

# Farm Machinery Joint Venture Worksheet

Some farm operators prefer to own and operate machinery jointly with other farmers. Such agreements can reduce overall costs significantly as well as increase labor flexibility. An explanation of how to form and manage a machinery joint venture can be found in [Farm Machinery Joint Ventures](http://www.extension.iastate.edu/agdm/crops/html/a3-37.html), [www.extension.iastate.edu/agdm/crops/html/a3-37.html](http://www.extension.iastate.edu/agdm/crops/html/a3-37.html). However, joint ventures also increase the need for good record keeping. This publication contains a worksheet that can help to organize a record of the initial capital contributions made by members of a machinery joint venture and calculate the annual payment each member will make to the joint venture for its services. It shows an example set of values for four farmers, P.J., Roger, Kim, and Carlos, who formed a machinery cooperative.

Table 1 shows all of the equipment items contributed by each member when the joint venture was formed. Ten separate items were contributed. The table shows the agreed on beginning value of each item and the name of the member who contributed it. The members agreed that 10% of the value of each item would be considered to be an initial contribution of equity capital to the joint venture. Further, the members decided that the joint venture needed to have an initial capital fund of \$50,000, or \$12,500 from each member. The last line of Table 1 shows how much cash each member had to contribute, after receiving credit for the machinery equity contributed, to make up the \$12,500 initial capital contribution.

Table 2 shows the annual payments that the joint venture will make to each member for the equipment items they contributed. They decided to pay each member 90% of the value of each item, amortized over five equal annual payments at 7% interest. The payments to members total \$59,375 each year. Table 3 shows the equipment items the members agreed to purchase from machinery dealers, and the annual payment for each one, to be made from the joint venture account. Table 4 shows the items that the joint

venture agreed to lease, and the annual payment for each one, also made from the joint venture account.

Table 5 shows the other related expenses incurred by the joint venture during the year. This information was recorded in a separate location, and the totals were transferred to the worksheet at the end of the year. Each member supplied the fuel for the field work done on his or her own acres.

Table 6 shows the total hours of labor contributed by each member. Totals were carried forward from the labor log sheets kept throughout the year. Field labor hours were valued at \$20 per hour, and time spent performing repairs was valued at \$25 per hour. In total, the members contributed \$132,280 worth of labor to the joint venture.

Table 7 summarizes the total crop area that each member had that year, 3,294 acres. The total of all the annual payments to members, dealers and lease companies, plus other expenses and the value of labor contributed, came to \$555,456, or \$168.63 per acre. Multiplying each member's acres by \$168.63 gives the total that each member owes the joint venture for services provided. Next the total payment owed to each member for the value of equipment items sold to the joint venture (Table 2) is subtracted, and the value of the labor contributed by each member (Table 6) is subtracted. The remainder is the net amount each member needs to pay the joint venture that year for its services.

This worksheet can be modified or expanded to show additional information, but the example illustrates a basic procedure for recording and calculating each member's contributions and obligations. The spreadsheet version of the worksheet is available at: [Farm Machinery Joint Venture Worksheet](http://www.extension.iastate.edu/agdm/crops/xls/a3-38jointventfarmmach.xlsx), [www.extension.iastate.edu/agdm/crops/xls/a3-38jointventfarmmach.xlsx](http://www.extension.iastate.edu/agdm/crops/xls/a3-38jointventfarmmach.xlsx).

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Revised March 2023

## Farm Machinery Joint Venture Worksheet

### 1. Initial Capital Contributions from Members

Initial Contributions from Members			Machinery Equity Contributed			
			10% Percent of machinery value contributed as equity			
Equipment Item	Seller	Beginning Value	Names of Members in Joint Venture			
			P.J.	Roger	Kim	Carlos
Disk	Roger	\$36,000		\$3,600		
Field cultivator	P.J.	\$25,000	\$2,500			
Sprayer	Carlos	\$27,500				\$2,750
Planter	Carlos	\$65,000				\$6,500
V-ripper	Kim	\$15,000			\$1,500	
Grain wagons (2)	Roger	\$30,000		\$3,000		
Augers (2)	Kim	\$20,000			\$2,000	
Grain truck	P.J.	\$52,000	\$5,200			
Total equipment equity contributed		\$27,050	\$7,700	\$6,600	\$3,500	\$9,250
Total equity to be contributed		\$50,000	\$12,500	\$12,500	\$12,500	\$12,500
<b>Total cash equity to contribute</b>		<b>\$22,950</b>	<b>\$4,800</b>	<b>\$5,900</b>	<b>\$9,000</b>	<b>\$3,250</b>

### 2. Annual Payments to Members for Initial Machinery Contributions

Value owed as percent of beginning value	Years to repay	Interest rate	Value Owed	Payment	Annual Payments to:			
					P.J.	Roger	Kim	Carlos
90%	5	7%						
Disk			\$32,400	\$7,902		\$7,902		
Field cultivator			\$22,500	\$5,488	\$5,488			
Sprayer			\$24,750	\$6,036				\$6,036
Planter			\$58,500	\$14,268				\$14,268
V-ripper			\$13,500	\$3,293			\$3,293	
Grain wagons (2)			\$27,000	\$6,585		\$6,585		
Augers (2)			\$18,000	\$4,390			\$4,390	
Grain truck			\$46,800	\$11,414	\$11,414			
Total			\$243,450	\$59,375	\$16,902	\$14,487	\$7,683	\$20,304

### 3. Purchases from Dealers

	Initial Cost	Annual Payment
Tractor	\$150,000	\$26,000
Grain cart	\$60,000	\$15,000
Chisel plow	\$75,000	\$18,000
Total	\$285,000	\$59,000

## Farm Machinery Joint Venture Worksheet (continued)

### 4. Leased Items

	Annual Payment
Tractor	\$72,500
Combine and heads	\$123,000
Grain truck	\$41,871
Total	\$237,371

### 5. Other Expenses

	Annual Cost
Insurance	\$7,750
Licenses	\$4,560
Parts and repairs	\$52,560
Lubricants	\$1,560
Fuel	contributed
Miscellaneous	\$1,000
Total	\$67,430

### 6. Labor Contributions by Each Member

	Total Hours	P.J.	Roger	Kim	Carlos
Field labor hours at \$20.00 per hour	5,864	1,628	1,233	869	2,134
Other labor hours at \$25.00 per hour	600		250		350
Labor value contributed	\$132,280	\$32,560	\$30,910	\$17,380	\$51,430

### 7. Summary

	Total	P.J.	Roger	Kim	Carlos
Total payments and labor value	\$555,456	Payments for equity contributed, dealer and lease payments, labor, other.			
Total crop acres	3,294	809	734	623	1,128
Total cost per acre	\$168.63				
Total cost owed by each member	\$555,456	\$136,419	\$123,772	\$105,054	\$190,211
Less payments owed to members	\$59,375	\$16,902	\$14,487	\$7,683	\$20,304
Less value of labor contributed	\$132,280	\$32,560	\$30,910	\$17,380	\$51,430
Net payment owed to joint venture	\$363,801	\$86,957	\$78,375	\$79,992	\$118,477

# Farm Machinery Joint Venture Worksheet

## 1. Initial Capital Contributions from Members

Initial Contributions from Members			Machinery Equity Contributed			
			%	Percent of machinery value contributed as equity		
Equipment Item	Seller	Beginning Value	Names of Members in Joint Venture			
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
		\$	\$	\$	\$	\$
Total equipment equity contributed		\$	\$	\$	\$	\$
Total equity to be contributed		\$	\$	\$	\$	\$
<b>Total cash equity to contribute</b>		<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>

## 2. Annual Payments to Members for Initial Machinery Contributions

Years to repay ____ years Interest rate ____ %			Annual Payments to (names):			
Value owed as percent of beginning value ____	Value Owed	Payment				
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
Total	\$	\$	\$	\$	\$	\$

## 3. Purchases from Dealers

	Initial Cost	Annual Payment
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
Total	\$	\$

## Farm Machinery Joint Venture Worksheet (continued)

### 4. Leased Items

	Annual Payment
	\$
	\$
	\$
	\$
Total	\$

### 5. Other Expenses

	Annual Cost
Insurance	\$
Licenses	\$
Parts and repairs	\$
Lubricants	\$
Fuel	\$
Miscellaneous	\$
Total	\$

### 6. Labor Contributions by Each Member

	Total Hours	Member Names			
Field labor hours at \$ ____ per hour					
Other labor hours at \$ ____ per hour					
Labor value contributed (hours × rate(s) per hour)	\$	\$	\$	\$	\$

### 7. Summary

	Total	Member Names			
Total payments and labor value	\$	Payments for equity contributed, dealer and lease payments, labor, other. Add totals from Tables 2, 3, 4, 5, and 6.			
Total crop acres, each member					
Total cost per acre (total payments / total acres)	\$				
Total cost owed by each member (cost per acre × acres)	\$	\$	\$	\$	\$
Less payments owed to members (from Table 2)	\$	\$	\$	\$	\$
Less value of labor contributed (from Table 6)	\$	\$	\$	\$	\$
Net payment owed to joint venture	\$	\$	\$	\$	\$