

Farm Machinery Joint Ventures

Controlling machinery costs is an important factor in maintaining profit margins in a farm business. Some farm operators accomplish this by owning and operating machinery jointly with other farmers. Such arrangements can reduce equipment costs significantly as well as increase labor flexibility.

Ag Decision Maker File A3-34, [Joint Machinery Ownership](http://www.extension.iastate.edu/agdm/crops/pdf/a3-34.pdf), www.extension.iastate.edu/agdm/crops/pdf/a3-34.pdf, describes several types of informal joint ownership arrangements and gives examples of how costs can be shared. However, some operators prefer to have a more formal ownership arrangement, especially when an entire line of machinery is shared. Such joint ventures require good record keeping and cooperation to be successful.

One option is to set up an agreement with ownership vested in a separate entity such as a limited liability company or partnership. Potential savings exist in several areas:

- Greater annual use of large ticket machines
- More efficient use of labor during peak fieldwork times
- Fewer weather delays because fields are more spread out
- Opportunities to do custom work for other operators or landowners
- Greater use of individual operator skills and specialized labor
- More efficient use of repair and maintenance tools and facilities
- Volume discounts on purchases of inputs and supplies

Some members of machinery joint ventures also cite the ability to own larger and more modern machinery as an advantage, although if this is carried too far, some of the cost savings may be negated. A study in Saskatchewan estimated that three medium sized grain farms (1,500 acres each) could combine



their equipment and reduce their total machinery costs per acre from \$44.66 to \$28.75 under conventional seeding technology, and from \$37.93 per acre to \$25.36 per acre using direct seeding technology (Harris and Fulton).

Getting Started

Setting up a formal machinery joint venture requires some careful thought and commitment. The first step is to develop an accurate estimate of the types of machinery needed and the minimum capacity needed for each unit. This will depend on the crops to be grown, the type of tillage and harvesting systems used, and the total number of acres included. Don't forget to allow additional time for transporting machinery from farm to farm. AgDM File A3-28, [Farm Machinery Selection](http://www.extension.iastate.edu/agdm/crops/pdf/a3-28.pdf), www.extension.iastate.edu/agdm/crops/pdf/a3-28.pdf, provides some guidelines for determining the capacity of a total set of machinery.

Second, take an inventory of the existing machinery. Decide if each piece fits into the overall plan. If it does, the current owner can sell it or lease it to the joint venture. If it does not fit, the owner must decide whether to dispose of it or keep it for personal use. The joint venture should not take on financial responsibility for unnecessary equipment just because one of the members already owns it.

A third party should be contracted to determine an appraised value for items acquired by the joint venture. Smaller items may be purchased for cash, while larger pieces may have to be purchased on an amortized payment schedule. Be aware that selling items to the joint venture or to a third party may trigger recapture of depreciation for income tax purposes. Also, be sure that machinery that is transferred is released from any existing financing agreements or mortgages.

Third, decide how to acquire other needed equipment items. Choices include outright purchase, purchasing with an installment loan or contract, leasing, or renting (see AgDM File A3-21, [Acquiring Farm Machinery Services](http://www.extension.iastate.edu/agdm/crops/pdf/a3-21.pdf) for comparisons, www.extension.iastate.edu/agdm/crops/pdf/a3-21.pdf). Choices regarding brands and dealers must also be made. Finally, a fund for paying operating expenses should be established. Each member may be required to contribute an equal amount of capital, or a fixed value per acre of cropland.

Operations

If all members use the machinery only on their own acres and provide all the labor for those acres, it is probably not necessary to keep a record of the hours contributed. However, one benefit of a joint venture is that two or more operators can work together, without regard to whose land it is, and complete operations more efficiently. If this is the case, each operator should keep track of the number of hours contributed. Having a logbook in each tractor, truck or self-propelled unit will make this easier. The value of each person's labor can be used to offset some of the expenses to be paid later. Some activities such as spraying or repairing machinery may be given a higher value per hour than other activities. Don't forget to include time spent on maintenance, record keeping, travel, and group meetings.

A quick and efficient process for deciding which acres will be covered each day must be established. Some groups appoint a "field boss" on a rotating basis. Others try to move from farm to farm geographically, then reverse directions the next

season or crop. Regardless of what system is used, it must be flexible enough to take into account different rainfall patterns, soil types, and crop maturities.

Cost Accounting

All costs associated with the ownership and operation of the machinery line should be paid by the joint venture, if possible. One exception may be fuel. If all operators fill fuel tanks from their own reserves when the machinery leaves their property, then fuel costs can be excluded. If members occasionally pay small expenses from their own pockets, they should submit the receipts for reimbursement.

At the end of the year all costs should be summarized and divided by the total number of acres farmed. This includes lease and rental payments, installment contract payments, repairs and maintenance, legal fees, insurance, licenses, fuel (if not furnished), lubricants and other items. A depreciation charge may be established instead of purchase contract payments. A charge for the cost of machinery storage space contributed by members can also be built in, unless this contribution is nearly equal for all or proportional to the acres farmed.

All member are billed according to their acres, after deducting the value of labor they contributed. If there is significant variation in the crops grown or the number of trips over different members' fields, then charges can be allocated by the total hours spent on each member's land instead. However, this would require some added record keeping.

If trucking of grain is carried out by the machinery cooperative, and not everyone's grain is sold at the same site, then a separate account should be set up for transportation. A log should be kept for each trip, including the number of bushels, number of miles hauled, and the owner(s) of the grain. At the end of the year, or when all of the crops have been sold, a cost per bushel-mile can be calculated and billed to each member according to usage. If income is earned by hauling grain for nonmembers, it can be subtracted from the total costs before they

are allocated. AgDM File A3-38, [Farm Machinery Joint Venture Worksheet](http://www.extension.iastate.edu/agdm/crops/pdf/a3-38.pdf), www.extension.iastate.edu/agdm/crops/pdf/a3-38.pdf and [Decision Tool A3-38](http://www.extension.iastate.edu/agdm/crops/xls/a3-38jointventfarmmach.xlsx), www.extension.iastate.edu/agdm/crops/xls/a3-38jointventfarmmach.xlsx, can be used to summarize and allocate expenses.

Income Tax Treatment

The exact handling of taxable income and expenses will depend on the type of legal entity selected. In general, though, a machinery cooperative will show income from the fees paid by the members for services and deduct all the operating expenses, interest, and depreciation associated with the machinery owned. Any profits or losses will be passed on to the members' tax returns. Before forming a machinery cooperative, members need to realize that they will not be able to deduct Section 179 expensing or other depreciation allowances on their own tax returns for equipment owned by the sharing entity. Moreover, they may have to recapture depreciation up to the value of any machinery that they sell to the cooperative or transfer as equity capital.

Concerns

Some of the most common concerns expressed by members of machinery ventures include:

1. Need to schedule machinery use equitably when timing is critical for planting and harvesting.
2. Lack of care by some members when using machinery, leading to excessive repairs and depreciation.
3. Lack of flexibility in tillage, planting and harvesting systems when everyone is using the same set of machinery.
4. Need to clean machinery between farms, to avoid commingling different types of grain or to prevent transporting weed seeds and insects. Removing trash and cans from the cab after each person uses a tractor or harvester is also important.

5. Need to have seed and chemicals available when fieldwork is to be done on each farm.
6. Inability to use equity in the line of machinery as collateral for personal operating notes or other loans.

Nevertheless, trust and good communication among members can usually overcome these potential problems.

Case Study

The Kiplinger Agricultural Machinery Cooperative Ltd. (KAMCO) was formed in 1996, in Saskatchewan, a [complete description of its organization and success is available](https://usaskstudies.coop/documents/books,-booklets,-proceedings/machinery-co-ops-sk-and-pq.pdf), <https://usaskstudies.coop/documents/books,-booklets,-proceedings/machinery-co-ops-sk-and-pq.pdf>.

CUMAs

Farm machinery joint ventures have been common in France and Quebec for many decades. They are known as "Cooperatives for the Utilization of Agricultural Machinery," or CUMAs. At least 50 CUMAs existed in Quebec in the year 2000, with more than a thousand members. While they are similar to the machinery joint ventures described so far in this file, they have some important differences, too.

First, they tend to include more, but smaller, farming operations. This is typical of the small-scale livestock and forage farms that are common in eastern Canada. Second, members can join "activity branches." Membership in an activity branch entitles an operator to the use of a particular machine rather than an entire line of equipment. Each member must commit to a membership period of three to five years, which matches the term of the installment contract under which the machine is being purchased. Each member also contributes an equal share of equity capital to finance the down payment. Membership fees cover the financing payments and operating costs, and are assessed in proportion to each member's usage of the machine.

CUMAs are organized according to traditional cooperative principles. Some CUMAs have extended the sharing concept to supplying fill-in laborers when a member must be away from home. For more information on CUMAs in Quebec and Ontario, and three case studies, see [The CUMA Farm Machinery Cooperatives](https://core.ac.uk/download/pdf/6564027.pdf), <https://core.ac.uk/download/pdf/6564027.pdf>.

Summary

Joint ownership of farm machinery offers medium and small volume operators a chance to reduce costs per acre and increase labor efficiency. However, some flexibility and independence may be sacrificed. Joint ownership can be achieved with an informal agreement between two persons, or with a formal legal entity with a larger membership.

However machinery is jointly owned, good records of ownership shares, costs paid, and all other facts are necessary for business and tax purposes. All parties should have a written agreement that explains how the machinery was acquired, and how the joint ownership will be dissolved in case of termination. The agreement also should explain how to determine the value of the machinery at the time of dissolution.

Additional References

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Gilbert, Faith. [A Guide to Sharing Farm Equipment](#). Northeast Sustainable Agriculture Research and Education (SARE). 2018. <https://northeast.sare.org/resources/a-guide-to-sharing-farm-equipment/>

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Harris, Andrea, and Murray Fulton. “[Farm Machinery Co-operatives: An Idea Worth Sharing](#).” Center for the Study of Cooperatives, University of Saskatchewan, Saskatoon, SK. 2000. <https://usaskstudies.coop/documents/books,-booklets,-proceedings/idea-worth-sharing.pdf>

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