated somewhat within the CUMA through the establishment of internal rules and by-laws that dictate how the co-operative will handle such a scenario. The rules of a CUMA clearly state that careless or poor operators who cause excessive wear and breakdowns of machinery and equipment are responsible for paying for the damage they cause. Members concerned about carelessness can take these issues to the branch administrator, who will investigate the claim and, along with other members of the branch, determine whether the damages are the result of negligence or simply regular wear and tear. If concerns cannot be addressed at the branch level, members can take the issue to the board and the general membership to work out a solution.

Having a structured way to deal with potential conflicts—one that involves a number of different people—can provide members with the assurance they need to feel comfortable about sharing equipment. In the CUMA, the rules regarding carelessness and the process for dealing with it are developed before the co-op is up and running. Members therefore know how these situations will be handled before they arise.

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

Like the CUMAs, Saskatchewan machinery co-operatives often use member agreements to address and avoid potential conflicts around carelessness. These issues are minimized, however, because many members of Saskatchewan farm machinery co-ops know each other well before forming their organizations. In many cases they are either related or have been neighbours for years. This relationship ensures that members of the co-op are generally familiar with each other's habits and provides a kind of "pre-screening" of members before they join the co-op, thereby reducing the risk of increased repair and maintenance costs. The risk of inexperienced or poor operators is further reduced by members sharing labour and specializing in certain areas. One person may specialize in operating a high-clearance sprayer, for example, while another is responsible for operating seed-cleaning equipment.

Choosing a Structure

The above discussion suggests that the CUMA model might appeal to producers whose concerns about sharing farm machinery are not addressed under the arrangements currently used in Saskatchewan. By the same token, the discussion also points out certain situations in which the traditional model of the Saskatchewan farm machinery co-operative may indeed be a more suitable choice.

In general, the features of CUMA co-operatives appear to be well suited to situations where some or all of the following features are present:

- some or all of the producers involved wish to share only certain machines rather than an entire machinery set;
- members cannot agree on equipment selection for the entire group;
- timeliness issues are minimal and large losses in income are not sustained if machinery is not used optimally—for example, if members are part-time farmers or operations are not time sensitive;
- members would like to begin sharing machinery gradually, starting with less-critical or expensive machines, either because they do not know each other well or they wish to limit their initial capital investment in the co-operative;
- members do not share similar production methods.

FORMING A FARM MACHINERY CO-OPERATIVE •

Saskatchewan-style co-operatives in which production is not pooled and only machinery is shared appear to be well suited to situations where one or more of the following features are present:

- the members involved wish to share entire machinery sets, as opposed to individual machines;
- members wish to make production decisions independently, but share similar production methods;
- there may be a loss in income if machinery is not used optimally, but members share an “it all works out in the end” approach and feel that the benefits from sharing machinery outweigh the losses;
- members wish to share labour and want to take advantage of particular areas of expertise within the group.

Saskatchewan-style co-operatives that pool returns and production as well as machinery and equipment appear to be well suited to situations where some or all of the following features are present:

- the members involved wish to share entire machinery sets, as opposed to individual machines;
- the potential for conflict regarding machinery use is high—members face a significant loss of income if machinery is not used optimally;
- members are willing to make production decisions together as a group, democratically or by consensus;
- members wish to share labour and want to take advantage of particular areas of expertise within the group.

Some of the questions to consider in determining how a co-operative will be organized and in crafting the by-laws that will support these choices include:

- Will crops be pooled and production decisions made as a group, or will production decisions be made individually and crops remain separate?
- Will the co-op be set up to share individual machines or whole machinery sets?
- How will the co-op allocate costs and/or revenues?

- FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC
 - What are the tax implications of the co-operative?
 - How will the co-op handle labour contributions?
 - What are the machinery needs of the group?
 - How will the co-op be financed?
 - Will the co-op purchase any machinery from the members?
 - How often will the co-op replace machinery?
 - How will the equity of members who leave the co-op be returned?
 - Is there any assistance available to the group?

Critical Success Factors

Regardless of how a co-operative is organized and structured, there are a number of factors critical to the successful formation of any farm machinery co-operative.

Compatibility In any form of collective endeavour, the compatibility of the people involved is crucial to the success of the project. Locating and selecting individuals who get along and respect one another is most important. While compatibility does not necessarily mean similar personalities, it does require that members share a willingness to compromise and listen to each other's viewpoints.

The democratic nature and shared control of co-operative arrangements underscores the need for the people involved to be prepared to "give and take." In most farm machinery co-operatives, decisions are made by consensus. In some larger organizations, decisions are made democratically and based on the one member, one vote principle. If members have difficulties getting along or in making decisions together during the organizational stages of a co-op, chances are they will not be able to work successfully together once the co-op is operational.

Clear Economic Benefits A clear understanding of the economic benefits to be had from co-operating is an excellent incentive for people to compromise. Before forming a co-op, the economic viability of the venture

FORMING A FARM MACHINERY CO-OPERATIVE •

needs to be clearly assessed, taking into account the cost of transferring equipment from farm to farm, and making cost comparisons with alternatives such as leasing or custom work.

The primary economic benefit for most members of farm machinery co-operatives is reduced machinery costs. Other goals, however, may be equally important for some members. These include the ability to share labour, having access to the latest technology, or being able to give a son or daughter the opportunity to carry on with the family farm. The benefits of being a member of the co-op do not have to be the same for everyone. However, people's motivations for joining the co-op and their expectations regarding the benefits from doing so should be clear to everyone involved, as this will help minimize disappointments and the potential for conflict.

Appropriate Levels of Investment Accurately determining the machinery and equipment needs of the members and investing accordingly is critical to the success of a farm machinery co-operative. Both the yield and capacity of each machine slated to be shared has to be considered. Two potential downfalls are:

- Over-investment—when machinery is purchased that is too big and powerful for the co-op's actual needs, or when the co-op creates a need rather than responding to a need already in place; and
- Under-investment—when machinery is purchased that does not have the capacity to accomplish the required work, especially during peak periods.

The result of over-investment is an increase in production costs. The result of under-investment is an increase in material and labour costs. The common result of both situations is dissatisfaction with the co-operative.

Communication and Planning Good communication among members is essential to minimize conflict and to make sure that benefits are obtained. Members need to be prepared to talk openly and regularly about their thoughts, ideas, concerns, and expectations regarding the co-op. Because all co-ops involve some degree of mutual dependence, members must also be prepared to plan and organize their work to accommodate the needs of others.

• FARM MACHINERY CO-OPS IN SASKATCHEWAN AND QUÉBEC

Many successful co-ops have regular business meetings once a week or even a short meeting each day. Regular meetings provide members with an opportunity to plan their operations and discuss problems while they can still be easily solved. Problems that are not discussed and left unresolved can bottle up and eventually destroy the co-op.

Accurate Records Keys to the successful operation of any business include the maintenance of accurate records and a solid bookkeeping system. While these functions are often administered by an accountant or bookkeeper hired by the co-op, each of the members involved must be willing to help keep track of the day-to-day information (such as repairs completed, hours of machinery use, or labour contributed) required for a complete and accurate set of records.

Written Agreements Written agreements help members to clearly understand the workings of the co-operative and their rights and responsibilities. Much of the information about how a co-op is organized and structured is outlined in its by-laws. Members should be familiar with the by-laws and ensure that they reflect the group's objectives. Contractual agreements can also be used to commit members to meeting certain responsibilities with respect to the financing and use of machines, for example. Contracts can provide members with the assurance they need to feel comfortable when sharing equipment.

Notes

1. Government of Québec.
2. Lebel, 1995.
3. Government of Québec.
4. Raup, 1975.
5. Lebel, 1995.

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