Growing Potatoes in the Bioeconomy

UW Extension & WPVGA Grower Conference

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Crop Prices are High

- Closing prices on CBOT Monday 2/4
  - Dec 08 corn $5.32/bu
  - Nov 08 soybean $12.90/bu
  - Sep 08 wheat $9.41/bu
  - Sep 08 oats $3.60/bu
- The new Bioeconomy drives these prices

Input Prices also High

- Fertilizer prices are leading the way
- Seed is also up about 15%

Fertilizer	2008*	2007*	% increase
Urea	505	409	23%
Anhydrous	775	514	51%
32% N Solution	403	269	50%
Ammonium Sulfate	240	209	15%
DAP	578	334	73%
Potash	418	254	65%

*Price during first business week of January

The Issue

- To grow potatoes and vegetables, farmers give up the opportunity to grow corn, soybeans, and wheat
- What are these opportunity costs this year, with higher input and crop prices?
- How do they compare to potatoes?

Quick Cost and Returns Estimates

- Cost and returns estimates for corn, soybeans and wheat presented at grain conferences this January (http://www.aae.wisc.edu/mitchell/extension.htm)
- Create comparable estimate for potatoes
  - Use major cost categories
  - Neither scientific nor rigorous, but based on simple assumptions
- Farmers should do their own cost and returns projections

Input Cost Summary

Item	Corn	Soybeans	Wheat	Irg Corn
Fertilizers	91.00	42.50	78.00	195.00
Seed	67.20	38.40	30.00	67.20
Pesticides	30.00	25.00	20.00	30.00
Insurance:75% CRC	42.00	14.00	15.00	42.00
Miscellaneous	10.00	10.00	10.00	10.00
Interest: 8 mo. 8%	12.81	6.93	8.16	18.36
	253.01	**136.83**	**161.16**	**362.56**

Machinery Costs

Item	Corn	Soybeans	Wheat
Pre-Harvest	38.50	32.00	28.00
Harvest (Combine)	27.50	27.00	25.00
Haul/Handle	11.00	3.50	6.00
Dry	40.00	0.00	3.00
TOTAL	**117.00**	**62.50**	**62.00**

Estimates based on 2008 budgets in other states, upward adjustments based on WI custom rates

Irrigation Cost

160 acre pivot, 150 irrigated acres

Ownership: depreciation on well and equipment, interest, insurance	$87/ac
Power: demand & facility charge, electricity for 1200 hours	$30/ac
Labor and Maintenance	$13/ac
Total	**$130/ac**

Cost Estimate Summary

Item	Corn	Soybeans	Wheat	Irg Corn
Inputs	253	137	161	363
Machinery	117	63	62	117
Irrigation	--	--	--	130
TOTAL	370	200	223	610
Range (±25%)	275-460	150-250	170-280	460-760

Does not include cost for land, management, or investment of capital

Net Returns

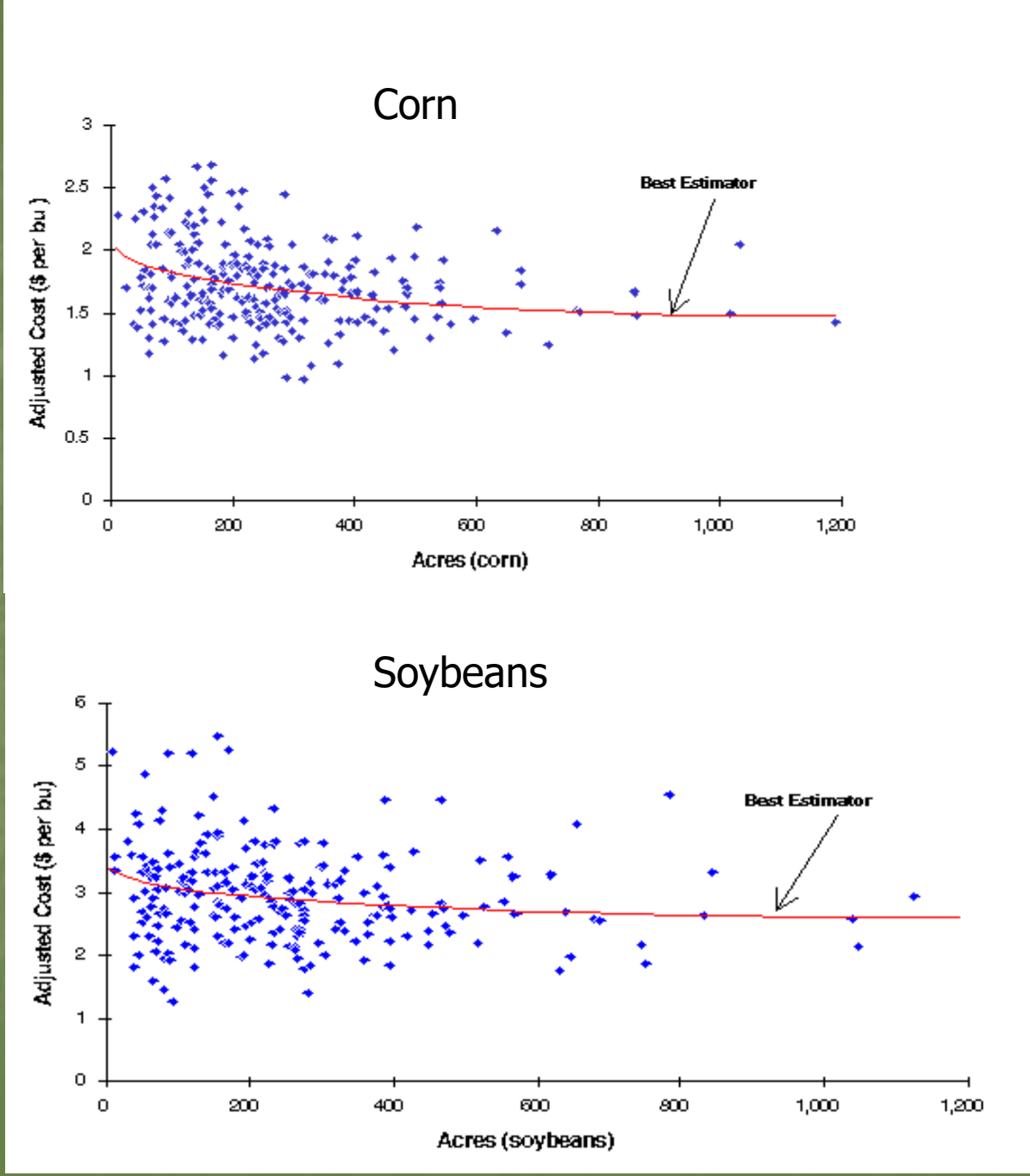
	Corn	Soybeans	Wheat	Irg Corn
Yield	180	50	80	220
Price	4.50	11.50	7.50	4.50
Revenue	810	575	600	990
Costs	370	200	223	610
Returns to land and operator	440	375	377	380
Rent	150	150	150	150
Net Return	**290**	**225**	**227**	**230**

Do your own cost estimates and use your own yields and prices

Reality Check

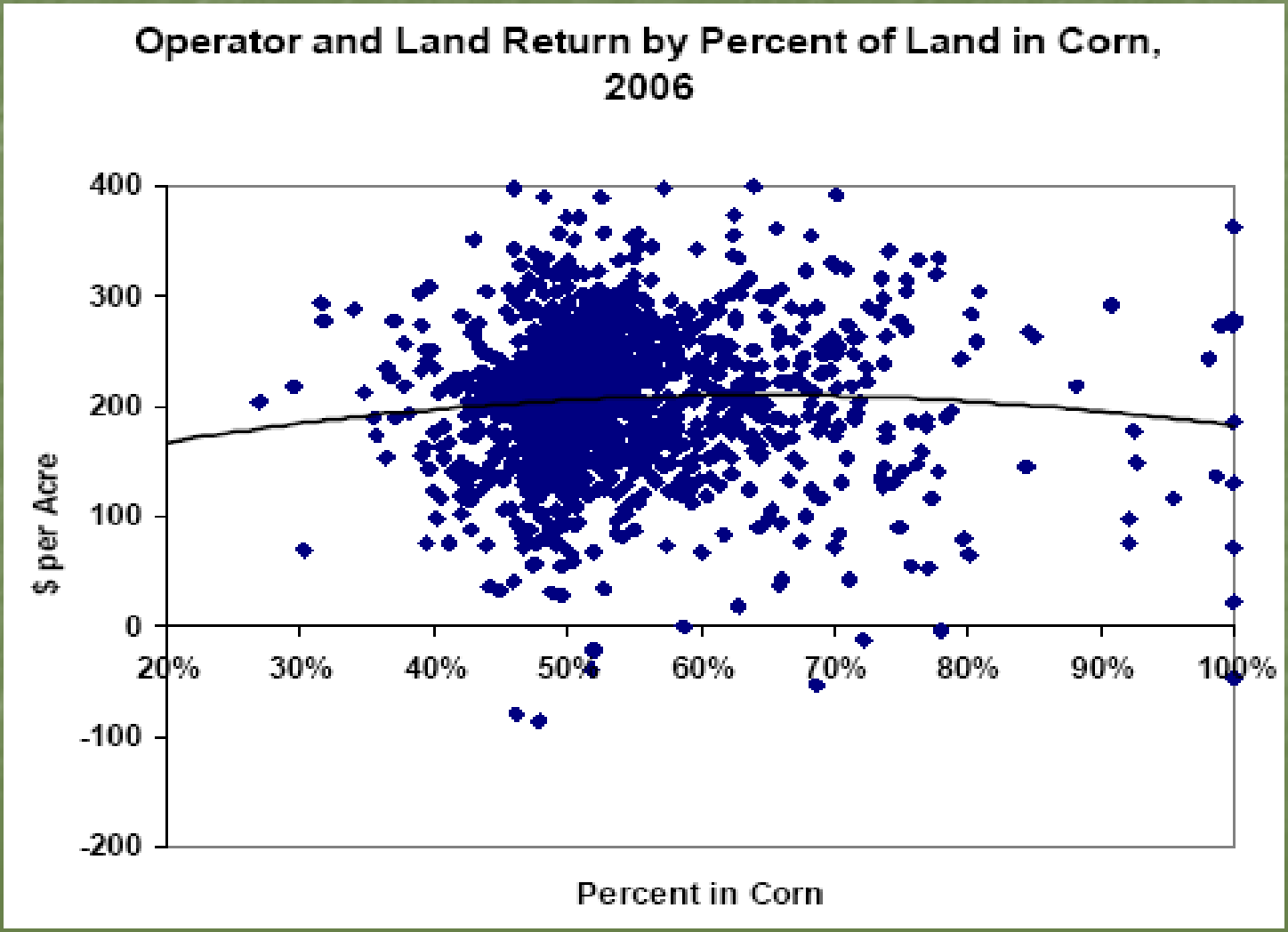
- Costs and returns vary greatly among farmers
- You want your costs and returns, not these guesstimates
- Make budgets with the level of detail and accuracy you are comfortable with
- Estimate your costs and returns, as it is your money, your responsibility, you live with the consequences of your decisions

1996 Data for about 250 Minnesota Corn and Soybean Farmers



Source: K. D. Olson and H. D. Lohano "Will the true cost of production please stand up?"

Illinois Data for 2006



Source: Gary Schnitkey "Crop Production Cost and Rotation Decisions"

Potato Cost and Returns Estimate

- Same quick estimate for WI potatoes
  - Major cost categories
  - Neither scientific nor rigorous
  - Based on simple assumptions
- Farmers should do their own cost and returns projections
- See "Estimate Your Cost of Potato Production" at http://www.aae.wisc.edu/mitchell/extension.htm

Inputs

Nutrients	lbs/ac	price	cost
N	260	0.55	143.00
P	120	0.60	72.00
K	300	0.35	105.00
CaSO4	500	0.02	10.00
Gypsum	1000	0.0065	6.50
Micro			13.50
		Sub-Total	**350.00**
	cwt/ac	price	cost
Seed	20	16	320.00
Cut & treat	20	1.5	30.00
		Sub-Total	**350.00**

Inputs

Pest/Disease Control	Cost ($/ac)
Fumigation	190
Herbicide (Sencor, Dual, Poast)	65
Insecticide (Admire, SpinTor)	60
Fungicide (Bravo, Quadris, Endura)	160
Sub-Total	**475**
Crop Insurance (70% APH)	45
Interest (8 months @ 8%)	65
Sub-Total	**110**

Machinery

Operation	Cost ($/ac)*
Deep Rip	15
Disk (2x)	15
Plant	36
Cultivate/Hill	16
Harvest	75
Haul	63
Sub-Total	220

*Includes cost of operator labor

Irrigation Costs: 160 ac pivot

Depreciation	Years	total	$/irg ac
Pivot ($76,000)	20	$3,800	$25.33
Well ($35,000)	40	$875	$5.83
Interest (7%)		$7,770	$51.80
Insurance (0.5% cost)		$555	$3.70
Sub-Total		**$13,000**	**$86.67**
Labor (4 min/hr @ $11/hr)		$1,920	$12.80
Maintenance (1.5% new cost)		$1,665	$11.10
Sub-Total		**$3,585**	**$23.90**

Power Costs (65 kW electric)

Charges	$/month	months	total	$/irg ac
Demand	$1.00	6	$390	$2.60
Facility	$85.00	12	$1,020	$6.80
	Rate ($/kwh)	hours		
Energy	0.039	2400	$6,084	$40.56
	Sub-Total		**$7,494**	**$49.96**

Ownership	87
Labor & Maintenance	23
Power	50
Total for Irrigation	**$160/ac**

Do your own estimate:
http://www.aae.wisc.edu/mitchell/Irrigation%20Cost%20Budget.xls

Potato Cost Summary

Seed	350
Nutrients	350
Pesticides	475
Crop Insurance	45
Interest	65
Machinery	220
Irrigation	160
Other Labor	20
Overhead (5%)	83
Management (5%)	83
Land	150
Total Cost	**2000**

Just as the data plots for MN and IL grain farmers show, costs among potato farmers will vary greatly

The costs reported here are just rough estimates

Farmers should estimate their own costs of production

Net Returns

Yield (sellable)	350	375	400	450
Price	6.10	6.10	6.10	6.10
Revenue	2135	2287.50	2440	2745
Cost $/ac	2000	2000	2000	2000
Cost $/cwt	5.71	5.33	5.00	4.44
Net Revenue	135	287.50	440	745

	Corn	Soybeans	Wheat	Irg Corn
Net Revenue	290	225	227	230

Conclusion

- Growing grain crops can make sense for some potato farmers
  - Low yield, low price, high cost growers
- Costs and returns vary greatly among farmers
- You want your costs and returns, not these guesstimates
- Make budgets with the level of detail and accuracy you are comfortable with
- Estimate your costs and returns, as it is your money, your responsibility, you live with the consequences of your decisions

Questions?

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