Managing Risk in Today's Agricultural Environment

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What sources of risk are you most concerned about today?

- Production/technical risk
- Marketing and price risk
- Financial risk
- Institutional risk
- Legal risk
- Personal and human risk

Thinking about Risk

- Risk can be difficult to discuss
  - Overconfidence in forecasts and ability to influence events
  - Challenging to assess range of possible outcomes
- Important to
  - Recognize sources of vulnerability
  - Ways to manage risk
    - Agriculture is in the midst of unprecedented volatility
    - Higher income and increased wealth to protect
    - Lower margins and prices to contend with

Types of Risk

Business Risk

Financial Risk

Strategic Risk


Production
Human
Price/
Market
Business
Risk
Relationship
Casualty
Technology
Legal/
Regulatory


Debt Use
and
Leverage
Incomplete
budgeting or
investment
analysis
Financial
Risk
Interest
Rates (Fixed
or Variable)
Working
Capital and
Liquidity
Capital Lease
Commitments


Strategic Positioning Risk
• Accurate Assessment of External Forces and Internal Resources/Capabilities
• Proper Alignment of Resources and Capabilities to External Forces
• Proper Implementation of Strategy
• Realigning Strategy to Changing External Forces and Resources/Capabilities
Strategic
Risk
External Forces
• Business/Economic Climate
• Competitor Actions
• Customer Preferences
Internal Resources &
Capabilities
• Physical
• Financial
• Customer
• Employee/Supplier
• Organizational


Potential Loss Exposures
Financial
Income Loss
Exposure
Relationship
Loss
Exposure
Resource
Loss
Exposure
Social
Psychological
Loss
Exposure

The Paradox of Uncertainty

- Uncertainty Creates Risk (Loss Exposures)

BUT

- Uncertainty Creates Opportunities

The Fundamental Challenge

- Minimize the Downside
- Capture the Upside

Vulnerabilities to Continued Prosperity

- Margin Compression
- Weak Working Capital Positions
- Excess and/or Poorly Structured Debt
- Asset Value Declines
- Availability of Credit
- Increased Tax Burdens/Reduced Preferences

Strategies To Use In This Environment

- Be a Low-cost Producer
- Protect Working Capital
- Lock in Margins
- Buy Crop Insurance
- Consider Fixing some Interest Rates
- De-leverage – Pay Down Debt

Strategies To Use In This Environment
(cont'd)

- Hold Financial Reserves
- Increase Asset Utilization
- Conservative Bidding & Buying
- Slow Growth & Fund with Equity
- Make Investments in Operational Excellence

Changing Business Climate in Agriculture

- Crop agriculture continuing to transition out of an extraordinarily profitable era
- Long-run future in crop agriculture is still bright, but the next several years will test managerial skills
- Aggressively manage all input costs
- Look for both cash rents and land prices to adjust downward the next several years
- Livestock sector facing extremely tight margins

How many acres do you anticipate planting in 2016?

- 4,000 or greater
- 3,000 – 3,999
- 2,000 – 2,999
- 1,000 – 1,999
- 1 – 999
- None

What is your total cost of production for corn on a per bushel basis? (Include all costs not just variable costs)

- More than $4.50
- $4.00 - $4.49
- $3.50 - $3.99
- $3.00 - $3.49
- Less than $3.00
- Don't know

Budgeting for $3.75 corn

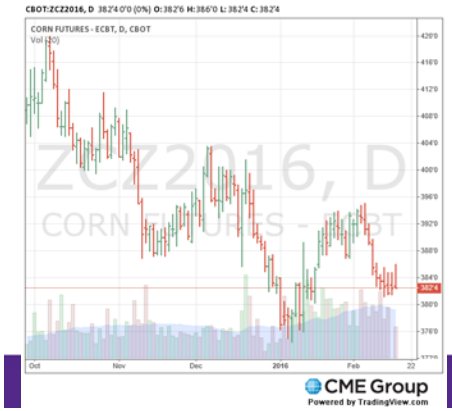

Table 1. 2016 Budgets for Central Illinois Farmland with Lower Productivity

	2016 Budgets[1]		With $100 of Cuts [1]	
	Corn	Soybeans	Corn	Soybeans
Yield per acre	184	53	184	53
Price per bu	$4.00	$9.25	$4.00	$9.25
Crop revenue	$736	$490	$736	$490
ARC/PLC	20	10	20	10
Crop insurance proceeds	0	0	0	0
Gross revenue	**$756**	**$500**	**$756**	**$500**
Fertilizers	$138	$39	$128	$29
Pesticides	60	40	60	40
Seed	128	78	110	60
Drying	18	1	18	1
Storage	5	4	5	4
Crop insurance	26	18	26	18
Total direct costs	**$375**	**$180**	**$347**	**$152**
Machine hire/lease	$13	$9	$13	$9
Utilities	5	4	5	4
Machine repair	28	23	28	23
Fuel and oil	20	20	20	20
Light vehicle	2	1	2	1
Mach. depreciation	68	63	48	43
Total power costs	**$136**	**$120**	**$116**	**$100**
Hired labor	$18	$16	$18	$16
Building repair and rent	11	5	11	5
Building depreciation	13	11	13	11
Insurance	10	10	10	10
Misc	8	8	6	6
Interest (non-land)	15	11	15	11
Total overhead costs	**$75**	**$61**	**$73**	**$59**
Total non-land costs	**$586**	**$361**	**$536**	**$311**
Operator and land return	**$170**	**$139**	**$220**	**$189**
Cash rent	**$236**	**$236**	**$186**	**$186**
Net Farmer Income	**-$66**	**-$97**	**$34**	**$3**

[1] The first two columns are from the 2016 Crop Budgets. The final two columns include budgets with $100 per acre of cost cuts.

Budgeting for $3.75 corn

COST-RETURN PROJECTION — CENTER-PIVOT-IRRIGATED CORN — NORTH CENTRAL KANSAS

	Yield Level (bu/a)			Your Farm
	195	213	231	
INCOME PER ACRE				
A. Yield per acre	195	213	231	
B. Price per bushel	$ 3.62	$ 3.62	$ 3.62	
C. Net government payment	$	$	$	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 715.63	$ 781.71	$ 847.77	
COSTS PER ACRE				
1. Seed	$ 118.80	$ 118.80	$ 118.80	
2. Herbicide	36.96	36.96	36.96	
3. Insecticide / Fungicide				
4. Fertilizer and Lime	173.45	191.18	207.82	
5. Crop Consulting				
6. Crop Insurance*	15.86	17.43	19.00	
7. Drying	25.35	27.69	30.03	
8. Miscellaneous	10.00	10.00	10.00	
9. Custom Hire / Machinery Expense	157.62	165.72	173.82	
10. Non-machinery Labor	18.00	18.00	18.00	
11. Irrigation				
a. Labor	7.50	7.50	7.50	
b. Fuel and Oil	34.80	40.60	46.40	
c. Repairs and Maintenance	3.96	4.62	5.29	
d. Depreciation on Equipment and Well	45.48	45.48	45.48	
e. Interest on Equipment and Well	37.08	37.08	37.08	
12. Land Charge / Rent	130.00	195.00	252.00	
G. SUB TOTAL	$ 822.86	$ 916.06	$ 1,008.17	
13. Interest on ½ Nonland Costs	18.75	19.85	20.92	
H. TOTAL COSTS	$ 841.61	$ 935.91	$ 1,029.08	
I. RETURNS OVER COSTS (F - H)	$ -125.98	$ -154.20	$ -181.31	
J. TOTAL COSTS/BUSHEL (H ÷ A)	$ 4.32	$ 4.39	$ 4.45	
K. RETURN TO ANNUAL COST (I ÷ G)	-13.03%	-14.67%	-15.91%	

*Reflects entered net premium paid

COST-RETURN PROJECTION — CENTER-PIVOT-IRRIGATED CORN — SOUTHWEST KANSAS

	Yield Level (bu/a)			Your Farm
	170	210	250	
INCOME PER ACRE				
A. Yield per acre	170	210	250	
B. Price per bushel	$ 4.25	$ 4.25	$ 4.25	
C. Net government payment	$	$	$	
D. Indemnity payments	$	$	$	
E. Miscellaneous income	$	$	$	
F. Returns/acre ((A × B) + C + D + E)	$ 722.50	$ 892.50	$ 1,062.50	
COSTS PER ACRE				
1. Seed	$ 102.26	$ 126.72	$ 142.56	
2. Herbicide	51.00	51.00	51.00	
3. Insecticide / Fungicide	16.54	19.07	19.07	
4. Fertilizer and Lime	127.52	144.56	172.40	
5. Crop Consulting	6.50	6.50	6.50	
6. Crop Insurance*	13.68	20.23	26.78	
7. Drying	22.10	27.30	32.50	
8. Miscellaneous	10.00	10.00	10.00	
9. Custom Hire / Machinery Expense	149.39	168.13	186.13	
10. Non-machinery Labor	18.00	18.00	18.00	
11. Irrigation				
a. Labor	7.50	7.50	7.50	
b. Fuel and Oil	63.12	94.68	126.24	
c. Repairs and Maintenance	3.96	5.94	7.92	
d. Depreciation on Equipment and Well	64.26	64.26	64.26	
e. Interest on Equipment and Well	48.26	48.26	48.26	
12. Land Charge / Rent	60.00	95.00	130.00	
G. SUB TOTAL	$ 754.90	$ 907.66	$ 1,049.23	
13. Interest on ½ Nonland Costs	18.23	21.56	25.16	
H. TOTAL COSTS	$ 773.10	$ 929.52	$ 1,074.38	
I. RETURNS OVER COSTS (F - H)	$ -50.60	$ -37.02	$ -11.88	
J. TOTAL COSTS/BUSHEL (H ÷ A)	$ 4.55	$ 4.43	$ 4.30	
K. RETURN TO ANNUAL COST (I ÷ G)	-6.29%	-3.87%	-1.27%	

*Reflects entered net premium paid

What is working capital?

Working Capital =

Current Assets – Current Liabilities

To make it scale neutral, it's best examined as a ratio

Working Capital/Gross Revenue

How much working capital do you have as a percentage of gross revenue?

- 100% or greater
- 75 – 99%
- 50 – 74%
- 25 – 49%
- Less than 25%
- Don't know

Today's Scenario

- 3,600 acres corn/soybean operation
- Cash rent 1,800 acres at $175/acre average
- Purchased 100 acres at $2,400/acre in 2012
  - 50% financed with debt
- Total Assets = $2.5 million
- Total Liabilities = $0.5 million
- Taxable Income in 2015 = $50,000
- Recently updated machinery lineup

Additional Information

- Debt to Asset Ratio = 0.2
- Working Capital = $750,000
- Working Capital to Gross Revenue = 0.7

- Anticipate losing $100/acre this year
  - $360,000
- Burn rate = 2.08 years

Wait! How Do I Calculate my Burn Rate?

Working Capital = Current Assets – Current Liabilities

Burn Rate = Working Capital/Net Income Loss

Example: Working Capital = $500,000
& Net Income Loss = $200,000

Burn Rate = $500,000/$200,000 = 2.5 years

Why should I worry about "burn rate"?

- Working capital is a buffer to absorb short-run losses
- Burn rate helps us visualize how much "buffer capacity" we have
- Burn rate tells us how long we can continue at our current pace before our working capital is exhausted
- Increasing working capital buys time to make improvements

For more information, please contact me at eyeager@ksu.edu or 785-532-4935

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Date	Topic	Speaker	
February 16, 2016 2:00 pm	Managing Risk in Today's Agricultural Environment	Beth Yeager Assistant Professor, Dept. of Agricultural Economics eyeager@ksu.edu 785.532.4935	
March 23, 2016 11:00 am	Kansas Property Tax	Allen Featherstone Professor and Head, Dept. of Agricultural Economics afeather@ksu.edu 785.532.4441	
April 6, 2016 11:00 am	Kansas Land Values	Mykel Taylor Assistant Professor, Dept. of Agricultural Economics mtaylor@ksu.edu 785.532.3033	

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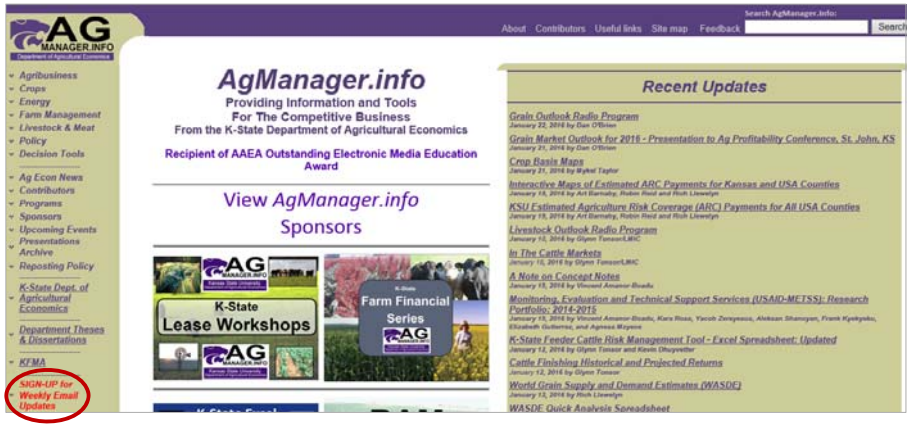

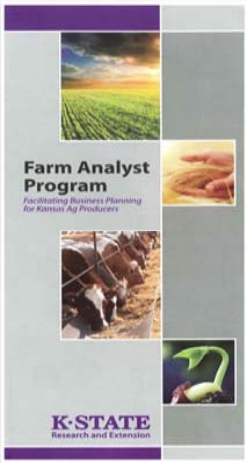

- Analysts travel to the producer's home, providing private and confidential business advice
- Uses nationally recognized financial analysis software, FINPACK, to develop a balance sheet, enterprise budgets, and a base long-range business plan.
- Can explore business changes such as alternative enterprises, debt re-structure, farm transitions, etc.
- Will show projected impact on Net Farm Income and Cash Flow
- Assistance when working with creditors
- Facilitates discussion among family members and sets goals for the farm business
- $450 base fee

Were 5 Farm Analysts across the state…Now 30!!!

Call 1-800-321-FARM to set up an appointment with a Farm Analyst

http://www.k-state.edu/kams/services/financial-counseling/index.html

Connect you to helpful resources

- Farm analysts
- Attorneys
- Mediators
- Referrals

Discuss appeal options for adverse decisions

- Farm loan delinquency or denial
- USDA Farm Programs

Provide resources for farm families

- Successions
- Transitions
- Communication
- Disputes

1-800-321-FARM

www.k-state.edu/kams