

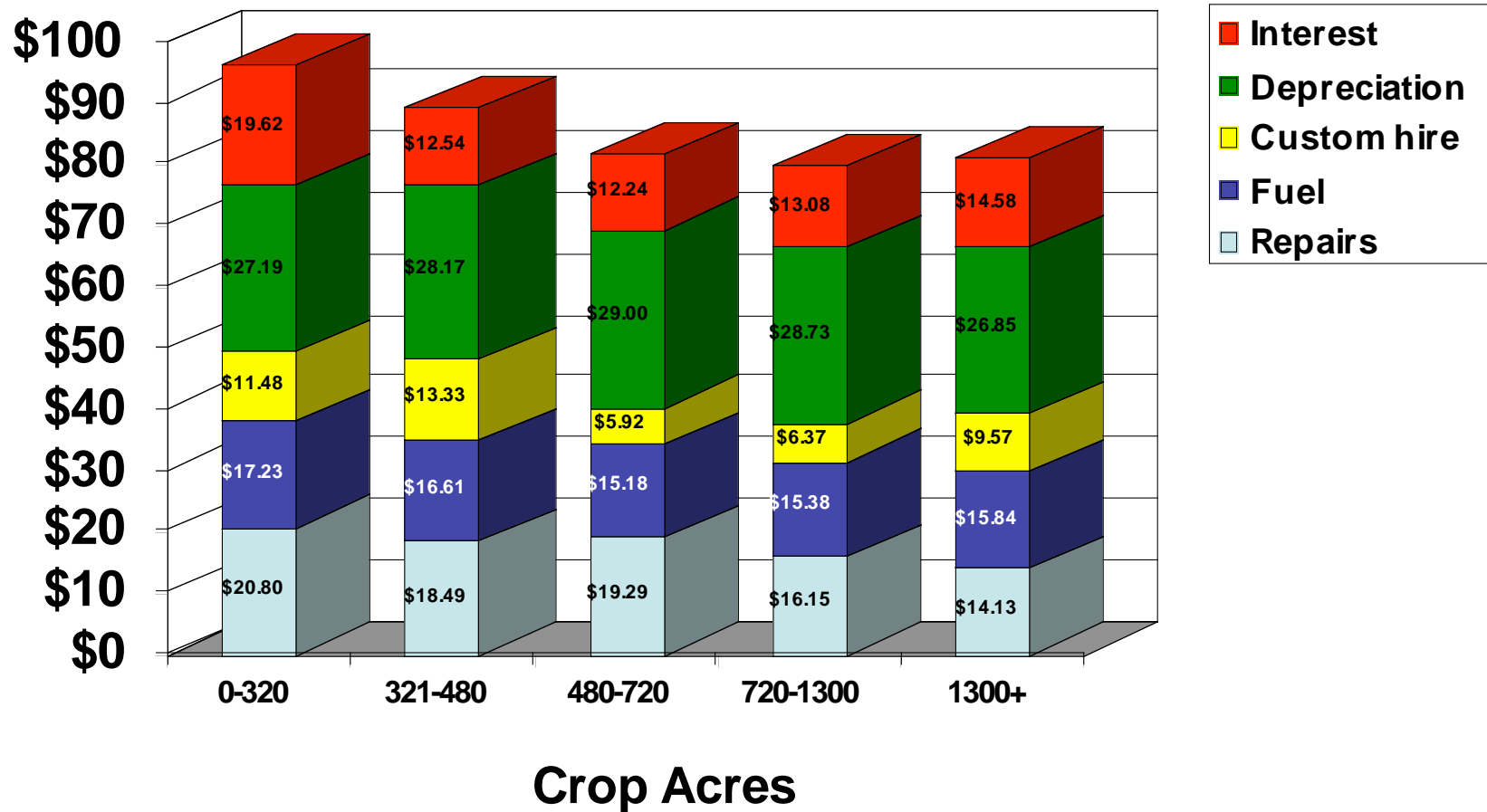
Sharing Machinery and Labor: Operational Issues (getting it done)

- Getting Started
- Cost Accounting
- Income Taxes
- Scheduling



Machinery Costs by Farm Size

Iowa Farm Business Association



Getting Started

1. List types of machines and capacity needed

Consider:

crops

tillage and harvesting systems

number of acres total

labor available

travel time needed



Getting Started: Example

- 1,800 acres to combine
- 25 field days and 12 hours per day
- $1,800 \text{ acres} / 300 \text{ hours} = 6 \text{ acres/hour}$
- 6-row corn head (5.2 acres/hour)
- 20-foot bean head (6.8 acres/hour)



Estimating the Number of Field Days Required

Ag Decision Maker -- Iowa State University Extension
 Estimating the Number of Field Days Required



Place the cursor over cells with red triangles to read comments.
 Enter your input values in shaded cells.

Spreadsheet on Ag Decision Maker web site

Crop Reporting District: Southeast

Acres of crops		
Corn	Soybeans	Other

Type of operation	Times Over			Implement width (feet)
	Corn	Soybeans	Other	
Tillage and Pre-plant Applications				
Fertilizer spreader				
Manure spreader				
Anhydrous ammonia applicator				
Moldboard plow				
Subsoiler				
Chisel plow				
Offset disk				
Tandem disk				
Harrow				

Planting and weed control	No. of rows (optional)			Implement or row width
	Corn	Soybeans	Other	
Planter				ft.
Sprayer				ft.
Boadcast seeder				ft.
Grain or soybean drill				ft.
Row cultivator, early cultivation				ft.
Row cultivator, late cultivation				ft.

Harvesting	No. of rows (optional)			Implement or row width
	Corn	Soybeans	Other	
Mower-conditioner, rotary				ft.
Rake				ft.
Baler, square				ft.
Combine, small grain				ft.
Combine, soybeans				ft.
Mower-conditioner, rotary				ft.

Estimated field capacity (a/hr)	Field capacity, your values (optional)	Fieldwork labor available (hr/day)	Acres covered per Day	Field days needed
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
			Total Field Days for Tillage	-
			Acres/day	
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
			Total Field Days for Planting	0.0
			Total Days for Tillage and Planting	0.0
			Ending Date	0-Jan
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
0.0			0	-
			Total Field Days	-
			Ending Date	0-Jan

Getting Started



2. Inventory existing machinery:

- type
- condition
- capacity

3. Decide what to keep, what to replace

4. Have items to keep appraised by a 3rd party (dealer or auctioneer)

Getting Started

5. Decide what equipment to acquire
6. Decide how and where to acquire it
 - Purchase outright, finance, or lease?
 - Will old equipment be traded in?
6. Decide how to share the investment
7. Develop a written agreement
(if necessary)

Recordkeeping – Option 1

- Each owner uses the machine in about the same proportion as ownership is shared
- 50-50 or other %
- Each owner supplies fuel and labor on own land
- Pay for repairs and maintenance in same proportion as ownership
- Few records needed



Example 1: One Machine, Two Owners, Equal Use

- Al and Chris purchase a used combine for \$150,000, each paying half
- Each uses it on 800 acres
- They supply their own fuel and labor
- Repairs are \$5,000 per year (paid equally)
- They pay equal shares of the loan payment
- Each depreciate \$75,000 on tax return



Recordkeeping – Option 2

- Use is not in the same proportion as ownership
- Keep a record of acres used by each owner
- For some equipment use hours
- Estimate total cost for each machine
 - 1) 15-20% of value for fixed costs, plus repairs
 - 2) Or, use ISU custom rate survey
- Divide total costs by total acres
- “Over user” reimburses the “under user”

Example 2: Unequal Use

- Chris has 1,000 acres, Al has 600 acres
- They supply their own fuel and labor
- Repairs are \$5,000 (each pays \$2,500)
- Depreciation, interest, insurance estimated at 18% of value of combine
 - $18\% \times \$150,000 = \$27,000$
- Total shared costs = \$32,000
- Cost per acre is $\$32,000 / 1600 \text{ a.} = \20

Example 2: Unequal Use

	Total	AI	Chris
Cost paid by each	\$32,000	\$16,000	\$16,000
Acres	1,600	600	1,000
Cost per acre	\$20	@ \$20	@ \$20
Desired cost split	\$32,000	\$12,000	\$20,000
Amount to reimburse		- \$4,000	+ \$4,000

Chris pays AI \$4,000.

Example 2: Unequal Use

Some people use the **loan payment** instead of depreciation and interest.

Leasing makes costs easier to estimate.
No disposal problems.

Alternative Approach

- Start with a custom rate: \$26.00 / acre
- Subtract fuel: 1.5 gal. @ \$3 \$ 4.50 / acre
- Subtract labor: \$12 / 6 a./hr. \$ 2.00 / acre
- Cost to reimburse \$19.50 / acre
- Total cost for 1,600 acres \$31,200



Example 2: Unequal Use

	Total	Al	Chris
Cost paid by each	\$31,200	\$15,600	\$15,600
Acres	1600	600	1,000
Cost per acre	\$19.50	\$19.50	\$19.50
Desired cost split		\$11,700	\$19,500
Amount to reimburse		- \$3,900	+ \$3,900

Chris pays Al \$3,900.

Joint Machinery Spreadsheet

- Ag Decision Maker decision file A3-34
- <http://www.extension.iastate.edu/agdm/crops/xls/a3-34jointmach.xls>



Example: Mike and Ike



Recordkeeping: Option 3

Full Machinery and Labor Sharing (Joint Entity)

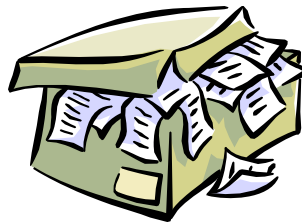
- Some equipment purchased from members
- Some purchased from dealers
- Some leased



Recordkeeping: Option 3

Full Machinery and Labor Sharing (Joint Entity)

- Log book in each vehicle, tractor, SP unit
- Record fuel, small parts and other costs paid by members
- Record labor: field time, travel, servicing



Cost Accounting

- Joint entity pays principal and interest, lease payments, parts and repairs, licenses, insurance, legal fees, etc.
- Fuel excepted if furnished by members in proportion to acres
- Sum all expenses plus value of labor contributed
- Divide total expense by total acres farmed

Example:

Full Line of Equipment, 4 Partners

	P.J.	Roger	Kim	Ole
Value of equipment sold to the entity	\$30,950	\$26,500	\$16,600	\$8,000
Annual payment from entity 5 years @ 7%	\$6,794	\$5,817	\$3,644	\$1,756

Purchased \$94,053 of equipment from dealers.

Leased 2 tractors, combine and grain truck.

Example:

Full Line of Equipment, 4 Partners

Expenses paid by the entity:

Payments to members	\$ 18,010
Payments to dealers	\$ 21,144
Lease payments	\$ 92,880
Insurance, license, etc.	<u>\$ 15,939</u>
Total	\$147,973

Cost Accounting: Example

Labor contributed by partners	@\$10	<u>Acres</u>
• P.J. 1,128 hours	\$11,280	809
• Roger 1,089 hours	\$10,890	734
• Kim 869 hours	\$ 8,690	623
• Ole 2,055 hours	<u>\$20,550</u>	<u>1,128</u>
• Total labor contributed	\$51,410	3,294
• Other expenses	<u>\$147,973</u>	
• Total all expenses	\$200,018	
• Total expense per acre		\$60.72

Cost Accounting

- Charge each member the total cost per acre x their own acres
- Subtract payments for items sold to entity
- Subtract the value of labor they contribute
- Each member pays the difference to the entity

Expense Allocation to Partners

	P. J.	Roger	Kim	Ole
Acres	809	734	623	1,128
Cost share @ \$60.72	\$39,352	\$35,704	\$30,304	\$54,869
Minus payments for items sold to entity	- \$6,794	- \$5,817	- \$3,644	- \$1,756
Minus labor value	- \$11,280	- \$11,525	- \$8,690	- \$20,550
Equals net payable to the entity by each	= \$31,051	= \$27,228	= \$25,496	= \$46,188

Joint Venture Worksheet

- Ag Decision Maker decision file A3-38
- <http://www.extension.iastate.edu/agdm/crops/xls/a3-38jointmach.xls>

Income Tax Considerations: Purchase Machine Jointly

- Each owner's share is listed on his/her depreciation schedule
- Section 179 expensing and depreciation rate are decided by each owner individually

Income Tax Considerations

Separate Entity

- Entity will have profits and losses, depreciation
- Pass through of tax items will depend on the legal status of the entity
- Partnership or S corp has one Section 179 limit
- Entity Section 179 expensing counts against limit of each partner
- Selling existing machinery to the entity may trigger recapture of depreciation

Scheduling Work

- Field maps for everyone
- Stagger maturity dates of crops
- Appoint a “field boss” to decide day by day
- Rotate north to south or east to west
- Do crop share leased land first
- Be flexible according to weather, soil conditions, crop maturity



Concerns



- Equitable scheduling of machinery use
- Care and maintenance standards
- Loss of independence
- Need to clean machinery between farms
- Need to have seed and chemicals in place
- Inability to use machinery equity as loan collateral