

Part III

Capital Investment Decisions

- Types of Decisions
- Analysis Methodology
- Simulation Models

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Capital Investment Decisions

- Capital Items
 - Equipment
 - Facilities
 - Land
- Optimizing access
 - Buy, lease, custom hire, joint venture?



We don't believe in racial profiling!

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Key Questions to Ask

- Is it Profitable Investment?
- Financial feasibility?
 - Impact on liquidity and leverage
 - Debt service capacity; coverage ratio
- Risk considerations
- Exit plan
- Impact on management structure; capacity to manage revised infrastructure

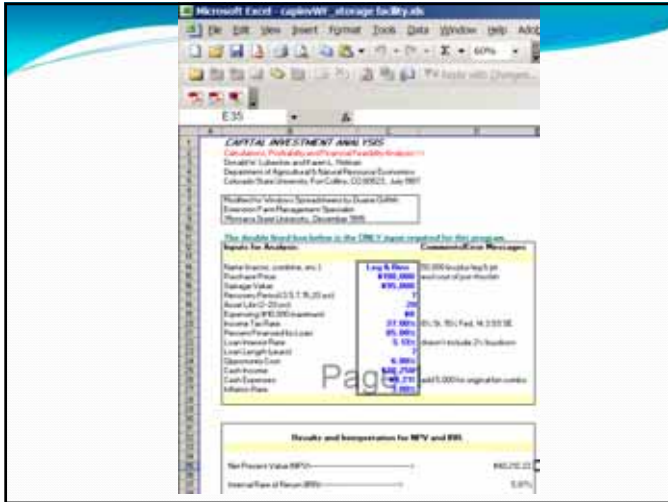
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Capital Investment: Grain Storage

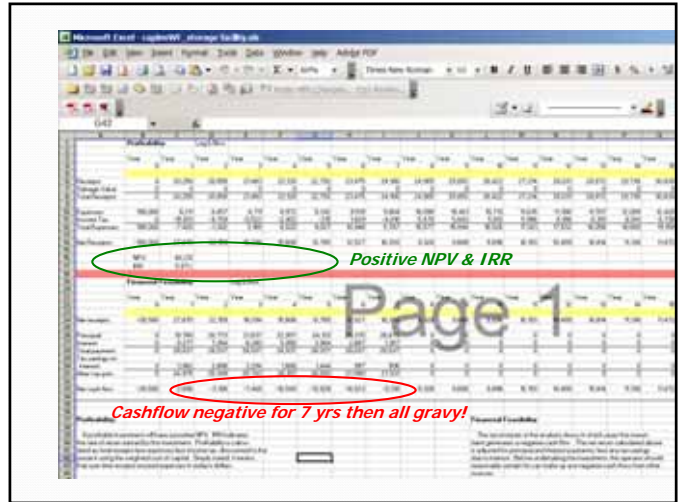
- L. R. Objective (1983)
250,000 bu + leg.pit, Scale
- 12-31-00 Status
54,000 bu + Axle Scale
- 2001 Action Plan
add 3 bins, extend 2, pit, leg, and load out Bin
- Feasibility Study
pros, cons, Cap Inv Analysis
 - Used CSU/MSU model to simulate results for Profitability & Financial Feasibility



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Secret to Finishing a Dream...



- PLAN, PLAN, PLAN
- Use appropriate model (MSU, CSU, KSU, UI templates...*more later*)
- Sell financial feasibility
 - 1st -Partners & investors
 - 2nd – Banker!


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Next question....

“Should I buy, rent, custom hire, or joint venture?”

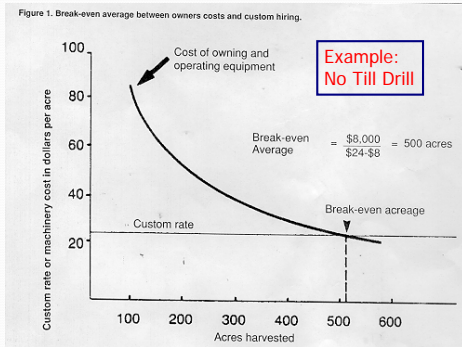
Can you look your partner or spouse in the eye and say with confidence:

“We OPTIMIZED!”



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Step 1. Determine BEP – Owning vs Custom Hiring



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Doing the Analysis

- Define facts and assumptions to analyze
 - Cost data: purchase, rent, lease custom hire rates
 - Usage data: acres or hours unit
- Select model to crunch the numbers
- Interpret results and act accordingly!

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Case Study #1

“I’m buying a new drill. How should I access?”

- Own
- Rent/Lease
- Custom Hire
- Joint Venture

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Step #1 – Identify Cost Components

- Ownership Costs
 - Fixed - Deprec, Interest, Taxes, Housing, Ins
 - Variable - Maintenance, Fuel, Labor, Other
- Rental/Lease Costs
 - Fixed - Lease Pmt; Rent/Unit of Use, Insur
 - Variable - Fuel, Labor, Other Inputs
- Custom Hire Costs - Rate/Acre

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<u>Purchase Option</u>	
Purchase Price	\$53,750
Down Payment (30%)	\$16,125
Loan Repayment Period (yrs.)	5 years
Annual Payments (10.15% interest)	\$9,963.44
Salvage Value - 5 years	\$22,500
Maintenance Costs	#3.00/acre
<u>Lease Option</u>	
Lease Length	5 years
Annual Lease Fee	\$11,854
<u>Short Term Rental Option</u>	
Rental Fee (\$/acre)	\$14.00
Annual acreage seeded	800 acres

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Step #2
 Calculate break-even threshold for **owning** vs. **renting** drill.

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Be sure to use "economic depreciation"
 ...not "tax depreciation"

Purchase Price = \$53,750
 Salvage Value in 5 years = \$22,750

Annual Economic Depreciation:
 = $\frac{\$53,750 - \$22,500}{5 \text{ years}}$ = \$6,250

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Solution #2 - Simple Formula - Break-even Analysis*

Break-even Acreage = $\frac{\text{Annual Ownership Costs}}{\text{Custom Rate}/\text{Ac} - \text{Operating Costs}/\text{Ac}}$

Annual Costs = deprec, inter, taxes, insur*, and housing
 = \$6,250 + \$3,870 + \$572 + 0* + \$0
 = \$10,692

Rental = \$14/ac; Operating Costs (Maintenance) = \$3/ac

Break-even Acreage = $\frac{\$10,692}{\$14 - \$3}$ = 972 Acres

Source: RLW Excel Spreadsheet

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Buy, lease or custom hire harvest?

1996 Costs/hour to Operate 30' Combine @ \$177,000 cost
Vs. Cost TODAY ...*what has changed?*

1996 Data	
Hrs Use	Cost/Hr
100	\$258.45
200	149.85
300	BEP-> 125.56
400	111.39
500	101.85



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Let's look at some more sophisticated models

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Knowing Usage History is Key

Equipment Utilization History - Wittman Farms									
	Dec-95	Dec-96	Dec-97	Dec-98	Dec-99	Dec-00	Dec-01	Dec-02	Ave Use
JD4650					7068	7698	8348	8865	
- Ann Usage						630	650	517	599
75C-30' '94		885	1039	1515	1913	2188	2549	2875	
- Ann Usage			154	476	398	275	361	326	332
85D-35"					802	1408	1900	2445	
- Ann Usage						606	492	545	548
85D-30"		Bot 9-19-99		1056	1347	1859	2297	2626	
- Ann Usage					291	512	438	329	383
JDB400T-'97						2107	2288	2856	
- Ann Usage							181	568	375
Case 7150		1461	1676	1828	2125	2409	2766 sold-	10/1	
- Ann Usage			215	152	297	284	357		261
NH9680			867	1387	1889	2138	2300	2400	
- Ann Usage				520	502	249	162	100	307

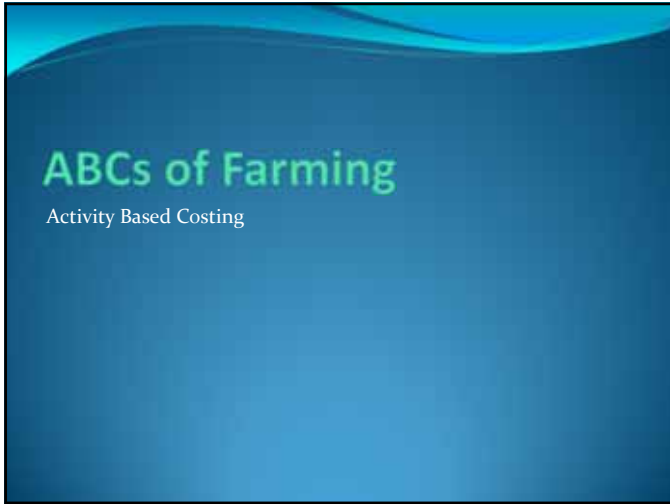
Hours: Tractors, combines
Miles/Hrs: Trucks
Acres/Hrs: Drills, Major Tillage Implements

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Information Needed to do Analysis

- Ownership costs
 - Cost of power unit/implement
 - Planning Horizon/useful life
 - Salvage value
 - Cost of capital or borrowing
 - Insurance & housing costs
 - Tax rates
- **WARNING:** Use YOUR costs
 - NOT economic costs from someone else's data
 - NOT replacement cost
- Annual usage of power unit – all operations
- Operating costs
 - Fuel
 - Consumption/hour
 - Cost of fuel
 - Labor cost
 - Primary operators
 - Support personnel
 - Repairs and Maintenance
 - Other Equip Support Overhead Costs (combine labor vs parts example)
- Productivity of Operation
 - Working width
 - Speed
 - Field efficiency %

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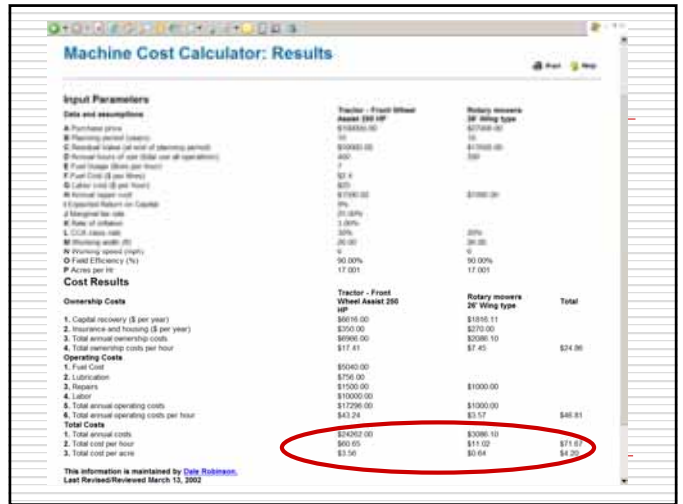
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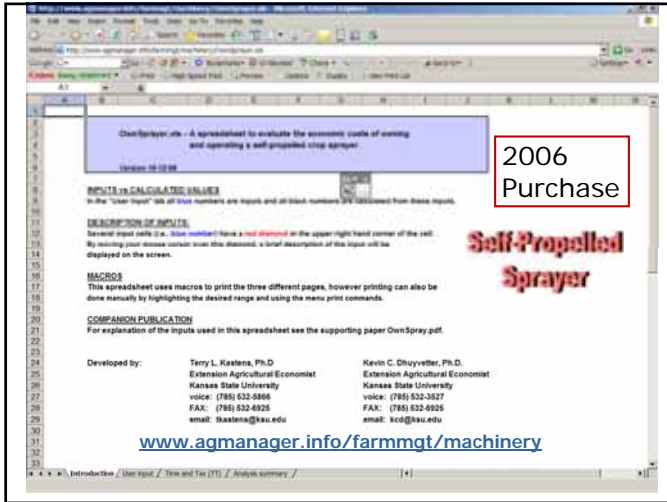
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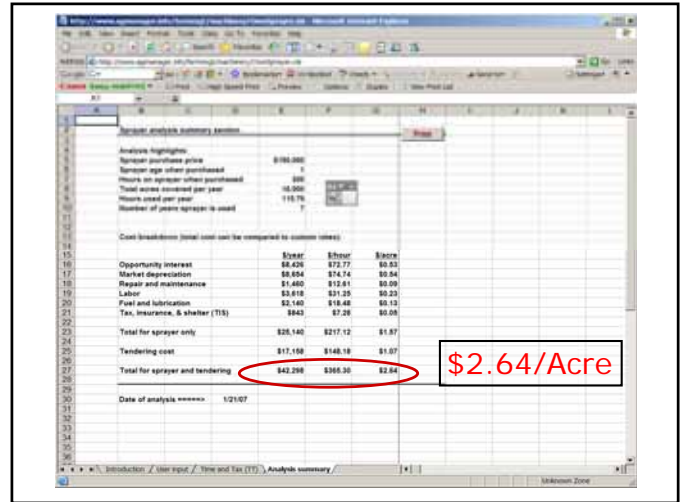
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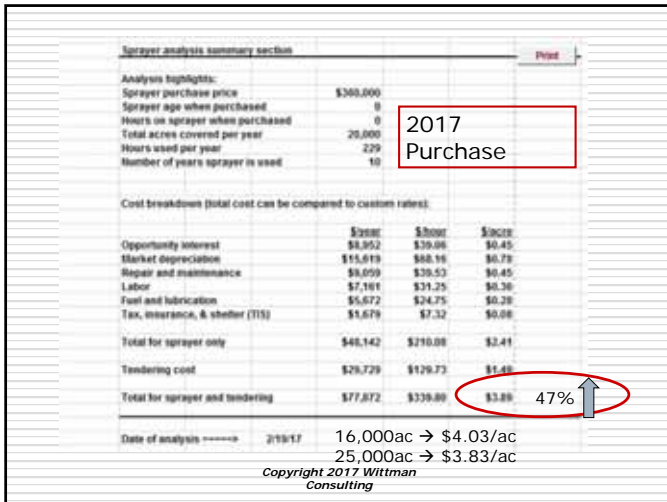
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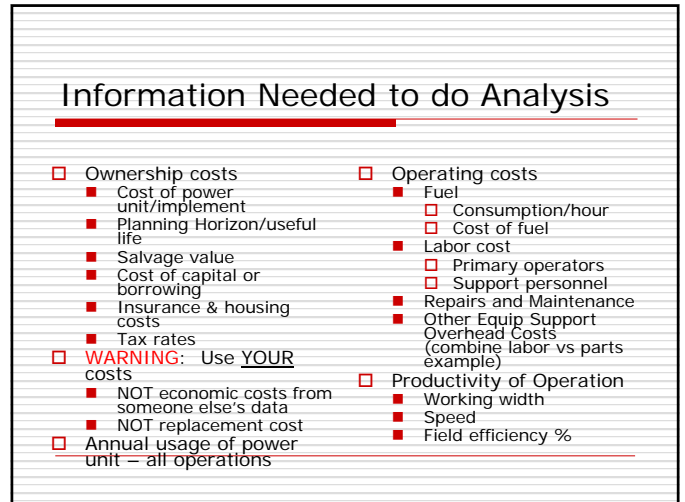
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Examining analysis of baler purchase

What would you do to get a \$20,000 pay raise?

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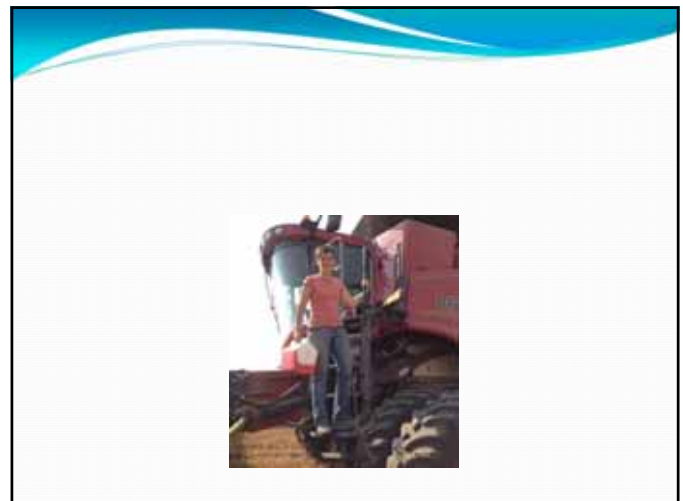
Baler purchase summary section					
Analysis highlights					
Baler value owned	Large volume baler				
Baler purchase price	\$75,000				
Baler age when purchased	0				
Bales on baler when purchased	0				
Estimated hours on baler when purchased	0				
Average weight of bales in lb	1,040				
Bales made by baler per year	4,000				
Time of bal baled per year	3,000				
Hours per on baler per year	36.75				
Hours per on operator/ha/acre per year	32.72				
Total acres baled per year	1,000				
Number of acres baled will be used	0				
Baler value when sold	\$36,212				
Amortized resale over lifetime	\$737				
Cost breakdown					
	\$/acre	\$/ha	\$/ha	\$/ha	\$/ha
Opportunity interest	\$5,766	\$1.88	\$2.31	\$108.00	\$8.91
Market depreciation	\$1,000	\$0.31	\$1.56	\$75.00	\$2.14
Repair and maintenance	\$207	\$0.07	\$0.71	\$4.00	\$0.21
Tire, insurance, & other (TIO)	\$790	\$0.26	\$0.21	\$10.00	\$0.91
SUB TOTAL	\$7,763	\$2.52	\$4.89	\$138.00	\$12.16
Time on net value	\$2,210	\$0.68	\$1.41	\$66.00	\$2.01
Tractor rental charge	\$2,000	\$0.60	\$1.50	\$75.00	\$2.00
Labor	\$2,000	\$0.61	\$0.90	\$45.00	\$1.00
Fuel and lubrication	\$1,000	\$0.47	\$0.75	\$30.00	\$1.00
SUB TOTAL	\$7,210	\$2.36	\$4.67	\$225.00	\$9.20
Total for baling operator	\$22,000	\$2.00	\$2.80	\$100.00	\$11.00

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Conclusions about ABC

- Critical information for making incremental decisions - expansion
- Identifies when it's best to in-source vs. outsource
- Sets accurate base for pricing in custom work & trade relationships
- Can be reasonable alternative to cost center tracking & allocation approach

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