

Crop Rotation Economics

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Prices and Yields are High

- Closing prices on CBOT Tuesday 1/13
 - Dec 09 corn \$4.07/bu
 - Nov 09 soybean \$9.62/bu
 - Sep 09 wheat \$6.16/bu
 - Not as high as last summer, but still higher than in most years
- Yields keep increasing
 - WI county avg corn yield up 1-2 bu/ac/yr

What about Cost?

- Net returns are what matter
 - Price x Yield – Costs
- Many input prices were high, but have started to fall with the recession
- Quick look at current input prices

Fertilizer prices high (but falling)

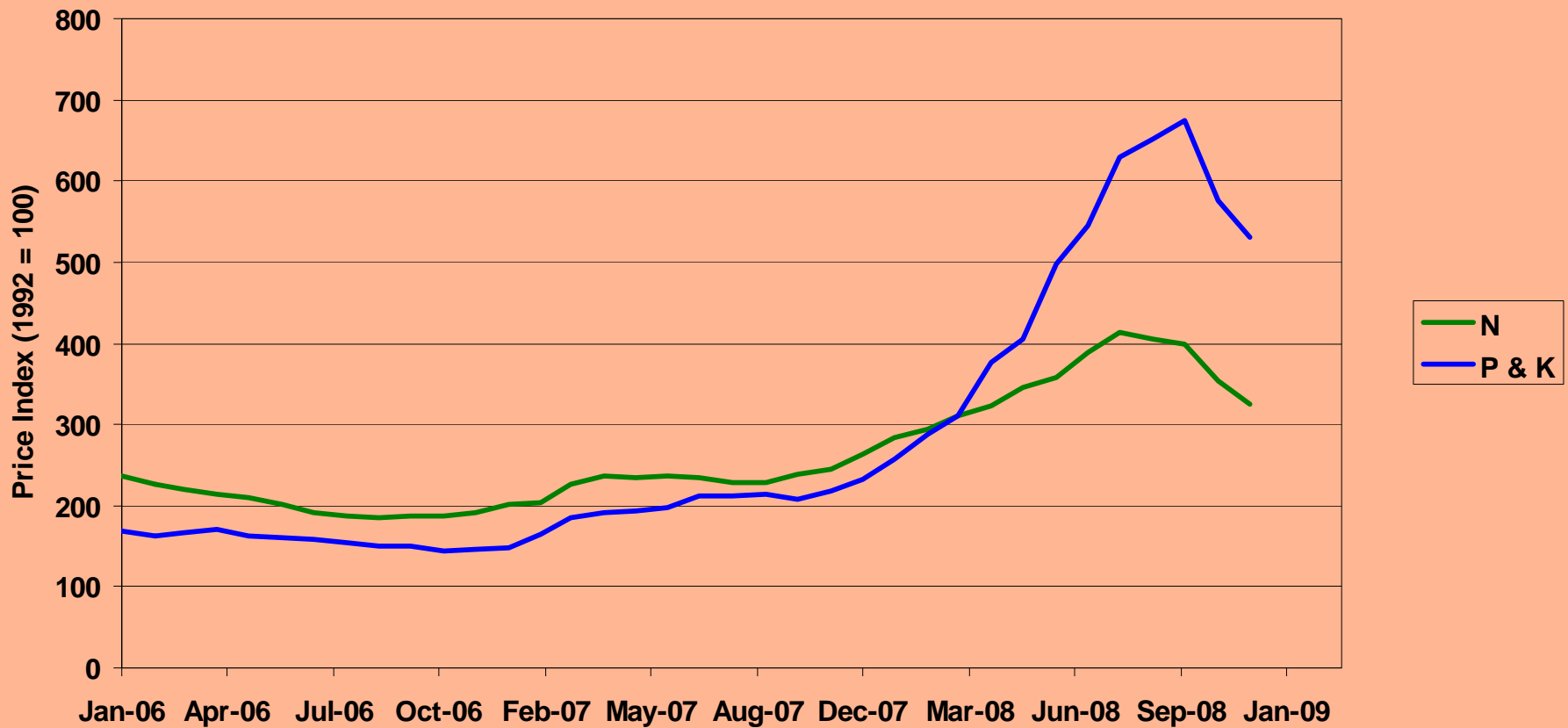
Fertilizer	Jan 2007 ^a	Jan 2008 ^a	Feb 2008 ^b	Aug 2008 ^c	Nov 2008 ^a
Urea	410	505	500	815	---
Anhydrous	515	775	715	1095	1160
32% N Solution	270	405	405	535	560
Ammonium Sulfate	210	240	325	510	500
DAP	335	580	625	1185	1150
Potash	255	420	515	820	820

^aLandmark Coop ^bFrontier FS Coop ^cInformal Survey Average

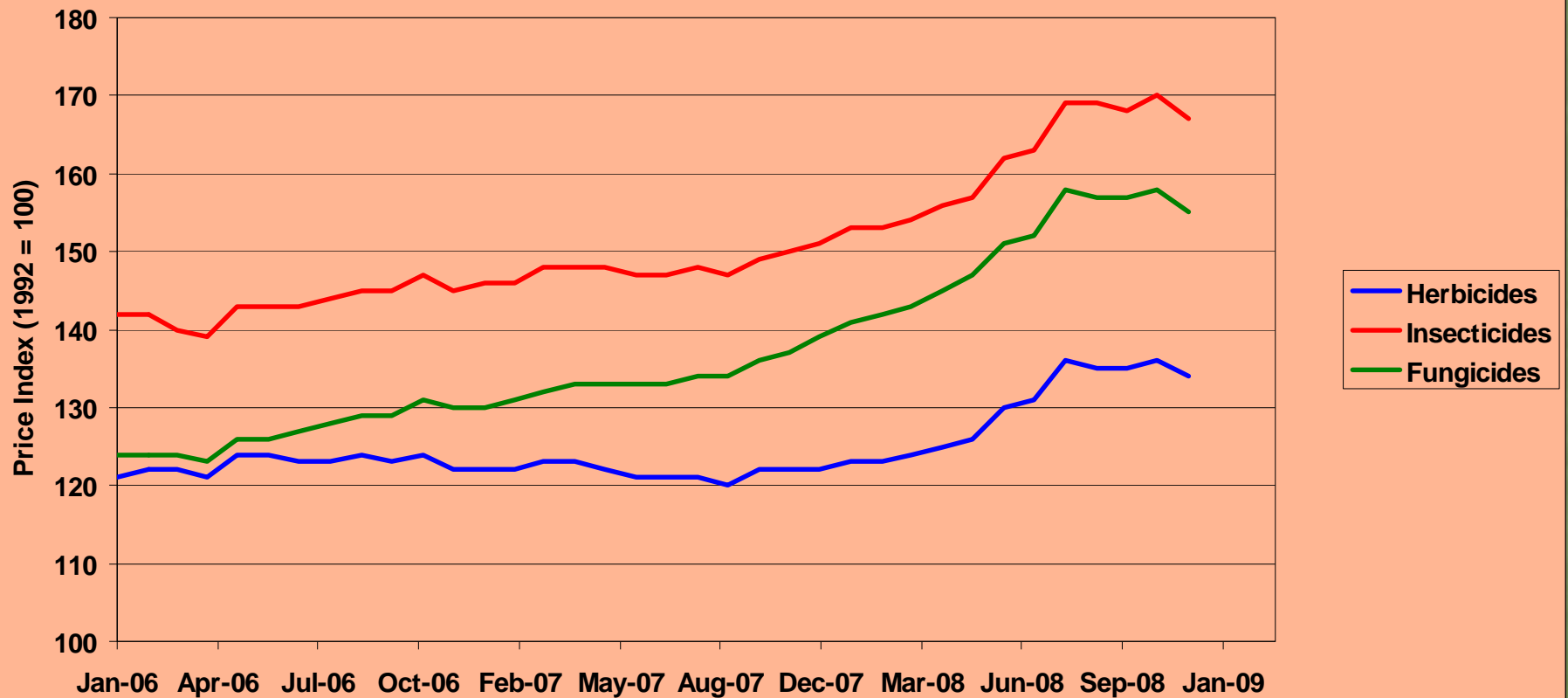
Price Indexes

- USDA NASS publishes monthly price indexes for many ag outputs and inputs
- <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1002>
- National average price for the many items in a category, weighted by sales volumes
- Many categories not reported here
- Normalized so 1990-1992 Average = 100

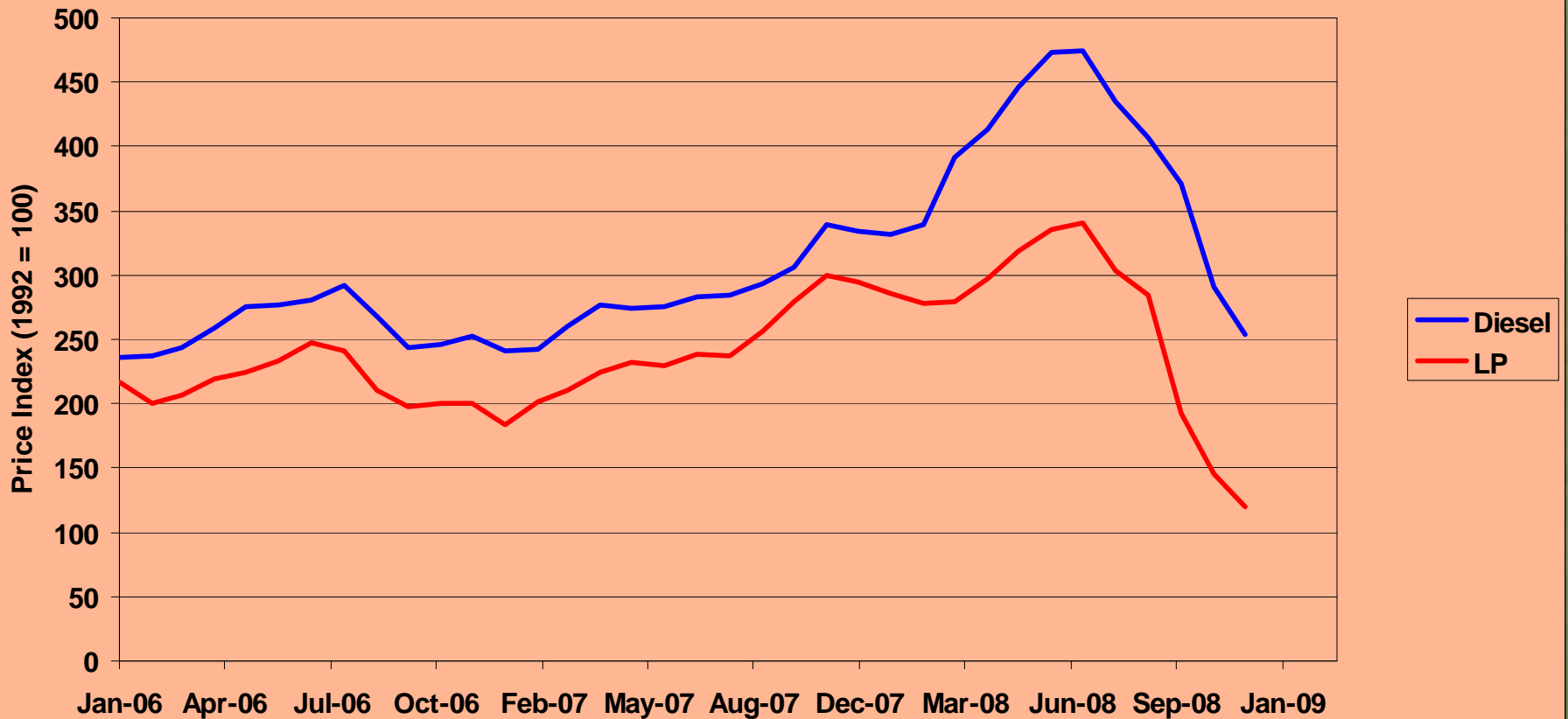
Fertilizer Price Indexes



Pesticide Price Indexes



Fuel Price Indexes

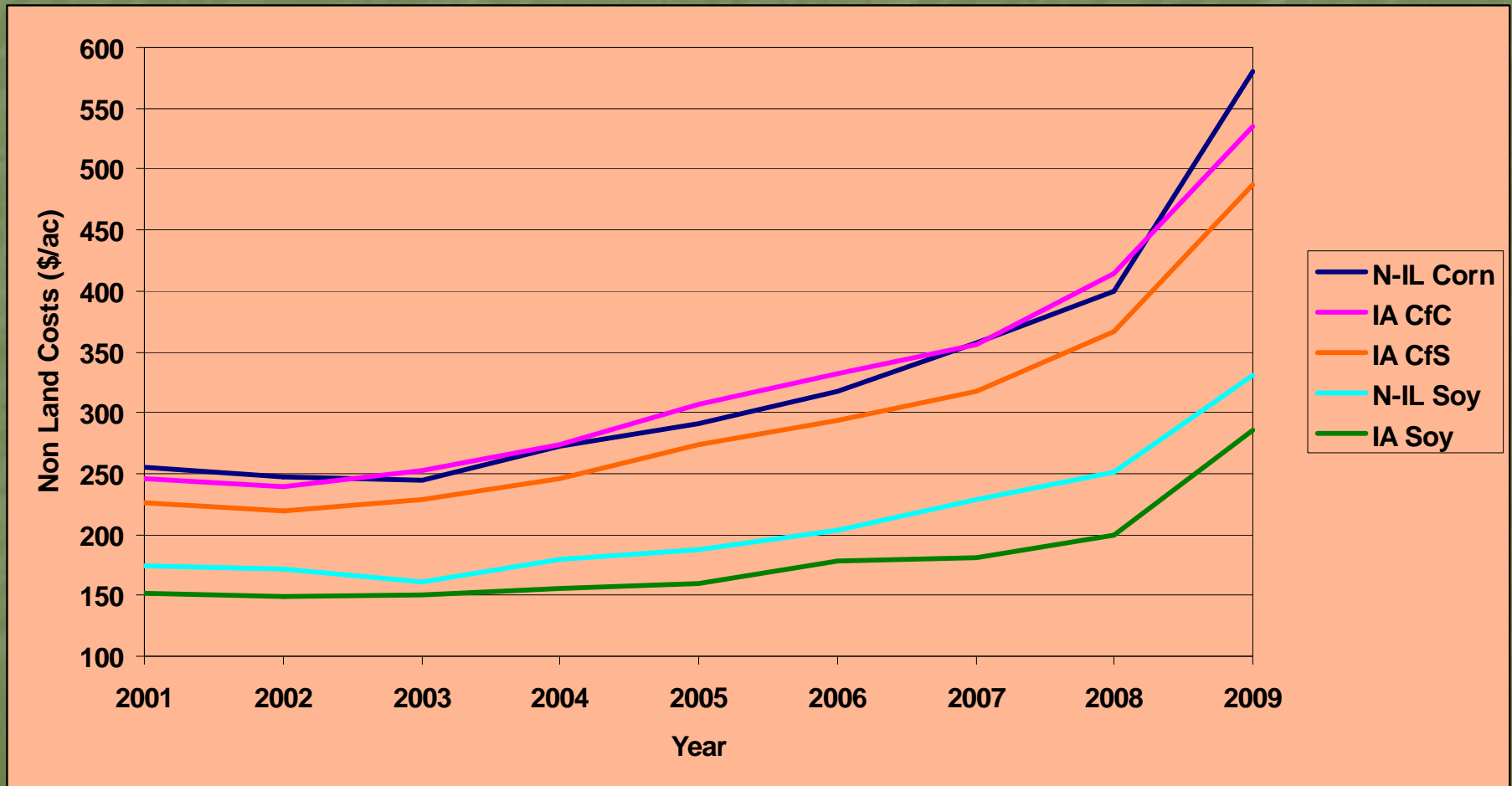


Seed Prices have jumped

	Corn	Soybeans	Wheat
N-IL 2008	\$61/ac	\$43/ac	\$34/ac
N-IL 2009	\$110/ac	\$53/ac	\$48/ac
% increase	80%	23%	41%
IA 2008	\$53/ac	\$37/ac	
IA 2009	\$78/ac	\$54/ac	
% increase	49%	45%	

Sources: University of Illinois FarmDOC (**November 2008**) and Iowa State University Extension (**December 2008**)

IA and Northern IL Corn and Soybean Non-Land Costs of Production



Sources: University of Illinois FarmDOC (November 2008) and Iowa State University Extension (December 2008)

What's a Farmer to Do?

- Lock in inputs to avoid availability risk
 - Many farmers waiting to buy at the risk of not getting what they want when they want it this spring
- Figure out your costs and profit margin
 - Can you afford to insure all (most?) of input costs?
 - Use ACRE and SURE to help insure costs
 - Larger cash reserves for margin calls and cash flow?
 - Look at BYE to save money on insurance premiums
- Try to negotiate flexible cash leases
 - FSA relaxed rules, not share govt. payments now

Quick Cost of Production Estimates

- Quick cost of production estimates for corn, soybeans, and wheat in Wisconsin
- Neither scientific nor rigorous, but based on simple assumptions
- Farmers should do their own cost and returns projections

Fertilizer Costs

	Price	Corn		Soybeans		Wheat	
	\$/lb	Amt	Cost	Amt	Cost	Amt	Cost
N	0.90	100	90.00	0	0	65	58.50
P	0.90	15	13.50	40	36.00	30	27.00
K	0.75	10	7.50	44	33.00	30	22.50
Total			111.00		69.00		108.00

Seed Costs

- Corn
 - 32,000/ac @\$240/bag = \$96.00
- Soybeans
 - 1.2 bag/ac @ \$45/bag = \$54.00
- Wheat
 - Assume \$45/ac
 - Lots numbers out there
 - Depends on variety, germination rate, etc

Input Cost Summary

Item	Corn	Soybeans	Wheat
Fertilizers	111.00	69.00	108.00
Seed	96.00	54.00	45.00
Pesticides	50.00	25.00	25.00
Insurance (75% CRC)	35.00	25.00	30.00
Miscellaneous	10.00	10.00	10.00
Interest (7% @8 mo.)	14.09	8.54	10.17
TOTAL	316.09	191.54	228.17

Machinery Costs

- Hard to estimate/measure
- Very specific to each farmer
- Use estimates for 2009 machinery costs from Iowa State University
 - Lower this year with lower fuel costs
- Adjusted upwards for WI about 25% for pre-harvest tillage, about 5% for harvest
 - Smaller fields and farms
 - Higher custom rates

Machinery Costs

Item	Corn	Soybeans	Wheat
Pre-Harvest	38.00	32.50	31.50
Harvest (Combine)	24.50	24.00	24.00
Haul/Handle	9.50	3.00	6.00
Dry	39.50	0.00	3.00
TOTAL	111.50	59.50	64.50

Cost Estimate Summary

Item	Corn	Soybeans	Wheat
Inputs	316	192	228
Machinery	111	60	65
TOTAL	\$428/ac	\$252/ac	\$283/ac
Range ($\pm 25\%$)	\$360-\$490	\$215-\$290	\$340-\$325

Does not include cost for land or management

Corn following Corn

- Need more N fertilizer: add 20 more lbs
 - $20 \times 0.90 = \$18/\text{ac}$ in added cost
- Soil insecticide or transgenic hybrid for corn rootworm control
 - \$22/ac in added cost
- Together these imply \$40/ac in added cost
 - Add \$40 to corn costs in previous table

Net Returns

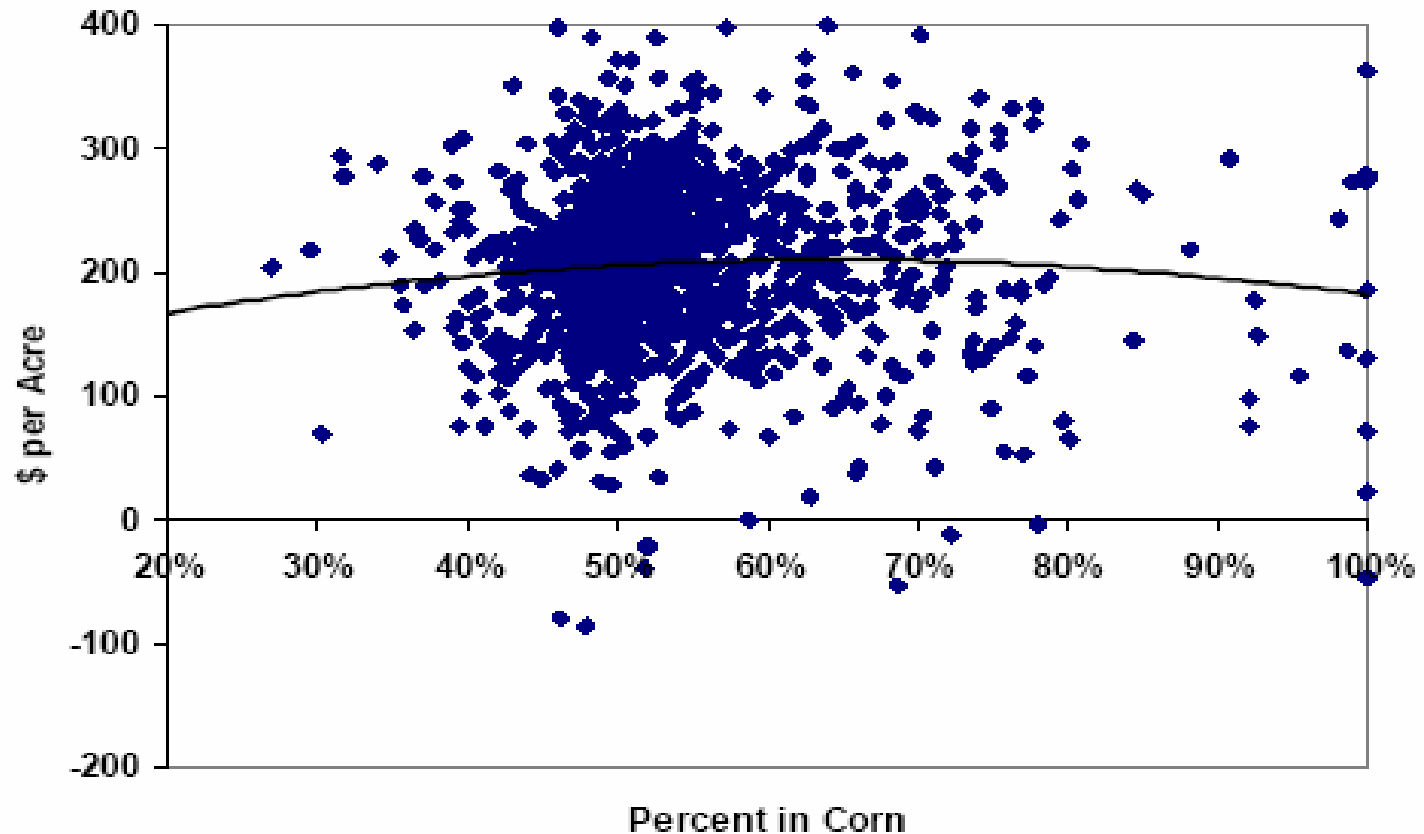
	Corn after Corn	Corn after Soybeans	Soybeans	Wheat
Yield	160	185	50	80
Price	3.75	3.75	9.35	5.75
Revenue	600	693.75	467.50	460
Costs	468	428	252	283
Returns to land and operator	132	265.75	215.50	177
Rent	100	100	100	100
Net Return	32.00	165.75	115.50	77.00

How to decide what to plant?

- Can use university budgets or other peoples' estimates of the yields, prices, costs, and net returns to different crops
- Problem: These are usually averages or even guesses
- Reality: Costs and returns vary greatly among farmers
 - You want your costs and returns

Illinois Data for 2006

Operator and Land Return by Percent of Land in Corn,
2006



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

Making Budgets

What I'm telling farmers

- Make budgets to estimate your net returns for corn after soybeans, plus corn after corn, soybeans, and wheat
- Budgets can be as simple or detailed as you want to make them: you decide
- Estimate your costs and returns, as it is your money, your responsibility, you live with the consequences of your decisions

Wisconsin Resources Available

- UW Center for Dairy Profitability
www.cdp.wisc.edu/crop%20enterprise.htm
- UW-Team Grains web page
www.uwex.edu/ces/ag/teams/grains/
- My Extension web page
www.aae.wisc.edu/mitchell/extension.htm
- Detailed Excel spreadsheets with base cases and then you enter your numbers

Summary

- As consultants, can encourage/help farmers make decisions
 - Help them build budgets
 - Determine input costs, expected yields
 - What do they really need for inputs?
 - Have alternatives ready if costs too high
 - Encourage marketing services if needed
 - Lock in inputs soon if not done yet
 - Flexible cash leases

Questions?

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Crop Rotations Panel

- **Eric Birschbach**
- **Dave West**
- **Bill Schaumberg**
- What's important besides net returns?
- What are farmers doing and why?
- What trends are you seeing?
- What are benefits and pitfalls of going beyond the standard Wisconsin rotations?